Norway/Sweden support to University of Malawi, College of Medicine. Review of phase 3: Human Resources Development in the College of Medicine: Building on Success by Investing in People

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University of Malawi,

College of Medicine

Review of phase 3:

Human Resource Development in the College of Medicine: Building on Success by Investing in People

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Acronyms

CHAM	Christian Health Association of Malawi
COM	College of Medicine
COMREC	College of Medicine Research Ethical Committee
COMSU	College of Medicine Students' Union
ICT	Information and Communication Technology
EHP	Essential Health Care Package
EHRP	Emergency Human Resource Programme
IPDR	Institute of Postgraduate Development and Research
MOEST	Ministry of Education, Science and Technology
MOH	Ministry of Health
NAC	National Aids Commission
NACCAP	Netherland African Partnership for Capacity Development and Clinical Interventions against Poverty related Diseases
NORAD	Norwegian Agency for Development
NGO	Non-Governmental Organisation
POW	Programme of Work
RSC	Research Support Centre
SACORE	South African Consortium for Research Excellence
QECH	Queen Elisabeth Central Hospital
UNIMA	University of Malawi

Executive summary

'The Norwegian Agency for Development (NORAD) has, through the Royal Norwegian Embassy in Malawi, commissioned a consultancy to review phase 3 of the support to University of Malawi, College of Medicine, entitled *Human Resource Development in the College of Medicine: Building on success by investing in people.* The review mission took place in Lilongwe and Blantyre, Malawi, from September 14th to September 24th , 2009.

According to the Terms of Reference Annex 1), the review team had a twofold task: a) to review phase 3 of the NORAD support program and, b) to appraise the planned phase 4 (2009-2012).

Phase 3 review

In May 2007, the phase 3 agreement was signed. Due to withdrawal of the Dutch support, the agreement was modified, and the objectives of the revised proposal were:

1) Enhance the training of Malawian academic staff in key areas as "trainers of trainers" through designated Malawi postgraduate fellowships
2) To complete the creation of the Institute of Postgraduate Development and Research (IDPR) in order to broaden the College's capacity to implement a wide range of postgraduate training programmes and expand the functions of the IPDR. It is now planned to create a single structure to house the IPDR and the ICT centre.
3) To provide a technical assistance pool as a transitional strategy to allow objectives 1) and 2) to be realised.
4) Improve and strengthen Information and Communication Technology (ICT) access through support to ICT development, and library functions.
5) Strengthen the College of Medicine staff retention programme.
6) Incorporate the cost overruns for Contract 1 and 2 of phase 2.

The Terms of Reference (annex 1) for the present review of phase 3 outlines the specific issues to be addressed by the review team:

1) Assess the consistency of the Norwegian/Swedish support to College of Medicine with the national health sector development plan, and the national plans for human resources for health.
2) To review and assess progress made on implementation of the College of Medicine Strategic Plan.
3) Review and assess the progress made towards attainment of the goal of produce sufficient Malawian staff as "trainers of trainers to provide enough trained doctors to make a positive impact on health indicators in Malawi.
4) Review progress in implementation of the fellowship programme, and the plan to increase the intake of students, with focus on gender equity.
5) Examine the extent to which the project has succeeded in reducing dependence on expatriate staff – including an examination of the effect of salary support in the staff retention. They should propose practical and feasible actions to further reduce dependency on expatriate staff.
6) Review and assess the level of retention of graduates, both within Malawi and within the public sector.
7) Review and assess infrastructure development (Institute of IPDR and ICT centre). Review and assess the functionality of the combined IPDR Institute and the ICT centre.
8) Review and assess progress made towards establishing a wide rang of post graduate programmes.
9) Review and assess systems and routines for monitoring.
10) The reviews should look into the question of sustainability. To what extent is the College, now and in the nearest future, dependent on funding from Norway and other donors?

The review team has collected information through site visits at College of Medicine, interviews (annex 3) and review of several documents (annex 4), and. The following conclusions and recommendations are set forth:

1) There is a need to ensure that post graduate training is in line with the MOH Specialist Training Plan to avoid duplication and ensure that all skills gaps in the health sector are covered by fellowship programmes

2) Increased intakes may impact on teaching quality, student satisfaction, staff workloads, morale and motivation. There will be a need to ensure that systems are in place to continue to monitor factors that could impact on student and staff attrition, staff motivation, student welfare, quality of classroom teaching and clinical instruction and retention and deployment of graduates in the health sector.

3) COM should monitor MOH plans to reduce the period of service that doctors undertake post internship from 2 years to one year and to provide post graduate training scholarships after completing one year of service. This could lead to greater pressure on COM to produce more graduates to address the movement and attrition of doctors as a result of this policy change.

4) COM needs to ensure that suitable clinical practicum sites, clinical instructors and supervisors are available for students. Queen Elizabeth Central Hospital (QECH) is reported to be overcrowded, and lacks essential equipment and supplies. COM will need to work with MOH to identify suitable new clinical sites that are appropriately staffed and equipped and are close to the College to reduce transport costs.

5) Increased number of students may impact on students' access to books and training materials, to tutors and clinical instructors, to clinical practice and to recreational facilities; close monitoring of student welfare is required.

6) The provision of fellowships for post graduate training may impact on staffing levels and workloads in some departments; this should be considered in the selection process used to identity candidates for fellowships.

7) The provision of fellowships has greatly increased the number of Malawian staff with relevant and essential skills and these are contributing to building capacity in COM in all areas e.g. clinical service, teaching and research.

8) Difficulties with the provision of re-entry grants should be examined and documented and lesson learned should inform redesign of the scheme and the design of retention strategies.

9) There are limited systems in place for routine monitoring and evaluation. A set of improved qualitative and quantitative performance indicators are needed for monitoring inputs, processes and outputs and for the evaluation of outcomes and impact.

10) COM is actively working towards sustainability and is identifying a range of options to reduce dependency on donors. These include income generation through opening up membership of the sports centre to private members; overheads and salary contributions from research grants; use of facilities for conferences and other events; design and delivery of short course; and monitoring clinical trials.

Introduction

In 2001, ten years after the establishment of the University of Malawi College of Medicine (COM) in Blantyre, Norway signed an agreement with the Ministry of Health to support further development of COM in terms of infrastructure and capacity to train medical doctors. This agreement, called phase 1, had a 3-year perspective, and has since been followed by two new 3-year agreements, phase 2 and phase 3, signed in November 2003 and May 2007, respectively. Phase 1 and 2 were reviewed in 2006.

The review team also did an appraisal of phase 3, and in the appraisal report set forward the following conclusions/recommendations as to the feasibility of the proposal:

> The review team is of the opinion that the Phase III proposal is feasible and realistic within the time frame and budget given, provided clarification of some critical issues mentioned below:
>
> 1) The proposal should take into consideration potential cost overrun and discuss how to deal with this issue if necessary.
>
> 2) The donor should be aware that training of specialists in different disciplines at postgraduate level takes time, and should allow for a time lag of up to two years to achieve this specific objective (i.e. – 2012)
>
> 3) The Dutch Support Programme for the creation of the IPDR is critical for the realisation of Phase III, since the capacity to train Malawian specialists is highly dependent of IPDR being established and fully functional.
>
> 4) The issue of gender equity should be clearly spelled out in the proposal.
>
> 5) The development of telemedicine should either be elaborated in more detail, also cost-wise, or not be part of the Phase III plan. Preferably, the COM should focus on expanding its ICT capacity to a level sufficient for its own basic needs before moving into telemedicine. This does not preclude the networking with other hospitals in Malawi for more efficient use of ICT in professional communication and teaching/learning.

As a result of the appraisal report, and the fact that the Dutch Support Programme was terminated, including withdrawal of the planned funding for the IPDR, the phase 3 proposal was revised through an *Addendum*.

The final objectives of phase 3 were:

7) Enhance the training of Malawian academic staff in key areas as “trainers of trainers” through designated Malawi postgraduate fellowships
8) To complete the creation of the Institute of Postgraduate Development and Research (IDPR) in order to broaden the College’s capacity to implement a wide range of postgraduate training programmes and expand the functions of the IPDR. It is now planned to create a single structure to house the IPDR and the ICT centre. *This objective was modified from the original phase 3 submission.*
9) To provide a technical assistance pool as a transitional strategy to allow objectives 1) and 2) to be realised.
10) Improve and strengthen Information and Communication Technology (ICT) access through support to ICT development, and library functions. *This objective was modified from the original phase 3 submission.*
11) Strengthen the College of Medicine staff retention programme.
12) Incorporate the cost overruns for Contract 1 and 2 of phase 2. *This objective was added to the original phase 3 submission.*

Two other issues from the appraisal report are addressed in the *Addendum*.

- The lag period for training. The *Addendum* states:
  "The lag period for training of a specialist…is a critical one. The College of Medicine will endeavour to place the designated Malawian candidates in training programmes in Africa or Norway/Sweden within 1 to 2 years. Their progress will be monitored through the Postgraduate Dean's Office".

- Gender balance. The *Addendum* states:
  "In the Comprehensive Strategic Plan the policy of gender equality is implicit in all activities……the College of Medicine has a proactive policy for recruitment of female students in preference to males where other criteria such as academic performance are equal. To ensure this policy is maintained in the phase 3 proposal, at least 35% of Norwegian fellowships will be reserved for female applicants. If there are not sufficient female applicants applying for fellowships then further discussion between Norway and College of Medicine would take place to resolve the issue."

It seems clear that the College of Medicine carefully considered the critical remarks of the appraisal report *and* the termination of the Dutch support, and reformulated the proposal for phase 3 accordingly.

The Terms of Reference for the present review of phase 3 outlines the specific questions to be addressed by the review team:

11) Assess the consistency of the Norwegian/Swedish support to College of Medicine with the national health sector development plan, and the national plans for human resources for health.
12) To review and assess progress made on implementation of the College of Medicine Strategic Plan.
13) Review and assess the progress made towards attainment of the goal of produce sufficient Malawian staff as "trainers of trainers to provide enough trained doctors to make a positive impact on health indicators in Malawi.
14) Review progress in implementation of the fellowship programme, and the plan to increase the intake of students, with focus on gender equity.
15) Examine the extent to which the project has succeeded in reducing dependence on expatriate staff – including an examination of the effect of salary support in the staff retention. They should propose practical and feasible actions to further reduce dependency on expatriate staff.
16) Review and assess the level of retention of graduates, both within Malawi and within the public sector.
17) Review and assess infrastructure development (Institute of IPDR and ICT centre). Review and assess the functionality of the combined IPDR Institute and the ICT centre.
18) Review and assess progress made towards establishing a wide rang of post graduate programmes.
19) Review and assess systems and routines for monitoring.
20) The reviews should look into the question of sustainability. To what extent is the College, now and in the nearest future, dependent on funding from Norway and other donors?

Review phase 3
The review team have addressed each issue as listed in the TOR.
1) Assess the consistency of the support to College of Medicine with the national health sector development plan, and the national plans for human resources for health.

In order to assess the consistency of the Norwegian/Swedish support to CoM with national health sector plans, three key documents were reviewed. These include the Essential Health Care Package; the Ministry of Health's Joint Programme of Work (POW) for a Health Sector Wide Approach (2004 - 2010); and the Emergency Human Resource Programme.

The **Essential Health Care Package (EHP)** refers to a prioritised but limited package of services that should be available to every individual in Malawi. It comprises 11 key components and these cover those health services that address the major causes of death and disease in Malawi, together with the essential support structures and systems to enable the delivery

Effective human resource (HR) planning, management and development policies, strategies and interventions are required to ensure that the EHP and the agreed package of services is provided to an acceptable level and standard. These will include HR interventions that focus on the training, equitable distribution and retention of adequate numbers of appropriately trained and skilled health workers at all levels of the health system. The Norwegian/Swedish support to COM is consistent with the objectives of the EHP; COM is supporting the effective implementation of the EHP through the production of increased numbers of qualified doctors, pharmacists, laboratory technicians for the health sector. COM is utilising Norwegian funded fellowships for post graduate training and working in collaboration with the MoH to meet the objectives of the MoH postgraduate training plan **(Annex 5).** Staff who have benefitted from the fellowships are returning to COM to develop and deliver Malawian based post graduate programmes, to provide quality classroom and clinical instruction to undergraduates and to train and produce doctors and specialist with the skills needed to deliver the EHP.

The MoH is providing scholarships and fellowships to approximately 75 health sector staff for undergraduate and postgraduate specialist training and in 2009 NAC provided 10 scholarships for MoH staff, which will be administered by COM[1]. It will be important to ensure that there is no overlap or duplication with the award of the fellowships and that all skills needed to deliver the EHP are covered through these awards.

The **Joint Programme of Work (POW)** outlines the priority health activities to be implemented by the MoH, development partners and major not-for-profit NGOs over the period July 2004 to June 2010. It is based on priorities and key activities identified by the various departments in the MoH to deliver the Essential Health Care Package (EHP) and non-EHP services.

The Norwegian/Swedish support to COM is aligned with the objectives and targets of the POW and COM is contributing to the achievement of the outputs. In particular it is supporting the MoH achieve the outputs under **Programme 1 on Human Resources**; producing adequate number of trained and skilled personnel for all health facilities and the outputs under **Programme 4 on Infrastructure and Facilities Development**; rehabilitation, upgrading and construction of training institutions.

The Norwegian/Swedish support is consistent with the objectives of the 2001 **Six-Year Emergency Training Plan (SETP) and the Emergency Human Resources Programme (EHRP)** developed by the MoH in 2004. The Plan was developed to improve the capacity of the national training institutions to train sufficient numbers of qualified health workers. The lack of physical infrastructure (i.e. housing, classrooms, offices, laboratories) was identified as the most

[1] Memorandum of Understanding between the Ministry of Health and the College of Medicine for the Implementation of the Ministry's Postgraduate Training Plan for Malawian Medical Doctors

significant constraint for the expansion of the capacity of the training institutions. The inadequate supply of senior academic staff was also identified as a constraint and a scale up of Master's and PhD level training capacity was recommended. The Plan included strategies and resources to support the training institutions to expand capacity and increase student enrolment to meet staffing targets for each of the professional and technical health cadres[2] as shown below in Table 1.

Table 1: Training targets for COM 2004 -2010

College of Medicine	2004	2005	2006	2007	2008	2009	2010	Total
Student Capacity	180	215	275	360	410	520	520	520
Estimated Medical Student Enrolment	175	215	265	315	365	415	480	480

Source: Revised Training Cost Model April 2005

With the Norwegian/Swedish support COM has been able to support MoH progress towards achieving the main objectives and targets contained in these programmes. Some of the support has been utilised for infrastructural development, which has enabled COM to increase student intakes and to train and increase the number of doctors, pharmacists, and laboratory technicians available to the health sector. Table 2 shows that in 2009 CoM has exceeded the enrolment target of 520 set in 2004.

Table 2: Student enrolment in COM 2009 compared to enrolment in 2007

Prog	Year I		Year II		Year III		Year IV		Year V		Total		Total Students 2009	Total Students 2007
	M	F	M	F	M	F	M	F	M	F	M	F		
MBBS	38	23	39	30	29	14	40	14	38	12	184	93	277	235
MLT	19	7	14	12	19	3	16	2	-	-	68	24	92	61
PHARM	16	4	14	7	11	5	8	-	-	-	49	16	65	26
PRE-MED	-	-	-	-	-	-	-	-	-	-	42	28	70	-
MPH	13	11	7	1							20	12	32	25
MMED	-	-	-	-	-	-	-	-	-	-	21	6	27	-
Total	86	45	74	50	59	22	64	16	38	12	384	179	563	347

Source: COM Registrar Sept 2009 & Dean of Students

The fellowship awards and the re-entry grants have helped to increase the number of senior academic staff and specialists available in the Malawian health sector (Table 3). These staff are supporting Masters and PhD level training and are developing and delivering postgraduate specialist training programmes that can be delivered in COM. Re-entry grants are being used to attract back Malawian specialists in line with EHRP objectives aimed at attracting and retaining health workers, particularly doctors and specialists. The salary supplementation funded through the Norwegian/Swedish support is also helping to retain senior academics, clinical instructors and researchers in COM.

[2] Anne Martin–Staple (2004) Proposed 6-year Human Resource Relief Programme for the Malawi Health Sector. Part II: Training and Tutor Incentive

Table 3: Number of medical doctors and specialist

	GP	Surgery	Obs & Gynae	Internal Medicine	Orthopaedics	Anaesthesiology	Paediatrics	Other	Total
2006[3]	101	9	12	5	4	5	7	8	151
2007[4]	191	10	7	-	1	2	8	29	248

Source: various documents

2) To review and assess progress made on implementation of the College of Medicine Strategic Plan

There were no official institutional and/or departmental annual reports made available to the consultants against which to accurately assess progress made on implementation of the Comprehensive Strategic Plan. The consultants identified the relevant critical success factors, strategic priorities, and goals and objectives from the COM Comprehensive Strategic Plan, reviewed these against various internal and external reports, data received from the Registrar and information from interviews with staff and stakeholders in order to assess progress made on implementation[5]. The key objectives reviewed included those related to teaching and training, research, human resources and infrastructure.

One of the objectives related to teaching and training was '*to have for the MBBS programme an intake of around 60 students annually and to reduce the drop-out rate to the minimum possible'.* From an analysis of the enrolment data it is evident that the College has been successful in increasing the annual intakes on the MBBS programme to 60 students as shown in table 4 below.

Table 4: Enrolment 2007-2009

Year	MBBS	Pharmacy	Medical Lab
2007	53	16	21
2008	69	21	26
2009	61	20	26

Source: COM Registrar Sept 2009 & Dean of Students

An analysis of the data provided on student enrolment suggests that the student attrition rate is not significant for some student cohorts. In some cases student numbers have increased from one year to the next. For example table 5 below shows an increase in the number of students; in Year 3 in 2007 there were 34 students enrolled on the MBBS programme but in Year 5 there are 50 students enrolled. The Principal reported that was due to a number of non-Malawian students

[3] Extracted from MoH/GTZ (2006) Survey on the distribution of medical personnel within MoH, CHAM and selected private facilities within the 28 districts of Malawi. Conducted by Dr. Roland Hogenschurz DED (German Development Service).

[4] Extracted from MoH (2007) Malawi Health Sector Employee Census. GPs and specialists in MoH, CHAM, NGO, Private, Statutory and Company p. 39

[5] College of Medicine (2004) Comprehensive Strategic Plan 2005-2010 pp. 13-18

joining the programme in Year 5. It is unclear whether these Zimbabwean students will be eligible for and/or interested in internship and employment in the Malawi health sector when they graduate.

Table 5: MBBS Student enrolment 2007-2008

	2007 (Year 3 cohort)		2008 (Year 4 cohort)		2009 (Year 5 cohort)	
MBBS	M	F	M	F	M	F
	24	10	23	10	38	12

Source: COM Registrar & Dean of Students, September 2009

However Table 6 shows that there has been some attrition from the cohort of students that began Year 1 in 2007. There was a reduction in the numbers from 55 in Year 1 to 43 in Year 3, which cannot be fully explained by the data received.

Table 6: Student enrolment 2007-2009

	2007 (Year 1 cohort)		2008 (Year 2 cohort)		2009 (Year 3 cohort)	
MBBS	M	F	M	F	M	F
	38	17	31	11	29	14

Source: COM Registrar & Dean of Students, September 2009

A second teaching and training objective was to *'start undergraduate programmes and postgraduate programmes, meeting the needs of the health services of Malawi'*. Good progress has been made on this objective. COM is offering a one year Pre-medical Science Programme with the aim of preparing students to pursue the MBBS, Medical Laboratory Technology or Pharmacy programmes. It has developed and is delivering undergraduate programmes in Pharmacy (65 students enrolled in 2009) and Laboratory Technology (92 students enrolled in 2009). It has developed a Physiotherapy curriculum and a BSc in Physiotherapy will be offered in 2010, when 20 students will be enrolled onto the Pre-med Programme. Discussions are ongoing to establish a School of Dentistry in Lilongwe and to offer a BSc Dentistry programme.

COM offers a 4-Year Master of Medicine degree in Medicine, Surgery, Anaesthesia, Orthopaedics, Ophthalmology, Paediatrics and Internal Medicine. For the first 2 years of the programme the student works as a 'registrar' in Malawi and the next 2 years spent in a country that has a high standard in clinical specialities, usually South Africa. COM has established an MPH programme and is planning to offer a Health Management Diploma to 15-20 students in 2010. It has established a joint PhD degree programme with Liverpool School of Tropical Medicine funded through SACORE and 10 students were registered in 2009. It has also developed a PhD by research programme to be offered through UNIMA and COM.

COM staff feel they the College has the potential to offer more Malawian based postgraduate programmes but the main constraint is lack of staff. Plans are underway to increase enrolment for all programmes over the next couple of years, for example to increase MBBS intakes to 100 students per annum; to increase Pharmacy and Laboratory Technology intakes to 40 per annum and by 2012 to increase the total enrolment in the College to 1,000 students.

Many postgraduate programmes are still provided outside Malawi; for example of the 21 fellowships funded through Norwegian/Swedish support 20 are in South Africa (most undertaking the final 2 years of the MMed programme) and one is in Sweden and all of the 75 people who have received fellowships funded through the MoH are studying overseas

The third strategic objective related to the teaching and training objectives in the Strategic Plan was *'to improve the students' welfare by promotion of sports/recreation facilities, and the quality of student life while at the COM'.* The Norwegian/Swedish support has been utilised to construct a

Sports and Recreation Centre which has improved student welfare and the quality of student life. The College is developing and implementing strategies to generate sufficient revenue to sustain and maintain these facilities. While it is critical to open the facilities to corporate clients in order to generate sufficient revenue to maintain the facilities, the College must not lose sight of the original purpose of the facilities.

One of the objectives related to Research in the College was *'to establish an Institute of Research and Postgraduate Development which will co-ordinate postgraduate and continuing education programmes, as well as research in the COM'.* The Institute of Postgraduate Development and Research (IDPR) is now under construction with an expected completion date in December 2009. However in 2006 a Research Support Centre (RSC) was established with funding from the Netherlands African Partnership for Capacity Development and Clinical Interventions against Poverty Related Diseases (NACCAP). The RSC provides research support services to COM researchers and is currently managing 7 research grants valued at approximately US $5 million over 5 years. It will eventually have oversight of all research grants in COM. It has developed a research policy and is currently developing grant management guidelines. The RSC generates income from the administration fee charged for research grants, its clinical trial monitoring activities and from the short courses in proposal writing, research methods, data management and good clinical practice it provides to COM and external clients.

The Human Resource related objectives were 'to *have a human resource planning in place, based on a realistic structure (establishment) and to have a human resources management in place, which benefits the COM as well as its employees.* COM has developed mix of strategies to improve the recruitment and retention of staff; it is utilising the Norwegian/Swedish support to provide salary supplements, to fund re-entry grants and provide fellowships for postgraduate studies. These strategies have been successful in attracting and retaining Malawian lecturers; for example in 2009 of the 111 COM staff, 29 (26%) were expatriates (unfortunately no data provided to compare this with the situation in 2007 or any other time).

Between 2007 and 2009 the number of vacant posts in COM has been reduced from 36 to 24 and over this period there was a turnover rate for Malawian staff of less than 1%. Forty two staff members receive salary supplementation through the Norwegian/Swedish support and another 22 have salary support through other sources; 17% of those have their salary support covered through research activities. There are two staff members on re-entry grants (1 in Surgery and 1 in Medical Laboratory Technology). However as discussed below these measures alone may not be sufficient to continue to attract and retain more senior staff and those with specialist, scarce and more marketable skills.

*The objective related to infrastructure was 'to create the necessary infrastructure for the COM and its allied institutes. C*onstruction on the student hostels and the Sports and Recreation Centre has been completed, while *c*onstruction on the library and the IPDR and ICT Centre is underway.

3) Review and assess the progress made towards attainment of the goal of produce sufficient Malawian staff as "trainers of trainers' to provide enough trained doctors to make a positive impact on health indicators in Malawi.

This goal depends on the ability to train doctors for specialisation in different areas through the postgraduate training programme, mainly through the Norad fellowship programme. During Phase 2, 23 candidates have already completed their postgraduate training and are in post. In phase 3, an additional 24 candidates received support through fellowships. Two of these had completed their training by 2009, one has withdrawn from the programme, and 21 are still in training. COM has been able to train a core corps of specialists who will be critical in the further development of postgraduate training within Malawi. A Master of Public Health programme is already established, and a track for Health Management Diploma is planned to start by March 2010. Thus, COM is well on its way of attaining the goal of producing sufficient number of "trainers of trainers". However,

whether this alone will have a positive impact on health indicators in the country is not possible to assess, since a lot of other factors are critical in this context.

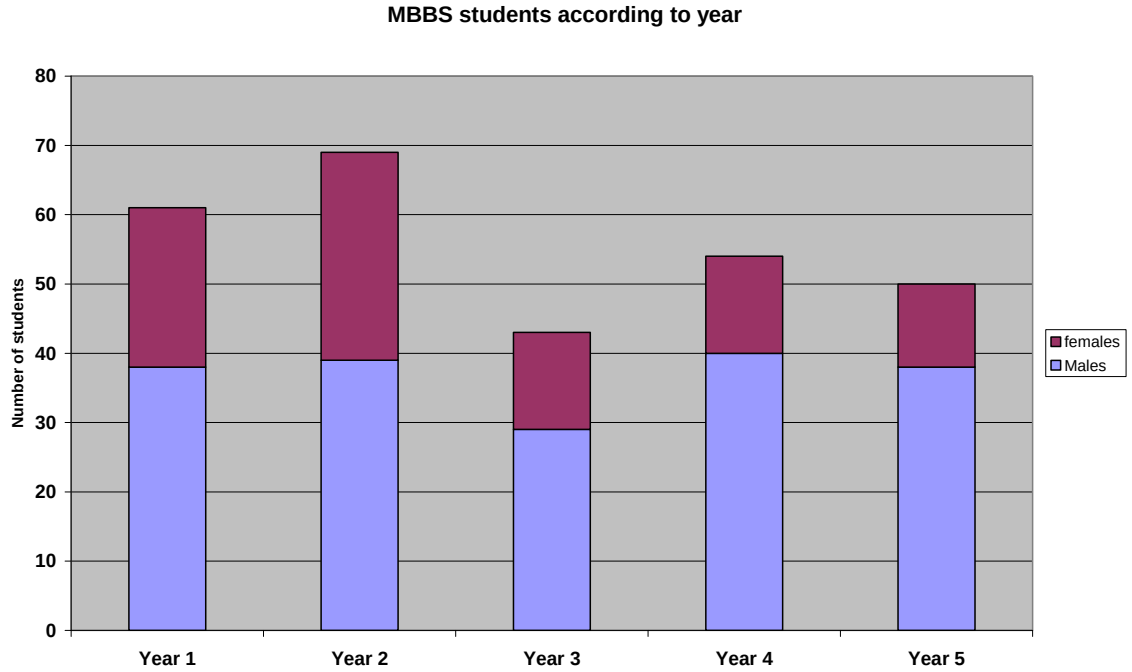
4) Review progress in implementation of the fellowship programme, and the plan to increase the intake of students, with focus on gender equity

The fellowship programme initially planned for 43 candidates for postgraduate training. This was cut back by 50% in a revised phase 3 plan in 2007. As mentioned above, 21 candidates are currently under training, and 2 have already completed their training. The fellowship programme has thus been fully implemented during Phase 3. (See Annex 6 for details of fellowships)

Since there is a time lag due to the duration of the programme, the full impact of the postgraduate training can be assessed only by 2012. For most of the fellowships, the candidates undertake training in South Africa, either full-time or for the last 18 months of the training programme. Sending students to South Africa has advantages; it has a similar pattern of illnesses to Malawi and it has a high standard of medicine. Another advantage is that visas for South Africa are only granted for the duration of the training and the student is therefore more likely to return to Malawi[6]

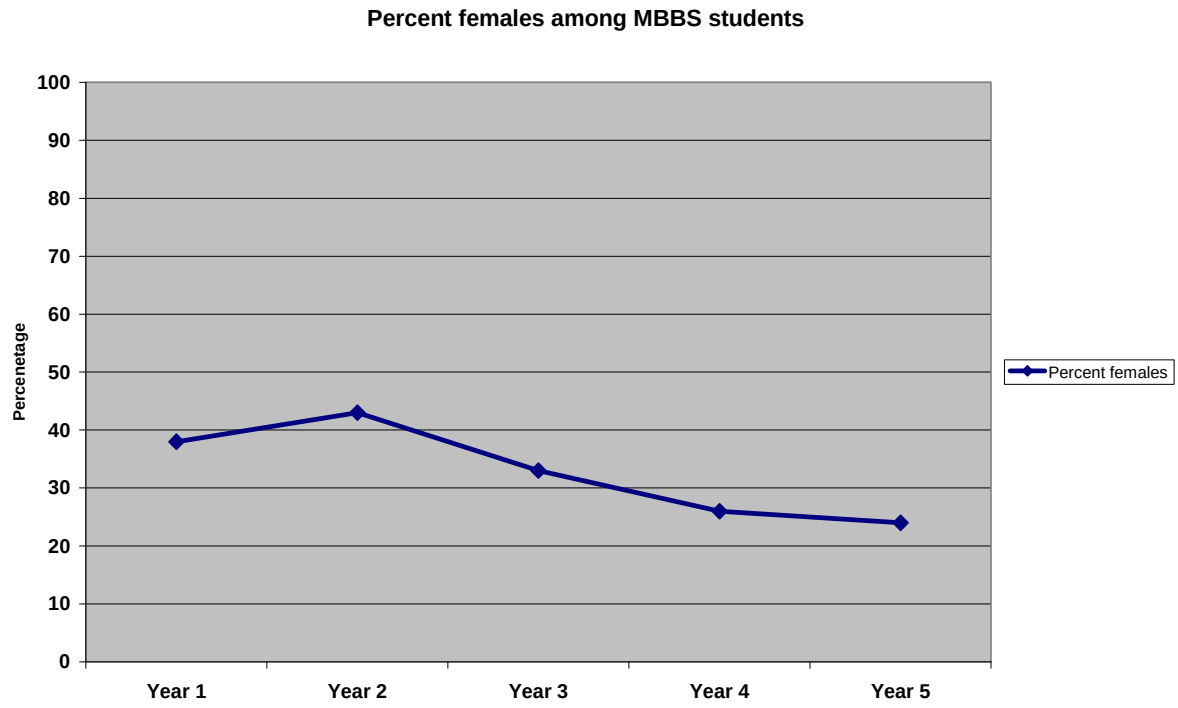
The intake of medical students to COM has increased according to plan. In 2009, 61 students were admitted. There are currently 69 students in year 2 (class of 2008), compared to 43 in year 3, 54 in year 4 and 50 in year 5 (figure 1). In year 5 (class of 2005), there are 24% females. This has increased to 43% and 38% in 2008 and 2009, respectively (figure 2), and is well above the target of minimum 35% females, set in the COM Comprehensive Strategic Plan.

Figure 1



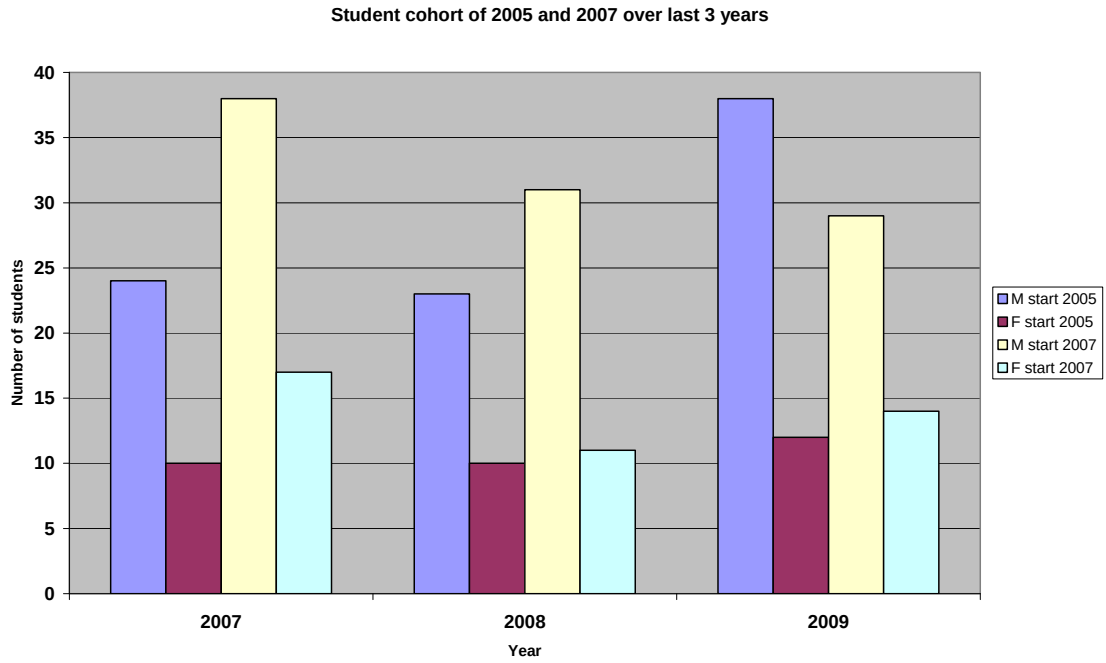
[6] Zijlstra, E.,and Broadhead, R. (2007) The College of Medicine in the Republic of Malawi: towards sustainable staff development

Figure 2



Following two cohorts of students through the last three years, there seem to be a slight tendency to drop-out, although in the class of 2005 there is an increase during 2009. This is mainly due to foreign students from Zimbabwe who came to finish their medical school in Malawi. Partly the fluctuation of number of students from one year to another in the same class is due to students failing exams and who then have to “move down” one year (figure 3). A more detailed discussion on this issue can be found under subchapter 2), Table 6.

Figure 3



5) Examine the extent to which the project has succeeded in reducing dependence on expatriate staff – including an examination of the effect of salary support in the staff retention. They should propose practical and feasible actions to further reduce dependency on expatriate staff.

The number of available staff (i.e. in post) at COM has increased from 68 to 81 during the last three years while the number of staff in training has been stable around 30 (figure 4). Of the 111 total staff in 2009, 29 (26%) were expatriates. The increase in staff in post during the last years has been mainly Malawians, since the majority of staff "lost" during the same period is non-Malawians (Figure 5).

Discussion with clinical staff suggests that there still is a large number of expatriate staff in COM. For example in Internal Medicine 4 of the 6 registrars are non-Malawians and in Paediatrics 4 of the 6 registrars are non-Malawians. Some of these are volunteers, however, and do not appear on COM payroll. The withdrawal of the Dutch support left a large gap at the senior staff levels, especially in QECH. These senior staff members were important as mentors, supervisors and role models for the students, as well as for their expertise and the quality this meant for service delivery in the clinic. The consequence has been increasing workloads for the remaining staff. Even though the number of expatriates has decreased, it is fair to say that COM still is dependent on their contribution in teaching and service delivery. From discussions with staff, both in preclinical and clinical setting, there is a clear message that technical assistance (TA) through expatriates is still required. Different models were proposed: some full time TA to design and deliver programmes, some part time TA to teach specific modules and some short term TA to help develop curricula.

Figure 4

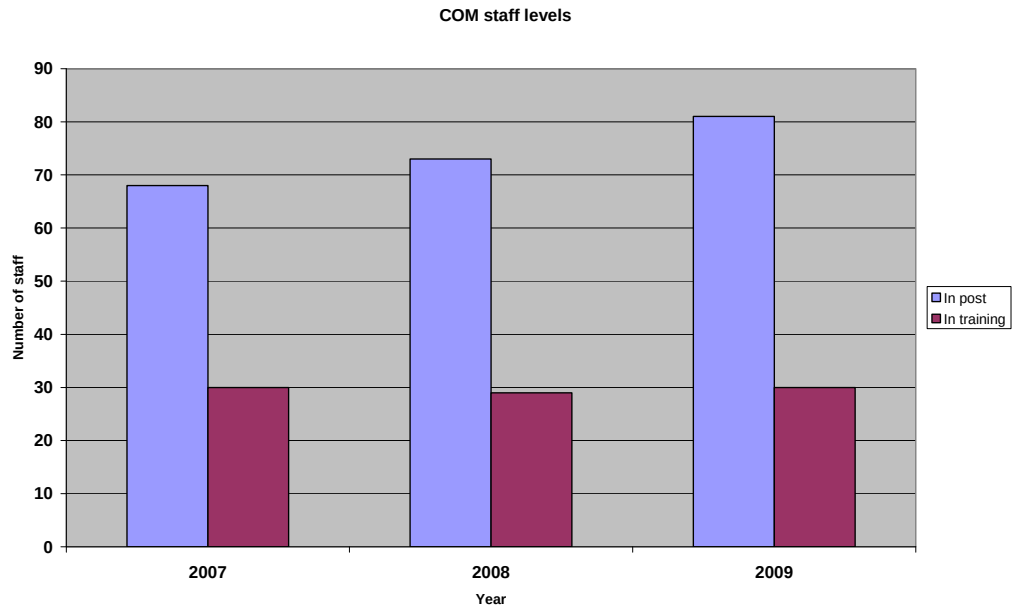
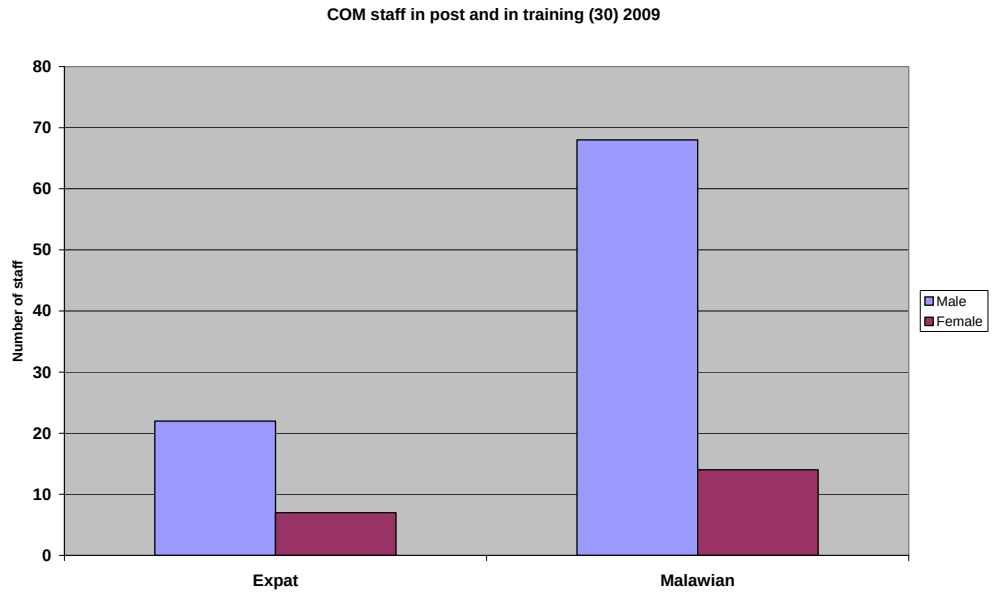


Figure 5



Salary support has helped in the retention of staff, but it has not been sufficient to attract and retain specialists with scarce and more marketable skills, and to attract more senior staff. There may be a need to tailor the retention package (monetary and nonmonetary incentives) and/or design differentiated retention packages to target different categories and types of staff e.g. specialists with skills critical to Malawi.

There is still a need to involve expatriate specialists, but the emphasis should be on building mutually beneficial relationships and by involving expatriates through different and more innovative TA models as described above. This would also be a more feasible way of phasing out and reduce the "dependency" of non-Malawian experts. In addition some staff indicated that the decreasing value of the fellowships on offer may not be an attractive enough incentive to attract staff e.g. the NAC funded scholarships are valued at US 9,000 per year

6) Review and assess the level of retention of graduates, both within Malawi and within the public sector

By 2007, 60% of the students who had graduated from COM up to this time were working in Malawi (Zijlstra and Broadhead, 2007). Table 7 below shows that 92% of the doctors who graduated between the years 2007-2009, have remained in Malawi and 35 of the 41 graduates entering the market place in 2007 chose employment in the public health sector with the MoH Therefore, there seems to be no significant loss of medical doctors from among the COM graduates, which is promising for health services in the country

Table 7: COM Graduates 2006 to 2008

Year	Graduates	MoH	CHAM	COM	Private Sector	Non-Malawian	Outside Malawi
2005	16	13	0	1	2	0	0
2006	21	13	4	1	0	1	2
2007	41[7]	35	0	1	0	5	1
2008	52	50[8] (internship)	0	0	0	2	2
2009	50[9]						

Source: Deputy Director Clinical Services, MoH 2009

Table 8 below shows that there has been a steady increase in the number of doctors employed by the MoH and CHAM since 2003. It was not possible to determine the reason for the variance in the data sources for 2007. Much of the data available on employment statistics and trends are from different sources (e.g. five different sources were examined to produce Table 8 below), datasets and times periods and this made it difficult for the consultants to analyse and present an accurate picture of trends and the situation over time. .

Table 8: Numbers of physicians/specialists employed in MoH and CHAM 2003-2007

Physician/Specialist	MoH	CHAM
2003 [10]	90	17
2004[11]	90	21
2006[12]	124	38
Feb 2007[13]	114	27
Nov 2007[14]	108	40

Source: extracted from various government and other reports

[7] The class of 2007 has just finished internship
[8] Undergoing internship period of 18 months from date of graduation
[9] Class of 2009 will graduate late November 2009 and then undertake 18 month internship
[10] MoH (2007) Human Resources/Capacity Development within the Health Sector. Needs Assessment Study. Final Report
[11] MoH (2004) Human Resources in the Health Sector: Toward a Solution
[12] DFID (2007) Draft Secretary of State Briefing
[13] MoH 2007 Human Resources/Capacity Development within the Health Sector. Needs Assessment Study. Final Report
[14] MoH (2007) Malawi Health Sector Employee Census

Doctors are expected to serve two years in the districts once they have completed their internships. As reflected in Table 7 the MoH has managed to attract the majority of the graduating doctors into the service; discussions with students and staff confirm this and suggest that there are a number of incentives for graduates to choose employment in the public sector/MoH. These include the allowances available at the district level to enable them supplement their income and the opportunities available for post graduate training after they have completed their 2 years of service. The Christian Health Association of Malawi (CHAM) indicated that one of the reasons it has difficulty attracting doctors is because it cannot offer the same level of allowances and incentives as the public sector. However it is not clear how many doctors are actually been retained in the sector as the figures reflected in Table 8 suggest that the number of doctors and specialists employed in the MoH and CHAM over the years is not increasing in line with the number of graduates produced.

7) Review and assess infrastructure development (Institute of IPDR and ICT centre). Review and assess the functionality of the combined IPDR Institute and the ICT centre.

The progress with the building of the combined IDPR and ICT centre is 8 weeks behind schedule but it is expected that it will be completed within the time frame and budget allocated. The building will also house the Research Support Centre (RSC), which will be pivotal for all research activities in COM. The functionality of the co-localisation cannot be assessed as of now, since the building is not yet in use. However, both the ICT Director, Postgraduate Dean and RSC Director are positive about having the two functions together under the same roof.

8) Review and assess progress made towards establishing a wide range of post graduate programmes.

COM offers a modest range of post-graduate programmes; expanding the range of programmes offered is dependent on the staff and expertise that are available in the College to develop and deliver these programmes. As discussed earlier it currently offers a 4-Year Master of Medicine degree in Medicine, Surgery, Anaesthesia, Orthopaedics, Ophthalmology, Paediatrics and Internal Medicine. It has established an MPH programme; is planning to offer a Health Management Diploma; has established a joint PhD degree programme with Liverpool School of Tropical Medicine; and has also developed a PhD by research programme.

Staff interviewed agreed that the lack of staff is the main constraint to COM expanding the range of postgraduate programmes it can offer. Many postgraduate programmes are still provided outside Malawi, however efforts are being made to ensure that regional institutions are being used (there is a greater likelihood that the students will return to Malawi) and that some of the training time is spent in Malawi.

9) Review and assess systems and routines for monitoring.

There are limited systems in place for routine monitoring and evaluation. The consultants had difficulty in getting basic data on staffing and student enrolment. Much of the data provided were inconsistent and incomplete and because the consultants had to draw on information from different datasets and sources it was not always possible to accurately compare progress year on year and to draw reliable conclusions. There were no annual reports made available on the progress being made in the implementation of the Comprehensive Strategic Plan and there was limited reliable and comprehensive information available on the Norwegian/Swedish funded support programme.

Having robust monitoring and evaluation systems and activities in place will help provide COM and its stakeholders with information to enable it to determine the ***relevance, efficiency***, ***effectiveness***, ***impact*** and ***sustainability*** of the interventions and activities undertaken and to

ensure that lessons learnt are used to inform programme design and planning, management decisions, and the prompt resolution of problems. Relevant information and findings can be documented and disseminated regularly to internal and external stakeholders.

Continuous and ongoing monitoring of COM interventions and activities at all levels will provide routine and regular descriptive information on progress. It will look at **what** is being done and this information can be used by management and stakeholders to oversee ongoing project activities and to make adjustments to improve efficiency.

The indicators that are been used currently to monitor the Norwegian/Swedish supported interventions and activities are not measurable and specific enough to provide key information on progress and impact. A set of improved qualitative and quantitative performance indicators are needed for monitoring inputs, processes and outputs and for the evaluation of outcomes and impact. These indicators need to be reliable, appropriate, valid, easy to collect, sensitive and specific. They should demonstrate how the inputs produce the expected outputs, how these are used to achieve outcomes and what impact they have had on improving the overall situation in COM and achieving the specific objectives of the Support Programme.

10) Sustainability: To what extent is the College, now and in the nearest future, dependent on funding from Norway and other donors?

The COM has achieved much during the period from 2001, when the Norwegian funding started. The infrastructure for a modern medical school is by and large in place, and the support has been a success so far. The COM is also on its way to being able to generate its own income to sustain further development. The Research Support Centre has the potential of becoming a substantial source of income if it can continue to attract new research projects, and through the marketing and delivery of its services to institutions outside COM. The new library also has the potential of selling out services that could generate funding for COM, as has the Recreation/Sports Centre. However, the CoM is still dependent on external funding from donors for the near future.

The most critical issue is that while COM is building capacity through postgraduate training it has to suffer a temporary loss of staff. At present, about 20% of the established posts are vacant because of the postgraduate training programme. Until sufficient staff is trained, it is necessary to fill the academic positions through the use of expatriate specialists. This means that COM still is, and will be for the next 3-5 years, dependent on funding from Norway and/or other donors. The prospects are, however, promising that Malawi will be self contained in this regard in the near future, provided the development that has been seen up to now continues for the coming years.

Summary of findings:

1) The Norwegian/Swedish support to the College of Medicine is fully consistent with the national plans for health sector development and human resources for health (Essential Health Care Package, Joint Programme of Work, Six-Year Emergency Training Plan, Emergency Human Resources Programme)

2) Progress on the implementation of the College of Medicine Strategic Plan:

a) The COM has been able to increase the intake of students for the MBBS programme to 60 students annually. The student attrition rate varies, but is mainly explained by non-Malawian students joining the programme in Year 5.

b) COM has been successful in starting undergraduate programmes in pharmacy and laboratory technology, and is starting a programme in physiotherapy in 2010. The postgraduate training within Malawi has been partly successful, but still the main postgraduate training is conducted outside Malawi. Main constraint for further development of in-Malawi postgraduate training is lack of staff.

c) The construction of the Sports and Recreation Centre has improved student welfare and the quality of student life. While it is critical to open the facilities to corporate clients in order to

generate sufficient revenue to maintain the facilities, the College must not lose sight of the original purpose of the facilities (i.e. student welfare).

d) Establishment of the Institute of Postgraduate Development and Research is nearly finished (to be completed by December 2009).

e) Human resource planning and management: COM has developed a mix of strategies to improve the recruitment and retention of staff (salary supplements, re-entry grants, fellowships for postgraduate studies). These strategies have to some extent been successful in attracting and retaining Malawian lecturers.

3) Attainment of the goal of producing sufficient Malawian staff as "trainers of trainers: COM is well on its way of attaining the goal of producing sufficient number of "trainers of trainers". However, whether this alone will have a positive impact on health indicators in the country is not possible to assess, since a lot of other factors are critical in this context.

4) Progress in implementation of the fellowship programme, and plans to increase student intake, with focus on gender equity: postgraduate training has been implemented according to plan, but due to the time lag because of the duration of the training programme, the full impact cannot be evaluated until 2012. The intake of medical students has also increased according to plan, and with 43% and 38% females in 2008 and 2009, respectively.

5) Reducing dependence on expatriate staff: The number of available staff (i.e. in post) at COM has increased from 68 to 81 during the last three years (mainly Malawians) while the number of staff in training has been stable around 30 (figure 4). Of the 111 total staff in 2009, 29 (26%) were expatriates. There is still a need to involve expatriate specialists, but the emphasis should be on building mutually beneficial relationships and by involving expatriates through different and more innovative models.

6) Retention of graduates: By 2007, 60% of the students who had graduated from COM were working in Malawi, and 92% of the doctors who graduated between the years 2007-2009, have remained in Malawi. Thus, retention of COM graduates has been successful up to now.

7) Infrastructure development: Building of Institute for Postgraduate Development and the ICT centre has been successful, according to plan, and without cost overrun

8) Establishing a wide range of postgraduate programmes: Currently, a 4-year Master is offered in Medicine, Surgery, Anaesthesia, Orthopaedics, Ophthalmology, Paediatrics and Internal Medicine. In addition, a Master of Public Health Programme has been developed, as well as a joint PhD programme with Liverpool School of Tropical Medicine. Also, there are plans to establish a Health Management Diploma during 2010. The development has largely been according to what was planned in phase 3.

9) Systems and routines for monitoring: There are limited systems in place for routine monitoring and evaluation. This is clearly the weakest part of COM activities, and measures should be taken to bring this up to proper standard

10) Sustainability: A critical issue is that while COM is building capacity through postgraduate training it has to suffer a temporary loss of staff. At present, about 20% of the established posts are vacant because of the postgraduate training programme. Until sufficient staff is trained, it is necessary to fill the academic positions through the use of expatriate specialists. This means that COM still is, and will be for the next 3-5 years, dependent of funding from Norway and/or other donors. The prospects are, however, promising that Malawi will be self contained in this regard in the near future, provided the development that has been seen up to now will continue for the coming years.

Conclusions and recommendations
By and large, the phase 3 support has been successful, and COM has had a remarkable development during the period since the Norway/Sweden support started in 2001.
Based on the present review, the consultants have made the following conclusions and recommendations:

- There is a need to ensure that post graduate training is in line with the MOH Specialist Training Plan to avoid duplication and ensure that all skills gaps in the health sector are covered by fellowship programmes

- Increased intakes may impact on teaching quality, student satisfaction, staff workloads, morale and motivation. There will be a need to ensure that systems are in place to continue to monitor factors that could impact on student and staff attrition, staff motivation, student welfare, quality of classroom teaching and clinical instruction and retention and deployment of graduates in the health sector.

- COM should monitor MOH plans to reduce the period of service that doctors undertake post internship from 2 years to one year and the plan to provide post graduate training scholarships after doctors complete only one year of service. This could lead to greater pressure on COM to produce more graduates to address the movement and attrition of doctors as a result of this policy change.

- COM needs to ensure that suitable clinical practicum sites, clinical instructors and supervisors are available for students. Queen Elizabeth Central Hospital (QECH) is reported to be overcrowded, and lacks essential equipment and supplies. COM will need to work with MOH to identify suitable new clinical sites that are appropriately staffed and equipped and are close to the College to reduce transport costs.

- Increased number of students may impact on students' access to books and training materials, to tutors and clinical instructors, to clinical practice and to recreational facilities; close monitoring of student welfare is required.

- The provision of fellowships for post graduate training may impact on staffing levels and workloads in some departments; this should be considered in the selection process used to identity candidates for fellowships.

- The provision of fellowships has greatly increased the number of Malawian staff with relevant and essential skills and these are contributing to building capacity in COM in all areas e.g. clinical service, teaching and research.

- Difficulties with the provision of re-entry grants should be examined and documented and lesson learned should inform redesign of the scheme and the design of retention strategies.

- There are limited systems in place for routine monitoring and evaluation. A set of improved qualitative and quantitative performance indicators are needed for monitoring inputs, processes and outputs and for the evaluation of outcomes and impact.

- COM is actively working towards sustainability and is identifying a range of options to reduce dependency on donors. These include income generation through opening up membership of the Sport and Recreation Centre to private members; overheads and salary contributions from research grants; use of facilities for conferences and other events; design and delivery of short course; and monitoring clinical trials.

Annex 1

Terms of Reference for Review of Norway/Sweden Support to University of Malawi, College of Medicine (CoM) phase 3, and Appraisal of Proposal for future Support to CoM (phase 4) (MWI-2002 - MWI-05-034 and MWI-09-004)

1. Background

In 1991, the Government of Malawi established the University of Malawi College of Medicine, in Blantyre (CoM), with the goal of graduating sufficient numbers of doctors to contribute towards improving the health and well-being of all Malawians. In July 2001, Norway signed an agreement (Phase I) with the Ministry of Health (MoH) to support expansion and improvements in CoMs capacity to train doctors. Phase 1 was followed by the signing of a second agreement in November 2003 and a third in May 2007. CoM has now after some discussion with the Norwegian Embassy submitted a proposal for a phase 4 of the programme. In the annual meeting in December 2008 it was agreed that it would be useful to combine the review of phase 3 with the appraisal of the proposed phase 4, in one exercise. This to make sure that lessons learned are integrated in the next phase of the programme.

Therefore these terms of reference are for:

- Review of Phase 3, and
- Appraisal of the proposal for Phase 4.

Phase 1, 2 and 3 of the programme have been jointly financed by Sida and the Norwegian Embassy. Since Sida is phasing out of Malawi this fourth phase of the programme will only be financed by Norway. The total financial frame for the programme is therefore lower than what if was for phase 3.

In 2006 a review of phase 1 and 2 was done. The key conclusion in this report was that the Norwegian/Sida support to College of medicine had largely been successful. Most of the objectives in the programme had been achieved, and most of the activities were done on time.

2. Purpose

Reviews of Phases 3 - The main purpose of the reviews of Phase 3 is to assess whether project implementation is “on track” (the Embassy has approved a no cost extension for some of the activities), proceeding efficiently, and has achieved/is likely to achieve the stated goals and objectives.

Appraisal of the Proposal for Phase *4* – The main purpose of the appraisal is to provide the Embassy with recommendations on the suitability of the proposal for Norwegian funding, and to assess how it is linked to Malawi’s overall plans for human resources for health and College of Medicine. Further the appraisal will assess the project design and how the project plans to achieve its objectives within the planned timeframe, and offer advice on potential improvements.

3. Description of the Project

3.a Phase 3 (summary taken from the programme document):

Programme title: MWI 05/034 Malawi College of Medicine, Phase 3. “Human Resource Development in the College of medicine; Building on success by investing in People”.

Implementing institution: College of Medicine **Agreement with**: Ministry of Finance

Goal: To produce sufficient Malawian staff as "trainers of trainers" in College of Medicine to provide enough trained doctors to make a positive impact on health indicators in Malawi.

Objective: To allow the College of Medicine to implement its comprehensive Strategic Plan of development in order to support Government of Malawi policies for strengthening the health sector.

Expected outputs:
to train a minimum of 60 doctors per year,
to train sufficient Malawian Academic specialists in basic medical science, pathology and clinical disciplines to provide a majority of Malawian staff in the College of Medicine,
to enrich the teaching environment for training and research using the state of the art ICT access and technology,
to enable college of medicine to offer a broad rang of postgraduate programmes.

Planned activities:
Human resource development through dedicated 43 Malawian postgraduate fellowships.
Creation of a combined Institute of Postgraduate Development and Research (IPDR) and ICT centre.
Technical Assistance as a transitional strategy for Malawi capacity building for Lilongwe Campus and clinical laboratory service development.
Staff retention Scheme

Indicators:
Minimum of 60 premedical candidates/annum
Minimum of 60 graduating doctors/annum
Postgraduate Malawian fellowships awarded/annum and return and retention of Malawian specialists in the College of Medicine
Fully functional Institute of Postgraduate Development and Research
Information and Communications Technology Department broaden its activities and its range of networking activities.
Retention of Malawian Academic Staff to over 90 % of tenured academic staff.

Financing plan: Norway/Sida contribution to College of Medicine 2007 -2009

2007	2008	2009	Total
13 300 000	13 300 000	13 300 000	39 900 000

3.b Proposal Phase 4:

Goal: The overall goal of the project is to maximize opportunities on the College of Medicine to maintain the momentum of training Malawian academic staff as "trainers of trainers" to provide enough trained doctors of excellence to make a positive impact on health indicators in Malawi.

Objective: To allow the College of Medicine to implement its comprehensive strategic plan to produce doctors of excellence in service delivery, training and research, through quality assurance by harnessing modern medical education methods and information and communication to the training programmes in the College.

Expected outputs:
1) Review and reform of the curriculum for the 3 undergraduate programmes, MBBS, BSc Pharmacy and BSc Medical Laboratory Technology to allow for an increasing in graduates from 60 to 100 doctors by 2012.

2) To consolidate the Departments of ICT and the new Library to support the undergraduate and postgraduate training programmes in all electronic and other modern medical education technologies.
3) To enrich the teaching and learning environment in the College of Medicine for teaching and research by using state of-the-art-ICT and modern medical library technology to allow for continuous internet access for staff and students for distance learning and research activities.
4) To consolidate existing teaching programmes and develop new undergraduate and postgraduate training programmes in the College of Medicine through development of the Lilongwe Campus site at Kamuzu Central Hospital.
5) To consolidate academic collaboration between College of Medicine and Norwegian Medical Academic Institutions.

Planned Activities:

1) Human Resource development through dedicated Malawian postgraduate training fellowships with priorities for ICT, pathology and Basic Medical Sciences.
2) Technical Assistance to continue to allow the College of Medicine capacity to develop its Lilongwe Campus and Clinical Laboratory Service development.
3) Creation of an up-to-date ICT Centre for internet access.
4) Establishment of a state-of-the-art dedicated Medical Library/Resource Centre.
5) Support for staff retention scheme.
6) Strengthen academic collaboration between College of Medicine and Norwegian medical academic institutions. Specifically Tromso University through the development of School of Rehabilitation.

Indicators:

Minimum of 100 MBBS candidates at entry by 2012.
Minimum of 15 pharmacists/annum
Minimum of 15 graduates in Medical Laboratory Technology (MLT) per annum.
Fully functional Postgraduate Institute
Fully functional ICT Department and modern medical library resource centre.
Retention of Malawian academic staff to over 90% of academic staff.

Total Budget:NOK19,360,751

4. Scope of Work

Review of Phase 3:

The reviews will:

21) Assess the consistency of the Norwegian/Swedish support to College of Medicine with the national health sector development plan, and the national plans for human resources for health.
22) To review and assess progress made on implementation of the College of Medicine Strategic Plan.
23) Review and assess the progress made towards attainment of the goal of produce sufficient Malawian staff as “trainers of trainers to provide enough trained doctors to make a positive impact on health indicators in Malawi.
24) Review progress in implementation o f the fellowship programme, and the plan to increase the intake of students, with focus on gender equity.
25) Examine the extent to which the project has succeeded in reducing dependence on expatriate staff – including an examination of the effect of salary support in the staff retention. They should propose practical and feasible actions to further reduce dependency on expatriate staff.

26) Review and assess the level of retention of graduates, both within Malawi and within the public sector.
27) Review and assess infrastructure development (Institute of IPDR and ICT centre). Review and assess the functionality of the combined IPDR Institute and the ICT centre.
28) Review and assess progress made towards establishing a wide rang of post graduate programmes.
29) Review and assess systems and routines for monitoring.
30) The reviews should look into the question of sustainability. To what extent is the College, now and in the nearest future, dependent on funding from Norway and other donors?

Appraisal of Proposal for Phase 4

The appraisal should assess the following areas and questions:

1) Planning process:

- Assess the quality of the underlying analysis and planning process of the programme.
- To what extent is the plan relevant to and consistent with the MoHs policy and plans for the health sector?
- Does the proposal reflect lessons learned from implementation of phase1,2 and 3?

2) Project Design:

- Do the goal, purpose, outputs and inputs show internal consistency? Are they realistic?
- Does the proposal describe indicators of progress? Are the indicators sufficiently clear and relevant to give valid information?
- Are relevant and reliable baseline data available?
- Is the budget realistic and sufficiently detailed? Are budget posts well justified?

3) Sustainability and risk factors:

- Does the proposal identify relevant external (eg impact of HIV/AIDS, national budgetary constraints) and internal (eg project leadership/management skills, or changes therein, corruption) risk factors?
- Are the probable impacts of the risk factors adequately analysed, and mitigating actions integrated in the project design?
- Is the proposed project cost-efficient?
- Is the proposed project sustainable?

5. Methodology

The review/appraisal processes should include a review of relevant documents, interviews and on-site observation.

The review program should also include:

- Meetings/interviews with relevant Embassy personnel
- Meetings/interviews with Ministry of Health (MoH) personnel (including the Secretary for Health, Controller of Human Resources, Director of Planning, and Head of the SWAp Secretariat), Ministry of Education and other donors/partners working with human resources for health (DFID)
- The team will spend most of the time at College of Medicine (Blantyre) – the program here should include inspection of the facilities, interviews with staff and students, review of documents etc.

The mission will take place in September 2009 (week 38 and 39). The in –country work in Malawi should be done in one week. A detailed program will be provided by the Embassy (in consultation with College of Medicine) at least two weeks prior to the mission.

6. Deliverables – Outputs - Reporting

A debriefing meeting will be held with key stakeholders (CoM, MoH, Embassy) at the Norwegian Embassy at the end of the mission with the main purpose to discuss and to validate findings. Two draft reports [a) Review of Phases 3, and b) Appraisal of Proposal for Phase 3] should be presented to the embassy no later than two weeks after the debriefing meeting, with two week deadline for comments. The final reports should be presented to the embassy no later than five weeks after the mission. The team leader is responsible for finalising the report.

The reports should:

- Be written in English, and should be no longer than 20 pages.
- Include an Executive Summary with main conclusions and recommendations for both: a) the Review of Phases 3, and b) the Appraisal of the Proposal for Phase 4
- Provided both in electronic form and hard copy

7. Team Composition

The team should needs to be composed in such a manner that the following fields are covered:

- Institutional development, including human resources management and development
- Medical training/education in resource-poor settings
- Medical research
- Information, Communication and Technology (ICT) in resource-poor settings

The team should consist of:

- One member from Norway - to be the team leader. The team leader should have sound international experience with similar review missions. He/she should also have extensive knowledge on training/education of medical doctors, institutional development, and ICT.
- One local consultant with competence in the fields of institutional development, and training/education of medical personnel.

8. Documentation

The Norwegian Embassy will make the following key documents available to the review team, at least two weeks before the start of the review:

i. Relevant project agreements
ii. The programme documents
iii. Annual progress reports on the progamme
iv. Minutes from Annual project meetings
v. CoM Phase 4 proposal
vi. Report review phase 1 and 2 and appraisal of phase 3
vii. The CoM “Comprehensive Strategic Plan”
viii. The MoH “6 Year Emergency Human Resource Plan”
ix. Programme of Work for SWAp

Other relevant documents will be made available on request.

In addition, the consultants may find useful information on www.medcol.mw

Annex 2

Programme for review and appraisal of Norwegian/Swedish funded support to the College of Medicine
September 14 to 24 2009

Date	Meeting
Monday Sept 14	Briefing meeting at Royal Norwegian Embassy Review of ToR and finalisation of programme/schedule
Tuesday Sept 15	Mr HR Chimota HR Controller, MoH Dr Abel Kawonga, Director of the Medical Council of Malawi Dr Kandwani, Medical Council of Malawi Mr Kunika, Global Fund Coordinator, Department of Planning, MoH
	Morning Dr Jason Lane, DFID Health Advisor Mrs Mhango, CHAM
	Afternoon Travel to Blantyre
Thursday Sept 17	Professor R Broadhead, Principal Mrs Chifundo, Registrar Finance Officer **Tour of Mahatma Gandhi Campus** **Lunch** Prof J Kumwenda, Undergraduate Dean Prof Ken Maleta, Postgraduate Dean , Dr M Mipando, Dean of Students COMSU President, Student Representatives
Friday Sept 18	Prof E. Gomo. Director, Research Support Centre B Chiweza, Librarian A Muyepa, Head of ICT Heads of Basic Medical Sciences and Pathology, Physiology and Community Health (Public Health and Social Sciences) **Lunch** Heads of Clinical Departments, QECH Tour OF QECH Directors of Research Units& Research Affiliates
Saturday Sept 19	Travel to Lilongwe
Monday Sept 21	Report writing
Tuesday Sept 22	Dr Anne Phoya, Director of SWAp Secretariat , MoH Dr George Chinthope-Mwale, Director of Clinical Services, MoH Mr Chitimbe, PS Ministry of Education
Wednesday Sept 23	Preparation of draft report & presentations for NRE and stakeholders
Thursday Sept 24	Presentation of draft report (findings and recommendations) to RNE and stakeholders
Oct 12	Submission of draft report

Annex 3

People met

Name	**Title and Organisation**
Unni Poulsson	Chargé d'Affaires, Royal Norwegian Embassy
Anne Liv Evensen	First Secretary - Health**,** Royal Norwegian Embassy
Patrick Boko	Training Officer HR Unit , MoH,
Mr Chimota	HR Controller , HR Unit , MoH
Dr A Kawonga	Director, Medical Council of Malawi
Dr Kandwani	Medical Council of Malawi
Mr Kunika	Global Fund Coordinator, Dept of Planning, MoH
Dr Jason Lane	Health Advisor, DFID
Mrs Desiree Mhango,	Director Health Programmes, CHAM
Dr Anne Phoya	Director SWAp Secretariat, MoH
Dr George Chinthope-Mwale	Director Clinical Services, MoH
Mr Chitimbe	Permanent Secretary, Ministry of Education
Professor R Broadhead	Principal, COM
Mrs Chifundo	Registrar COM
	Finance Officer, COM
Dr M Mipando	Dean of Students,COM
Prof J Kumwenda	Undergraduate Dean
Prof Ken Maleta	Postgraduate Dean
	President COMSU
	Student representatives
Prof E. Gomo	Director, Research Support Centre
Mr B Chiweza	Librarian
Mr A Muyepa	Head of ICT
Dr C. Bandawe	Head of Health Social Sciences
Dr B Mbewe	Head of Public Health
Dr M Gondwe	Head of Physiology
Dr John Chisi	Head of Haematology/Anatomy
Dr C Dzawalala	Head of Histopathology
Dr E Mbvundula	Head of Biochemistry
Ms K Gray	Head of Microbiology
	Heads of Clinical Departments
	Deputy Postgrad Dean
	Directors of Research Units and Research Affiliates

Annex 4

Documents reviewed

Anne Martin–Staple (2004) 6-Year Human Resource Relief Programme for the Malawi Health Sector. Revisions and Year-One Implementation Plan

Anne Martin–Staple (2004) Proposed 6-Year Human Resource Relief Programme for the Malawi Health Sector. Part II: Training and Tutor Incentive

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Annex 5

Specialist Training Plan for the MoH

Specialist Category	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Medical Specialists	3	3	3	3	2	2	2	2	2	2	2	2	**28**
Surgeons (General)	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Obs & Gynaecologists	4	4	4	4	3	3	3	3	3	3	3	3	**40**
Paediatricians	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Psychiatrists	1	1	1	0	0	0	0	0	0	0	0	0	**3**
Dermatologists	1	1	1	1	0	0	0	0	0	0	0	0	**4**
Anaesthetists	4	4	2	2	1	1	1	1	1	1	1	1	**20**
Orthopaedic Surgeons	1	1	1	1	1	1	1	1	1	1	1	1	**12**
Ophthalmologists	3	3	3	3	2	2	2	2	2	2	2	2	**28**
Radiologists	1	1	1	1	1	1	1	1	0	0	0	0	**8**
Histopathologists	2	2	2	2	2	2	2	2	1	1	1	1	**20**
Total per year	**26**	**26**	**24**	**23**	**18**	**18**	**18**	**18**	**16**	**16**	**16**	**16**	**235**

Source: Memorandum of Understanding between the Ministry of Health and the College of Medicine for the Implementation of the Ministry's Postgraduate Training Plan for Malawian Medical Doctors

Annex 6

Norwegian funded fellowships for COM staff

	Sex	Department	Qualification	University	Duration	Start	Finish
1	M	Microbiology	FCSA (Microbiology)	University of Cape Town	3 Years	2007	2010
2	M	Radiology	FCSA (Radiology)	University Of Cape Town	4.9 Years	2007	2012
3	F	Histopathology	FCCSA (Pathology)	University of Cape Town	4.8 Years	2007	2012
4	M	Paediatrics	Mmed	University of Kwazulu Natal	2 Years	2007	**2009 Completed**
5	M	Paediatrics	Mmed	University of Kwazulu Natal	2 Years	2007	**2009 Completed**
6	M	Surgery	Neuro-Surgery Specialisation	University of Kwazulu Natal	4 Years	2007	2011
7	M	Surgery	General Surgery Specialisation	University of Kwazulu Natal	4 Years	2007	2011
8	M	Physiology	PhD	University of Stellenbosch	2 Years	2007	**2009 (from Phase II)**
9	M	Obstetrics & Gynaecology	Obstetrics Specialisation	University Of Cape Town	3 Years	2007	2010
10	M	Haematology	Haematology Specialisation	University of Witwatersrand	3 Years	2007	2010
11	M	Biochemistry	PhD	University of Witwatersrand	2 Years	2007	**2009 (from Phase II)**
12	M	Information and Technology	Masters in Network Hardware	University of Lund Sweden	2 Years	2007	2009
13	M	Anatomy	Masters In Gross Anatomy	University of Cape Town	2 Years	2008	2010
14	M	Haematology	Haematology Specialisation	University Of Pretoria	2 Years	2008	2010
15	M	Administration	Master of Public Administration	University of Stellenbosch	1.5 Years	2008	2009
16	M	Biochemistry	Master of Science	University of Stellenbosch	2 Years	2008	2010
17	M	Anaesthesia	Mmed	University of Witwatersrand	2 Years	2008	2010
18	M	Medicine	Mmed	University of Cape Town	3 Years	2008	2011

19	M	Obstetrics	FCRS	University of Cape Town	4 years	2008	2112
20	M	Clinical Chemistry	FCSA (Pathology)	University of Cape Town	4 years	2008	2112
21	M	Medicine	Mmed	University of Cape Town	2 Years	2008	**2010 (withdrawn)**
22	M	Paediatrics	Mmed	University of Cape Town	3 Years	2009	2011
23	M	Administration	Master of Administration (HR)	ESAMI	2 Years	2009	2010
24	M	Obstetrics	FCSA (O&G)	University of Cape Town	4 Years	2009	2013

Annex 7

Key health indicators for Malawi 1990–2007

Indicator	1990	2000	2004	2007
Infant mortality rate (under 1)/1,000	124	103	76	71
Under-5 mortality rate/1,000	209	198	133	111
Maternal mortality ratio/100,000	620	1120	984	810
Proportion of deliveries attended by skilled personnel	55	56	57	66
Doctor pop ratios	-	-	1/62,000	1/53,176

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