APFP site visit to Malawi

Assoc Prof Jo Wilmshurst (APFP chair, paed neurologist)

Assoc Prof Brenda Morrow (Head of ancillary APFP, physiotherapist – postgraduate training issues)

Dr Natasha Rhoda (Consultant Neonatologist)

Assoc Prof Minette Coetzee (Postgraduate Nursing arm of APFP)

Anne Magege, Nombwisu Tom (ELMA)

Dates 23rd-25th January

Executive summary:

- The centre QEH is an excellent training centre and is generating a high standard of paediatric trainees – they are ready with the next intake to move to **3 years training in Malawi and to 1 year at an outside centre.**
- The nature of the training must encompass the capacity of down-referrals to start to improve on **early recognition and intervention for childhood diseases.** An approach to **"train the trainer"** must be introduced into the training program for the referral out year.
- **Funding** for the Malawian new intake of paediatricians must be found – a grant request will be written to this effect (this has the support of the College of Medicine although whether any funds to assist this at this stage is not clear). A minimum of **30 paediatricians** are needed to develop a critical mass in the country.
- Better **cohesion with other health care practitioners** is needed (nursing, ancillary health) – this will be build in to the next training cycle
- **Exchange of South African trainees** will be explored with the HOD at Red Cross Children's Hospital and the registrar committee. Year 3 South African trainee (2 for 6 months each, or 1 for 1 year) with Year 4 Malawian trainee (1 year). Number of trainees will depend on the number of Malawian trainees who can exchange and the capacity of Red Cross to rotate their staff.
- Training of the doctor from Sierra Leone will act as the pilot test of this concept. If this "**stepping stone approach**" is effective then other trainees from other African countries can rotate through Malawi for the start of their training. With this concept it is logical to establish a Malawian branch of the APFP (**APFP Malawi**).
- Addendum reports from Neonatology, Ancillary services, Nursing.

APFP site visit to Malawi

Day 1 Site visit tour

Team arrived Wed midday and went straight to see the Queen Elizabeth Hospital (QEH). Dr Neil Kennedy took them around the hospital illustrating the environment the current trainees are based in.

The hospital at any time has as many as 370 in-patients. Over 100 children may be admitted in one overnight on-call shift. To accommodate these children a balanced or greater number must be discharged to permit admission of more patients and to allow the current patient to doctor to nurse ratios to remain at a level such that the care delivered to these children does not drop.

The wards are focused around key disease issues. Namely

- Neonatal ward: Kangaroo care, new innovation with bubble CPAP, innovative "boxes" for cots (no incubators), innovative phototherapy units. (see neonatal report Dr Rhoda)
- Moyo – gastroenteritis ward for patients with severe failure to thrive, malnourishment and dehydration.
- Emergency: Huge high ceiling "hanger" open plan room – successfully run by 5 nurses with triage training. Break-away rooms for either non-urgent review or emergency intervention. No child is turned away.
- Chronic care wards – for under 6 months and over 6 months – dominated by respiratory infections
- Oncology ward – dedicated unit with the capacity to manage certain diseases e.g. Burkits lymphoma. Dr George Chaluka – due to come for APFP oncology training in 2013 is currently working there and met with the team.
- HIV investigation unit (supported by research program) – policy introduced that all infected woman are on therapy for life – this will impact both on the mother to child transmission but also the health of the neonate if the mother's health is also optimized. Huge challenges are faced with frequent interruption in access to testing kits….
- Malaria research unit – this centre allows the benefit of access to extended CSF screens as well as longer EEG monitoring, high tech ophthalmology review. A current study is assessing the efficacy of high does oral levetiracetam in children with cerebral malaria. This will have significant implications to neurodevelopmental outcomes in these patients if found to be effective.
- Child abuse centre – this is a dedicated unit equipped with trained counselors and access to police and medical support.
- Facilities – limited radiology, MRI through a research project (very limited access), lab screens – blood gas machine (mostly works) basic FBC, electrolytes, CSF analysis variable access and often delays i.e. *often must initiate management based on clinical and history judgement alone*

The overall impression from the tour is a service covering an exceptionally high patient load but also with a massive morbidity burden. **Patients present at extreme stages in the course of their illness** – as such the likelihood of reversing the state of the child is vastly more challenging than that faced in centres even such as Red Cross Children's Hospital. Those that survive are at high risk of long-term sequelae adding to the chronic health care burden. The load and burden on the staff as such is significant.

There is a great need to move towards a program of **earlier intervention and recognition of illness in the referring centres**. Currently the staffing levels are at maximum capacity, coping with what is basically **crisis management**. They are performing an amazing job with the resources available. The mortality rate of paediatric hospital admissions has reduced to 4%, centres with equivalent health care structures and facilities quote a level of 10% to be more typical. This reduced outcome is a reflection of the organization of the care delivered and maximizing the facilities available. The other unit in Lilongwe now has 3 paediatricians and is already seeing a reduction in their mortality rates. With adequate staffing of trained paediatricians, nurses and ancillary workers, a program to develop earlier referral related to earlier recognition of illness should be developed through down referring of training. This is at present challenged by multiple issues from the infrastructure to the lack of staffing capacity to provide this training. The aspect that the APFP can assist with would be the training of health practitioners who would become the trainers i.e. to **"train the trainers"**. This process has already started – it would help the program to work in parallel with the local supervisor's plans to integrate these "skills injections" to go beyond the acute care management they are currently battling with.

Comment: Training at Red Cross must include this skill of the concept of "train the trainers" – there needs to be an aspect of the training delivered which empowers the returning specialist to change practice at primary health care referral points through fairly simple recognition of illness promoting early intervention e.g. training of health care workers in IMCI.

Day 2: Clinical operations at the hospital

Dr Rhoda gave a lecture on neonatal care

A/Prof Wilmshurst attended the daily 8am hospital handover – attended by some 80 health care workers – consultants, registrars, interns, 5th year medical students, nurses, clinical medical officers. The on-call staff from the night before report the intake / discharge ratios for the total hospital, and break down for each ward. Key issues are covered from deaths – which are discussed in detail, methods of handover, note keeping and issues of supply of agents and screens. The presentations and discussions are not critical but identify areas of learning and where an improvement in SOP (standard operating procedure) can be developed. At close the key issues needing attention are addressed and the staff allocated to the areas of greatest need. It is an excellent example of a meeting which pulls the hospital staff together but also identifies areas of need so that the team are aware of the main issues to focus on. Also various crises with supply were updated – on this occasion benzylpenicillin was not

available and only expected later in the week and testing kits for HIV screens had been unavailable for some time.

A/Prof Wilmshurst attended neurology clinic with Dr Mac Mallewa. This is a busy service with patients traveling significant distances to attend the clinic. Patient held records are used – these worked well – the patient / carer must pay of each booklet (as it fills) – this ownership seems to lead to far better compliance and care of the booklets. Every patient arrived with the current and past ones. Electronic databases which summarize the clinic patients health needs are being developed. The second year registrar ran a parallel clinic with a 5th year medical student. Both saw patients, made excellent history and clinical interpretations of the issues, wrote clear and concise notes. There was a clear attitude of responsibility and the desire to build knowledge. The subject (mainly epilepsy) was an area both had read about and had good insight into. This level of maturity (seen in all doctors at the centre) reflected an extremely good ethos in the approach to patient care i.e the management problem was regarded as the doctors responsibility to address and that they were not just an information conduit to ask the next most senior person what to do. Although appropriate consultation was made, the clinic was run by the registrar and the plans made carried through. Challenges to this clinic were that 80% of the patients who presented with epilepsy had unreliable supply of medication. Most medications if available would only be issued on a monthly basis and many of the patients had recorded in their booklets repeated changes / interruptions in the medical supply to the detriment of the patients. Main agent used is phenobarbitone. Sodium valproate and carbamazepine are available but at risk of running out at very short notice. EEG could be performed on a limited basis (awake studies only), MRI is a very scare resource and sedated / GA support not viable. Ancillary support was available but again on an almost random basis e.g. a child thought to be deaf had to be sent to the Meningitis research unit as this study as access to audiology and speech therapy support. This issue of addressing the long-term co-morbidity complications of these patients was another challenge and there was little capacity to address the support needed for special education and therapy input.

In the afternoon – the registrars were released from clinical duties for another tutorial with A/Prof Wilmshurst. The topic of epilepsy – focusing on common issues around epilepsy, what is not epilepsy, febrile seizures and videos of common seizure and paroxysmal events was discussed. 5 registrars were present 1 who has completed year 1, 4 who are completing year 2 (about to do FCP1). In addition there is a rotation with Birmingham University which sends paediatric trainees to spend a year (they are volunteers, self-funded) at QEH. The group were interactive, insightful, knew about their field and asked relevant questions.

Day 3:

8am handover followed the same pattern as before. But was followed by a formal Mortality and Morbitity presentation from 2 weeks previously. This was extremely useful, addressing the causes of deaths and complications and looking at challenges. A formal presentation on the role and impact of bubble CPAP was delivered by the registrars (mainly Zondiwe who will be the next APFP registrar to start at Red Cross in September 2013). This was impressive

data, clearly formulated and should be published. The work illustrated the ability of innovative concepts to translate into effective care viable in resource-limited settings. More importantly these outcomes suggested that they were equivalent to outcomes regarded as acceptable in a resource-equipped setting – as such appropriate standard (not basic) care was being reached.

Tutorial with the registrars. (A/Prof Wilmshurst)

One registrar volunteered to prepare a patient to present FCP2 style for exam practice. This was a complex patient with multidisciplinary needs. The register presented the case with a high standard of skill – she is completing her year 2 and about to take her FCP1. The group responded to questions in a mature and motivated manner.

Throughout the time with the registrars it was clear that they were trained to work in an effective team approach, supporting each other and the remainder of the department. They were highly motivated – it is not unusual for registrars to complete several peer-reviewed publications during their training time. Their clinical skills in examination and interpretation are very good – this is related not just to the huge patient load, extreme clinical signs of most of the patients, and pressure to assimilate diagnostic conclusions based on clinical and history information (due to lack of screening tools) but also the high level of directed senior support. Each registrar is drilled in the skills needed for this environment and how to optimally manage the patient. Currently 2 years is recognized for training at QEH and the registrars are sent to other centres to complete years 3 and 4 (once they have FCP1). This is costly both in finances, loss of personel to the country and emotionally for the trainee being away from home. *The current level that this group of registrars has established demonstrates that the training at QEH is at a more than adequate level and the recognized time would be logical to extend to 3 years, resulting in only 1 year needing to be undertaken outside Malawi.* Action: Neil will be motivating to the College of Medicine for this recognition.

Meetings with Key Opinion Leaders

The group visited with **Matron Tuli Soko, representing the CEO of the hospital** as he was not available. This was a helpful meeting – she had excellent insight into how the APFP has been working to support the training needs of QEH. She expressed support for the continued collaboration with the program.

An evening function was held with **Neil, Mac and Kondwani** (previous APFP trainee – returned as consultant at QEH). This enabled further discussion of the program training needs to be addressed. Telephonic communication also occurred with **Dr Rachel Mlotha** – also a previous APFP trainee, who is now **Head of Lilongwe department of paediatrics**. She echoed the challenges faced at QEH with similar patient admission numbers.

The group met the **Post-graduate Dean (Prof Adamson Muula) at the College of Medicine**. This was a useful meeting. Several issues arose – the College supports the training of paediatrics and has provided equivalent support for trainees to come to South Africa to train (they seem to match the funding allocated by APFP). However the current

funding allocations are being directed towards obstetrics and family medicine. Whilst this is commendable it was illustrated to Prof Muula that Malawi currently has 0.1 paediatricians for every 100 000 of the population this lags behind most of the other Africa countries. This number is not even close to the total figure required to start having real impact on child health care. At a minimum the total number of paediatricians needs to rise to 30 (double the current number) and this will be just the start – but from that point internal training should be possible. There was no lack of willingness to support this program but the lack of funds were the issue.

Anne Magege from ELMA provided some excellent insights into ways to access alternate funds and strongly recommended a proposal was put to ELMA.

Action: Neil Kennedy / Jo Wilmshurst will do this – linked to next ELMA proposal.

The day closed with a round table discussion with the head of Nursing (Matron Angela), and her colleagues, Neil Kennedy, the ELMA team and the APFP team. The group were looking at the way forward and how to ensure complementary training in nursing and paediatrics occurred. That focused input for neonatology occurred. The following goals were structured

Cross discipline collaboration: For nursing – a gradual transition will occur over the next 4-5 years whereby the training will eventually all be in Malawi.

The medical trainees will be linked more closely with the nursing group.

The requirements for ancillary input will be developed in parallel.

Medical Trainee evolution: Dr Kennedy will motivate for 3 years in Malawi and 1 year elsewhere to complete FCP2. Similarly eventually the general paediatric program should be possible to complete in Malawi (they can develop their own exit exam). Specific modules can be identified for which the trainee rotates to outside centres to acquire skills not practiced at this time in Malawi (to prepare for when such services are available).

The aim is for QEH to become an **APFP training hub**, this has already been initiated with the first trainee from Sierra Leone who will about to spend 2 years training time in Malawi before coming to Red Cross under the APFP. The aim would be that this separate hub, ***APFP Malawi***, would run with it's own administration and funds but remain in collaboration with ***APFP South Africa*.**

The training at QEH is exceptional and the clinical exposure of huge potential for building clinical and interpretative skills in registrars. The group agreed that motivation would be put forward to the HOD at Red Cross and the paediatric registrar's committee that a number of the Red Cross posts are rotated through to Blantyre for between 6 months and 1 year (according to the preference of the trainee) in their year 3 of general paediatric training. The South African salary would continue and the Malawian trainee would be part of the APFP so as such would gain from the stipend and university costs being covered in their year 4 of training. The benefits to the trainee from SA would be that they are likely to gain at least 1 peer reviewed publication as well as the exceptional one on one teaching and clinical exposure. South African trainees at the time of applying for paediatric rotations at Red Cross could either opt for the Malawi rotation arm or be offered this according to exchange capacity with Red Cross.

Currently there are no trainees expected to start in March 2013 at Blantrye. This is due to the restrictions that no funded paediatric funded posts have been allocated by the government via the College of Medicine. This is a major challenge as it will delay the plan to increase the compliment of trained paediatricians in Malawi to reach a more effective critical mass. It will also slow the momentum in building resources for child health and have a negative effect on established collaborations e.g. training positions routinely allocated for the Malawian trainees may be lost. Motivation will be made to generate the necessary funds from agencies such as ELMA to ensure there is no interruption in this training.

Dr Rhoda report

REPORT ON NEONATAL NURSERY AT QUEEN ELIZABETH HOSPITAL, BLANTYRE, MALAWI

Day 1

15:00 – 17:00	Met by Dr Niel Kennedy the HOD of Paediatric department. Taken on a tour of the paediatric facility

Day 2

07:30 - 08:30	Registrar teaching, topic- ventilation and oxygenation
09:00 - 11:00	neonatal ward audit
14:00 – 14:30	Meet Medical superintend
15:00 - 16:00	bed side tutorials in nursery
16:00 – 17:00	registrar teaching

Day 3

08:00 – 09:30	mortality and morbidity meeting
10:00 – 11:30	meeting with post graduate dean Dr Adamson Muula
12:00 – 14:00	meeting with registrars over lunch
14:00 - 16:00	meeting with nursing director

TRAINING CENTRE:

6 year MBChB programme	±500 medical students
for paediatricians	5 paediatric registrars (1 1st year, 4 2nd year)

HOSPITAL STATISTICS:

Beds

- 300 bedded childrens hospital
    - caters for the entire of Malawi and 1 of 3 tertiary units
    - Includes oncology ward
- 30 neonatal beds/spaces
- 17 KMC beds
    - for the 12 000 deliveries per year
    - BOR >100%

STAFF:

1	HOD
5	Paediatric consultants
4	research consultants

FACILITIES:

Xrays	but no mobile xrays
Laboratory	test: FBC, BC, UE (LFT)
MRI scan	
Pharmacy	

VISIT TO THE NURSERY – A SITUATIONAL ANALYSIS

QECH nursery is a 47 bedded unit and one of four tertiary service for the population of 15 million Malawians. The neonatal unit is housed separately and is close to the maternity unit. Care is provided by nurses and doctors who do a daily ward round of all the patients, except Kangaroo mother care where rounds occur twice a week. It is not known if the nursing staff are trained in providing neonatal care. Babies are delivered mostly by midwives as there is currently only one obstetrician for the 12 000 deliveries. The HIE rate is high, and approximately 60% of term babies admitted to the nursery have a diagnosis of birth asphyxia. The burden of prematurity as described by the WHO Born too soon report, is evident in the many preterm babies admitted to the unit, some with respiratory distress.

At the entrance to the nursery clean running water is available, but no soap. Nobody entering the unit was observed to be washing their hands. Patients are asked to remove shoes (not nurses or doctors). The ward is generally clean with no bad smells, but the walls are dirty and the paint is peeling. Methylated spirits - 2 bottles in high care ward and 1 in low care, none in KMC - is used to disinfect hands when managing patients. It was noted that only doctors washed their hands before handling babies but not in between touching different babies. As many babies are cohabitating this increases the risk of spreading infection. The nosocomial rate is high and mortality to sepsis not negligible. Statistics were not available at time of visit.

Overall the infection control practices of all staff will have to be reviewed and will require a concerted effort from management to implement.

HIGH CARE WARD

BOR: 200%

Human resources

Medical staff	1 consultant, 1 registrar, 2 medical students
Nursing	2 registered nurses, 3 enrolled nurses, 2 temporary (project) enrolled nurses

Patients

Total 23 patients

Combination of

- Post delivery acute admissions
- Post surgical – immediate
- Premature requiring supplemental oxygen via nasal CPAP/ NGT

High turn over of patients

Co-habitation – 3-4 babies on incubator, 2-3 in bassinettes and 1-3 in wooden incubators

Infrastructure

5 open incubators- most are not working

2 bassinettes
5 wooden incubators with light bulbs
4 oxygen concentrators – 2 for CPAP, 2 for low flow oxygen
10 Low flow oxygen (2l/min) obtained from 2 of the oxygen concentrators
2 Nasal CPAP
2 LED phototherapy lights

Medicine / Procedure trolley
Antibiotics vials multi-use, open x3 bottles
Disorganized
No sharps container seen – improvised carton box behind one of the resuscitaires
For neonatal resuscitation
No dedicated resuscitation trolley
No resuscitation equipment visible
No resuscitation algorithms

Observations
Performed 4 hourly
Well charted and recorded
? action taken on abnormal observation

Protocols
All visible and pasted on window
Appropriate management plans followed
Fluid/ feed charts followed

Recommendations:
1. Heighten the awareness of infection control to prevent mortality
   a. Wash walls and incubators monthly
   b. Clean incubators with soap and water weekly
   c. Decant stable growing patients to KMC / low care
   d. Limit co-habiting if possible
   e. Start infection dash board for surveillance of deaths due to infection
      This will create awareness around importance of washing hands before and after handling each and every baby
   f. Ensure that when 1 vial is used for multiple dosages and different babies that the hub is disinfected before a new needle is inserted. Infected antibiotic vials are known to have caused the death of 5 neonates in KZN, RSA[1]
   g. Minimal handling[2] (only touch if absolutely necessary)
   h. Limit use of stethoscopes as far as possible

2. Build 4 “high” open incubators dedicated only for CPAP/ resuscitation /acutely ill
3. Create one dedicated resuscitation box (easy to carry)
4. BOR will half if the well but low flow oxygen dependent (non CPAP) patients are moved to a separate area.

KMC UNIT
BOR: 95%
A well functional KMC unit
Adequate space for KMC moms
Discharge weight 1,5kg is admirable
Mothers looked relaxed and were knitting

Recommendations:

1. Increase KMC capacity to 40 beds (total). This will allow the sicker infants to receive better care as it opens up space in the High and Low Care areas.
2. Attempt to start follow-up of high-risk discharges as this is currently only undertaken on an informal basis.
3. Paper trail with information leaflet to community clinics will allow insight into discharged KMC babies.

PATIENTS

HC (20) – 2 CPAP babies, 2 post surgical, rest on nasal oxygen 2l/min via a NGT.
LC (23)– 2 post surgical, 1 chronic, 2 NNJ, 7 preterm, rest term
KMC (14) – all mothers KMC babies well

Findings:

- 57 admissions in entire nursery, only 20 required admission and care

These patients were the 2 CPAP preterm babies, the 5 postsurgical, 2 chronics, 2 NNJ, 9 on supplemental oxygen and or antibiotics.

- All spaces were overcrowded.
- A dead baby was kept in low care, wrapped and amongst the living

Recommendations

1. Move all the low flow oxygen dependent patients to a separate area
2. Increase capacity for acutely ill babies within HC, but limit to 10 babies in total. Space can only cope with this no of babies and overcrowdning contributes to infection risk.
3. CPAP babies should be nursed individually if possible
4. Babies who have died should be moved to another area awaiting transfer to the mortuary, not amongst the well babies.

UNIT STATISTICS

Dr Kondwani Kawaza provided the following estimations / information:

10%	Neonatal HIV exposure
14-15%	HIV prevalence among pregnant women
?	Teenage pregnancy rate
60%	HIE diagnosis in term babies admitted to the nursery

The neonatal department under leadership of Dr Kondwani has already started looking at the units' neonatal admissions of the last 5 years (2008-2012). The analysis will inform the care givers of the impact of their targeted interventions.

Recommendations

The Perinatal problem Identification Programme (PPIP) has been suggested as an audit tool to analyze the births and deaths of the neonatal unit. The programme can be downloaded from the internet and is user friendly. It will now allow data to be collected prospectively and provides a wonderful opportunity to use it for research.

I wish to thank Dr's Kennedy and Kawaza for their hospitality and assistance in providing the information for this report. They must also be commended for their work and commitment to improve neonatal care at QECH.

It is humbling to see what great strides this department has made over the last few years and successfully achieved their MDG 4 by reducing their neonatal mortality rate to 31/ 1000 live births. This is in part because they have collectively and collaboratively managed to solve their problems with home-grown solutions, such as the wooden incubators and the low cost CPAP.

The CPAP initiative at QECH and subsequent study (commenced in 2011) will be the first publication on the effectiveness of low cost CPAP and should be a sterling example for other countries to follow. We are also encouraged by the possibility of collaborative work in South Africa to use this low cost CPAP in our rural settings where the standard of care is still nasal prong oxygen for babies born with RDS.

It is also hoped that as the country's academic hub, the strengthening of services at district level will in time be increased to serve the 60% of the population who reside in the rural communities.

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NB: Report read and corrected by Dr Kawaza

Minette Coetzee Associate Professor of Child Nurse Practice Development and APFP Nurse Programme Lead

Queen Elizabeth Central, Kamuzu College of Nursing and the Paediatrics Department, College of Medicine, Blantyre, Malawi

23-25 January 2013

Visit Purpose :

- Consolidate Masters in Child Health Curriculum with a three year review
- Planning transitioning the progamme from 2 semesters at UCT and 2 at the University of Malawi to all four semesters being offered in Malawi
- Consider and plan other cadres of child nurse training – BN and BSc
- Explore the relationship between the Department of Paediatrics and the Kamuzu College of Nursing

Visiting at colleagues at Queen Elizabeth Central was, as always an excellent opportunity to learn and consolidate conversations initiated electronically. In the context of programme development and review, the face to face contact is indispensable. Dr Angela Chimwaza, Dr Ellen Chire and I were able to complete a review and have a draft of this which we will develop into a publishable article.

We had some strategic time with Anne Magege and Nwabisa Tom to consider both the transition to all 4 semesters being offered at Kamuzu in 2016 and the building and consolidation of the transition BN degree and the undergraduate BSc Nursing with a child health focus. Out of this discussion came some clear directives and strategies for training child nurses in Malawi. These include:
Designing modules that could serve more than one programme in child health nursing.
Considering recruiting intentionally from districts/ zones for the BN thus systematically strengthening the clinical services and training nurses with accredited outcomes and career development (enrolled nurses→ registered nurse)

23/1 2013 Arrived Blantyre, Malawi

Pm. Visit to Queen Elizabeth Central Hospital, Paediatrics dept

Led by Dr Neil Kennedy, HOD Paediatrics. Neonatal unit - up to four neonates in a single "incubator" (above) - there were a few open servo units but most were in the famous temperature controlled wooden boxes with a half Perspex lid (the switches on the side control the temperature) (below).

Some infants were receiving O2 or CPAP via a unique delivery system, which is pictured below.

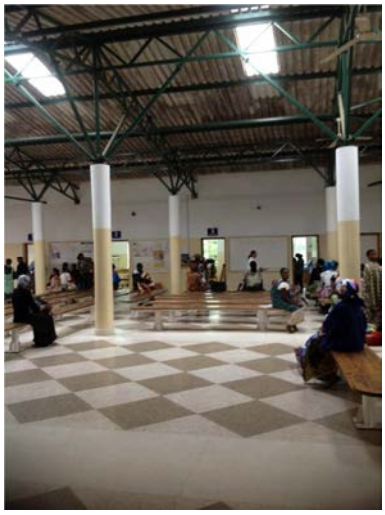
In my opinion many of these babies would be better off being kangaroo'd, but currently impossible due to lack of space.

It was wonderful to see the kangaroo unit, which was beautiful, light and spacious (albeit with few beds), with a bed for every mom/child unit. There is ongoing planning for the development and extension of KMC Unit (below).

The newly renovated unit for interviewing and examining children following sexual abuse was very impressive. Very child friendly, and clean compared to the rest of the hospital (above, with one-way interview observation mirror.

Typical view of the outdoor corridors – people washing, cooking, chatting together.

An amazingly well constructed emergency department triage system with excellent flow, designed by Liz Molyneux. Simple, yet well- thought out (below).



The malnutrition wards were devastating but, positively, mothers were encouraged to be with their children at all times.

Some signs of therapeutic intervention were apparent in a few wards, as seating devices (below), but it turned out there is only one OT (no other allied therapists) for >350 children. No established assisted seating program.



High Care Units: Very overcrowded, with limited O2, and only one pulse oximeter (below).





This was a huge problem – no obvious soap in any of the wards, or hand spray. Many taps not working. Infection control a huge issue.

To the right a view of the outside of one of the paediatric wings – a typical sight with hundreds of people, the cloths were used as blankets/sheets, washed by the mothers.

24/1/2013:

I met with Maragert Wazakili, a lecturer for the newly established Physiotherapy degree program, under the College of Medicine.

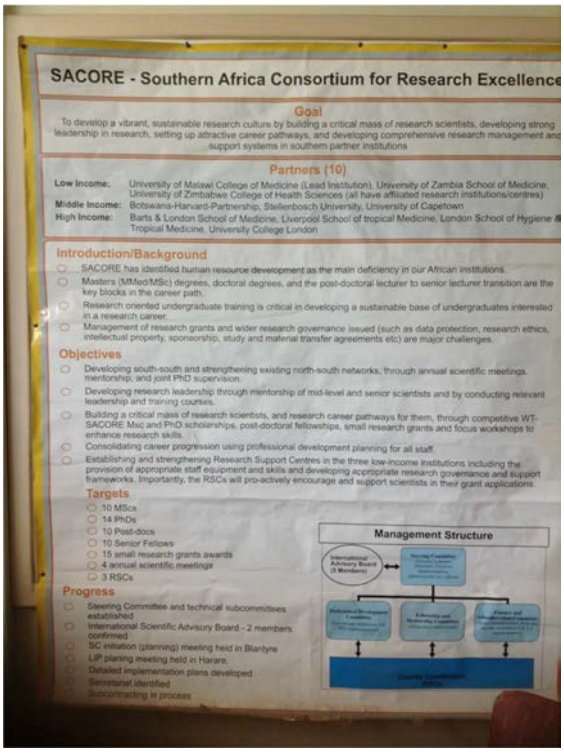
The Physiotherapy Dept is still in its infancy, but my impression was that they are currently very reliant on external "help" in the form of visiting lecturers. The program is currently not sustainable, especially as the highest studnets (III years) now need to start doing clinical blocks. The college will not employ anyone without a BSc and MSc, but most African physio's are Diploma trained. Even Diploma plus Masters graduates are not allowed… Currently there are only 3 lecturers, including HOD and 2 clinical demonstrators who do some unofficial teaching as well. This staffing to teach 40 first years; 27 second years and 26 third year students. The lecturers are therefore unable to do any research or postgrad supervision themselves, the sole focus is on the undergraduates.

I had a meeting with the department (Margaret Wazakili; Sylvia Kambala Metore; and Vivienne Mkumbuze, HOD); a visiting lecturer from Zambia (Esther Nkandu), and Naila Edries (a physiotherapist from the School of Health and Allied Sciences from UCT) in which we helped to devise a strategic plan for developing sustainability for the department. Recommended a postgraduate training program be developed, including education training – currently a Diploma should be adequate entrance requirements (one can only be choosy if there is choice). A plan to upgrade Diploma to BSc also needs to be developed.

The planned undergraduate clinical rotation includes 2 months ortho in QEC hospital, where they will also see respiratory cases and work in OPD (adult and paediatric). In Lilongwe they will do paeds with acute adult neuro and OPD. Also chronic neuro blocks in Rehab Centre (mainly adult).

The "third arm" of the APFP was introduced as a way to help "train the trainers" in paediatric therapy, such that they might return to Malawi and continue to apply the new knowledge, as well as teach the new graduates and undergraduates.

Margaret and Esther (Zambia) expressed great interest in the program.



This poster (left) at the entrance to the Physio Dept in the College of Medicine implies willingness to collaborate to improve education and training levels in Malawi.

Presented two 2-hour lecture/workshops to the third year Physiotherapy students and their clinical supervisors and one of the 3 lecturers. The first lecture was on assessment of the paediatric chest, and the second on normal and abnormal development and facilitation techniques. Clearly, the students had not received that input before, but were very willing to learn and apply the knowledge they did have. They were somewhat shocked to see their lecturer on the floor demonstrating facilitation techniques with a doll, but it was gratifying that afterwards, one student expressed such gratitude as her baby brother had trisomy 21 and they had never known how to help him before.

We need to link the PG Diploma to the new KMC program – early intervention, developmental education to mothers, high risk clinics etc. Ideally need to include Basic NDT and 'Baby Course" in the Masters course.

25/1/2013

I presented a 4-hour workshop on airway clearance techniques to a collection of physiotherapists, occupational therapists, nurses, rehabilitation technicians and assistants at the Kachere Rehabilitation Centre (only Rehab centre in Malawi – 40 beds, see children from 12 years). This was very well received with many questions arising from their local experience.