



St Mary's Hospital, Isle of Wight (UK)



Juba Teaching Hospital, Southern Sudan Link



**REPORT OF A VISIT TO JUBA, SOUTHERN SUDAN BY A
TEAM OF HEALTHCARE PROFESSIONALS FROM ST
MARY'S HOSPITAL, ISLE OF WIGHT, UK**

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EXECUTIVE SUMMARY:

- The development of healthcare in Southern Sudan urgently requires skilled professional healthcare workers. At present under-qualified personnel with very limited resources are genuinely trying to provide healthcare services for the community. Unless ongoing education and training is supported it is difficult to see how health services in Southern Sudan can progress.
- The St Mary's Hospital, Isle of Wight-Juba Teaching Hospital Link aims to support the Government of Southern Sudan (GOSS) in order to improve clinical services through the development and education and training.
- After extensive discussions in the UK a fact-finding visit to Juba was arranged to assess the value and feasibility of developing a project to support the training and professional development of Southern Sudanese healthcare workers.
- The project proposes to send experienced trainers across the spectrum of healthcare disciplines to Juba for periods of 3-4 weeks or more to undertake concentrated, hands-on training for professionals in Juba Teaching Hospital. The current estimated cost per visit is approximately US\$4,000. Initially numbers may be small but the target would be to send up to 20 trainers per year. Not all trainers would be from the Isle of Wight. It was clear from the fact-finding visit that this project is feasible, practical, highly cost effective and conforms precisely to the policies expressed by the Ministry of Health of The Government of Southern Sudan.
- The project is supported by the Isle of Wight NHS Primary Care Trust.
- There are needs for training in virtually all areas and especially a need to develop a culture of education and training. Areas of particular importance identified at this initial fact-finding visit include: emergency obstetrics for use in the community, midwifery, nursing, medicine, emergency surgery/trauma, development of statistics for audit/research and the integration of nutrition into secondary healthcare.
- Potentially the links developed by this project could facilitate South Sudanese healthcare workers coming to the UK for short attachments, especially if preparing for exams, and could also act as a vehicle for the donation of medical equipment. Furthermore, if successful, this project may become a model for other areas, including the other tertiary hospitals in Southern Sudan at Wau and Malakal.
- Requirements for the success of the project include funding (US\$80,000-100,000 per year when fully operational), the identification of appropriate accommodation and the support of hospital Trusts to release trainers. The next step is to work with the Ministry of Health of the Government of Southern Sudan to apply for funding .

2. KEY RECOMMENTATIONS:

The fact-finding visit confirmed the need, appropriateness and practicality of the project to send visiting teams to Juba Teaching Hospital for short periods of 3-4 weeks in order to provide intensive training of South Sudanese healthcare professionals. This project now needs to be made a reality by working with the Ministry of Health, GOSS to obtain funds.

The main objective is the improvement of healthcare in Southern Sudan. In the context of Juba Teaching Hospital four main parties will be involved in the development , coordination and delivery of these recommendations:

- 1) The St Mary's Core Team in the UK (part of the St Mary's Hospital,IW- Juba Teaching Hospital Link)
- 2) The Juba Core Team at Juba Teaching Hospital (part of the St Mary's,IW- Juba Teaching Hospital Link)
- 3) The Ministry of Health of the Government of Southern Sudan
- 4) Organisations such as the United Nations Development Programme (UNDP), Multi-Donor Trust Fund (MDTF), Department for International Development (DIFID), The World Health Organisation (WHO) and other Non-Government Organisations (NGOs) operating in the Southern Sudan

It is appreciated that to be successful this is a long-term project and some of the recommendations will take many years to effect.

2.1 Funding of the Link

Support for funding from the organisations named above will be sought by GOSS MOH on behalf of The St Mary's Hospital,IW- Juba Teaching Hospital Link. The Multi-donor Trust Fund (MDTF) has expressed interest in capacity building and we believe that they will be in a position to offer financial assistance to the programme.

2.2 Release of Healthcare Professionals in the UK

In line with the report by Sir Nigel Crisp (Global Health Partnerships) which has been fully endorsed by the UK Government, Isle of Wight NHS PCT and other Trusts should be willing to release senior healthcare professionals as trainers in Juba, including with some paid special leave. The CEO of the Isle of Wight NHS PCT has given verbal agreement to this effect but formal confirmation is required.

2.3 Accommodation

The Juba Core Team will work hand in hand with GOSS MOH to build housing on site at Juba Teaching Hospital so that UK workers have a place to stay. The St Mary's Core Team will aid in the design and costs of such accommodation.

2.4 A Council for all Healthcare Professionals

GOSS MOH needs to establish councils in Medicine, Nursing, Midwifery, Dentistry, and other allied healthcare professions, to allow validation of healthcare professionals' fitness to practice and the appraisal of curricula according to Southern Sudan's needs.

2.5 Language

The official language of Southern Sudan is English and it is important that all those entering higher education are fluent in the English language. There are currently problems in healthcare, especially in Nursing. Long-term this needs to be addressed through the school curriculum. There is also a need for a short term solution- possibly the British Council might be able to help.

2.6 Undergraduate Medicine in Juba

The St Mary's, IW- Juba Teaching Hospital Link strongly supports GOSS in the pursuit of its goal of developing undergraduate medical training locally in Southern Sudan. The return of the Medical School and University and the general move of nursing and medical training from Khartoum to Juba would do immense long-term good to the healthcare structure. The current project would complement these moves and could provide some support to undergraduate training.

2.7 Postgraduate Medicine in Juba

There is a desire within GOSS and amongst the South Sudanese Doctors to create a formal structure of postgraduate medical training in and appropriate to the needs of Southern Sudan. The St Mary's Core Team strongly support this objective.

2.8 Undergraduate Nurse Training in Juba

The St Mary's Core Team believe that the AMREF curriculum is well designed and should be adopted and implemented in the long term. However, this curriculum is in English and may be too detailed for immediate implementation. There is an

urgent need for nurses to develop fluency in English and for skilled nursing trainers. It is the view of the WHO Technical Officer that the level of practical skills on the wards was very poor. Therefore in the short term future St Mary's Hospital, IW –Juba Teaching Hospital Link would plan to send trained nurses to help with hands-on ward based, practical clinical nursing skills training.

The St Mary's Core Team, the Juba Core Team and the Technical Officer for Nursing/Allied Health at WHO should work together to ensure these pre-requisites are in place so that training nurses can recommence as soon as possible.

2.9 Postgraduate Nurse Training in Juba

When nurses pass their Finals, they should undergo continuing professional development. The St Mary's Core Team recommend that whilst there is a shortage of nurses they no longer be used as a pool of professionals for training laboratory staff, pharmacists and medical assistants. This group of people should be trained directly from secondary school.

The system of continuously rotating nurses through wards every two years is unsatisfactory as it does not allow specialisation and undervalues the career of nursing. All parties need to look into ways of allowing nurses to specialise in chosen specialties.

2.10 Teaching Facilities for all Healthcare Professionals

There is a paramount need to develop a general culture of ongoing education and training. This includes an Education Unit with books and computer access. Assistance for this may be obtained from USAID, Teaching Aids at Low Cost (TALC) and Computers for Africa. The St Mary's Hospital-Juba Link project will support this development.

2.11 Research and Audit

The St Mary's Core Team believe that a database of patients should be devised to inform research and audit. At the very least there should be regular review of morbidity and mortality data.

2.12 Obstetrics and Gynaecology

NGOs have requested that the St Mary's, IW- Juba Teaching Hospital Link develop an Emergency Obstetrics Course that is tailored for use in primary care. Courses such as these already exist and it should be possible to run one in Southern Sudan, integrated into the proposed project.

There is no routine screening of pregnant mothers for HIV. All pregnant mothers need to be screened and the appropriate anti-retroviral therapy commenced in order to reduce vertical transmission.

2.13 Midwifery Training

The number of trained, registered midwives needs to be increased dramatically. The development of midwifery services is a priority. The St Mary's Core Group needs to liaise with Maternity Worldwide, a charity that specialises in training midwives so as to avoid duplication of activities.

2.14 Nutrition

Malnutrition affects adversely both mortality and length of hospital stay. All patients on entering hospital should be screened for malnutrition and the appropriate management implemented.

2.15 Essential circuits for generators

Thousands of pounds worth of valuable drugs, blood and other laboratory equipment may be lost when there is a power cut and the generator is not turned on. The Juba Core Team should assess the feasibility of installing an essential circuits system so that power to the laboratories and pharmacy is maintained at all times.

2.16 Mosquito nets

All beds need to be equipped with mosquito nets. The St Mary's Core Team will aid in fund-raising for this. Mosquito nets could be provided by WHO, as part of the Malaria Prevention Campaign. (Note also Gordon Brown's message to "American Pop Idol", 10th April 2008)

2.17 Supplies for JTH

The Core Team recommends that GOSS offers incentives for local companies to manufacture medical supplies in Southern Sudan. This would reduce the cost of importing supplies and aid regular deliveries.

2.18 Salaries

Staff must be paid regularly on a monthly basis. GOSS needs to develop a method whereby this happens.

2.19 Other hospital links

The St Mary's Core Team will communicate with and encourage other UK hospitals to link with the other tertiary hospitals in Wau and Malakal.

3. INTRODUCTION:

In 2007 a link was established between Juba Teaching Hospital (JTH) Southern Sudan and St Mary's Hospital on the Isle of Wight.

This link arose through a combination of circumstances, the signing of the Comprehensive Peace Agreement (CPA) in Sudan in 2005, the report by Sir Nigel Crisp on "Global Health Partnerships" and the working together of an enthusiastic trainee (Dr David Attwood) with a Consultant Physician (Dr Eluzai Hakim), whose origins are from Southern Sudan.

This led to the concept of twinning St Mary's Hospital on the Isle of Wight with Juba Teaching Hospital. Links were made, a website was created (www.iow.nhs.uk/juba) and a core team formed.

At the outset we felt that we could provide the most effective support through education and training although we recognised that other forms of help such as the donation of equipment, books etc may also be important. We very much wanted to work in partnership with the professionals in Juba.

It was clear that the next step was to undertake a fact-finding visit to Juba in order to meet our partners in the project and to discuss needs and priorities. This visit was undertaken from the 3rd to 7th March 2008 by 5 members of the Core Team. The findings and conclusions from that visit are presented in this report.

The visit was supported by a number of donations (see Acknowledgements) and by the generous hospitality of our South Sudanese hosts. We are immensely grateful to all those involved.

3.1 Healthcare in Juba and Southern Sudan

Juba is the capital of the Southern Region of Sudan. This mainly rural region has a population of around 6 million people. After 23 years of civil war the Comprehensive Peace Agreement (CPA) provided for a semi-autonomous

government based in Juba (GOSS) and for a referendum on possible secession in 2011.

Southern Sudan is one of the poorest parts of the world. The infrastructure of society has been devastated by decades of civil war. Diseases, especially infectious and those related to malnutrition, are rife but the provisions for healthcare are unacceptably low. We were informed during our visit that only about 25% of the population in Southern Sudan had access to healthcare and inoculation rates for children were around 18%. Maternal mortality is the highest in the world at 2,037:100,000 (around 3%). This is compared to 509:100,000 in the Northern part of Sudan. Since women have an average of 6-7 births per woman this means that approximately 20% of women die as a result of childbirth.

Primary healthcare services in Southern Sudan are organised predominantly by non-government organisations (NGOs) and by means of primary healthcare centres and community centres around the country. The vast majority of this care is provided by unqualified personnel who are trained by the NGOs to diagnose and treat according to protocols.

Secondary healthcare is based, at least in theory, around the 3 tertiary centres in Juba, Wau and Malakal respectively, as well as the secondary care centres in each of the 10 states. For 14 years, up until December 2007, the International Committee of the Red Cross ran Juba Teaching Hospital. Responsibility has now been handed back to the Ministry of Health (GOSS). Unfortunately, the lack of resources and skilled manpower severely limits the effectiveness of these hospitals. Juba Teaching Hospital is the largest and most developed of the hospitals but has a complement of only 10 medically qualified specialists for a catchment population of over 1 million people.

The healthcare budget for the 6 million population of Southern Sudan is approximately US \$50million per year, plus a further US\$30million through the Multi-donor Trust Fund and contributions from NGOs. This can be compared to St Mary's Hospital, Isle of Wight which serves a population of 150,000 and operates on a budget around US\$200 million.

4. THE FACT-FINDING VISIT:

The link was set up with the following general objective:-

"To promote understanding of the needs and to support the Government of Southern Sudan in order to improve clinical services through the development of education and training."

In order to achieve this objective a fact-finding visit to Juba was undertaken by members of the Core Team :

Mr Tim Walsh, Consultant Surgeon

Dr Eluzai Hakim, Consultant Physician

Dr David Attwood, Junior Doctor

Mrs Jo Hanks, Nurse Specialist

Mrs Zorina Walsh, Medical Education

The main purposes of the visit were to assess the following:

1. The overall strategy for the development of healthcare services and training in Southern Sudan (Sector Plan) and how this relates to the proposed project.
2. The present situation regarding facilities for clinical services and postgraduate training in Southern Sudan.
3. The needs and priorities and what is achievable to develop postgraduate training across the main specialties and professions.
4. The approximate number of doctors, nurses and other healthcare professionals who would benefit from the proposed training programme.
5. The facilities that are available and what needs to be provided to ensure appropriate conditions for visiting trainers and trainees (including accommodation, visas, internal travel and travel to South Sudan).
6. How the project may be funded.
7. Undertake a risk assessment and identify security measures.
8. Arrangements for the supply chain of donated equipment and the priority of needs.

This visit was undertaken from the 3rd to 7th March 2008. We were received in Juba with great hospitality and kindness. The Ministry of Health kindly provided accommodation and the programme was organised by Dr Louis Danga (Paediatrician at JTH) with strong support from Hon. Martin Aligo (Member of Parliament).

The excellent organisation of the trip allowed us to visit many key places and organisations and have wide ranging discussions. A list of organisations visited and personnel with whom we had discussions is given in Appendix 2.

5. FINDINGS FROM THE VISIT:

5.1 STRATEGIC ISSUES:

As a consequence of the civil war and the subsequent peace agreement the infrastructure of Southern Sudan has been decimated and many professionals have left, often for better conditions in the North. This has created a dependence upon the North both for training and for supplies. All of the South's universities (Juba University, Upper Nile University and Wau University) were transferred to the North during the civil war and it is only now that discussions are taking place for the return of Juba University to Juba.

The dependence on Khartoum in Northern Sudan creates serious problems. Distances are considerable, costs are increased, there are cultural and language differences. Good health workers are lost to Northern Sudanese institutions and non-governmental organisations.

There is a clearly recognised lack of skilled manpower across the healthcare services in Southern Sudan and the provision of training for healthcare workers is felt to be top priority.

Currently unqualified practitioners (e.g. medical/clinical assistants) provide the majority of care. Although these professionals can provide basic care, including

anaesthesia, some surgery and x-rays, there is little scope for development unless the qualified doctors and nurses are given postgraduate training. The clear aim of the Government of Southern Sudan is to increase the numbers and improve the training of properly qualified staff.

5.1.1 Medical Training

In the South there is no infrastructure for undergraduate or postgraduate medical training and all formal training programmes occur in the North. Medical students of Juba University are actually trained in Khartoum although arrangements are underway to bring medical students back to Juba.

Following qualification doctors may or may not return to the South. They start as House Officers doing an internship for one year. This is followed by National Service. After this they may return to hospitals as Medical Officers (equivalent of the previously named Senior House Officer grade in the UK). There is a selection exam that must be taken for candidates to be recruited for Specialist Training which occurs in Khartoum. Selected candidates must take a "Part 1" examination in Khartoum and subject to successful completion of this examination there is a three year training programme. The "Part II" examination is then taken and if successful the title of Consultant is awarded by the Medical Specialisation Board in Khartoum. The selection process for specialist training is competitive but it is possible to use other routes to attain consultancy such as obtaining a Diploma of a Royal College in the UK. If postgraduate training could be initiated in Juba we believe that many South Sudanese doctors who have not had the chance to enter specialist training in Khartoum, nor had the opportunity to access training abroad, would have the opportunity to benefit from organised training based in Southern Sudan. This would substantially help resolve the manpower shortage.

Examinations set by the UK Royal Colleges are recognised throughout Sudan and all UK Colleges now have highly developed and validated training curricula. We would recommend that the South Sudanese training programme to be modelled upon these but adapted for local needs.

5.1.2 Nursing and Midwifery

At a very early stage in the visit it became apparent that there were serious issues regarding the development and training of nurses and midwives.

- A new separate Directorate for Nursing and Midwifery has recently been established in the Ministry of Health of the Government of Southern Sudan. This Directorate has been allocated an annual budget of US\$700,000 for all 10 states in Southern Sudan but input from the Director of Nursing and Midwifery to the Strategic Plan for Healthcare Resources has been very limited.
- There is no Nursing or Midwifery Council in the Southern Sudan in order to validate the registration of qualified nurses and midwives.
- As a consequence of the war nursing training is varied without a universal system. Nurses have had variable periods of training ranging from three months to three years but, regardless of the length of training they have come out of the training programme with similar qualifications. Clearly there is currently no regulation of the standard of qualification issued. It would appear that JTH are trying their

level best to produce whatever nurses they can under difficult circumstances. Hence, at this time there are nurses employed throughout JTH without recognisable nursing qualifications.

- There is no standardised Nursing or Midwifery training structure throughout Southern Sudan but we have been informed that the Government has agreed that a single training structure be adopted .
- Certificated nursing student entrants to the School at Juba Teaching Hospital have been suspended until details of training and qualifications are agreed and suitably qualified tutors are identified.
- A curriculum has been developed by the African Medical Research and Education Foundation (AMREF) for GOSS but this has not been implemented. It is a widely held belief that student nurses will be placed in a supernumerary role. Currently nursing students shoulder a significant burden of hands-on nursing on the wards. Until the numbers of trained nurses on the wards increase it is not feasible to adopt a curriculum that places student nurses in a supernumerary role.
- As well as nursing AMREF have developed a course in midwifery. However, unlike the nursing curriculum, the midwifery curriculum consists of a Foundation Block that teaches students English, Maths and Biology. It may be possible to incorporate this block into the Nursing curriculum. AMREF have also produced curricula for the training of other allied healthcare professionals.
- It was stated that there are an unknown number of nurses employed at Juba Teaching Hospital at the present time. Investigations are underway to establish how many nurses are currently working and what their qualifications are.
- The medium of instruction in schools in the Southern Sudan is the English language. Unfortunately, many nurses in JTH have considerable difficulty in communicating in the English language. However, there is a huge desire amongst nurses to learn to communicate fluently in English.
- Nurses are required to have passed their secondary school certificate examinations (equivalent to a general UK GCSE) as a minimum entry qualification into the certificated nurse course. Unfortunately, the education system in Southern Sudan has been heavily affected by the 23 year long civil war resulting in decreased numbers of eligible candidates for nursing training. This has clearly had a disastrous knock-on effect on the supply of trained nurses to work within the Health Service.
- At present a Certificated Nursing Qualification provides a basis from which further training can be accessed, such as medical assistant, laboratory assistant, theatre assistant and pharmacy assistant training. Within the current nursing structure, there is no professional development for nursing and no career progression. Consequently good nurses are not retained but seek professional development within other specialties.

5.1.3 Resources and supply

Until December 2007 the International Committee of the Red Cross (ICRC) undertook the support and running of Juba Teaching Hospital. They have now withdrawn and responsibility for the budget lies with GOSS Ministry of Health. Help with supplies and

equipment is desperately needed as resources are very limited. We also noted that very little, if any, is made in Southern Sudan and has to be obtained either from Khartoum or neighbouring countries. This includes even simple equipment such as intravenous fluids. The Ministry recognises that it should be feasible to manufacture some products locally.

5.1.4 Primary Care

Primary healthcare is predominantly provided through NGOs who have set up a network of community health centres throughout the country. These are predominantly staffed by unqualified health workers who have limited training. They provide basic primary healthcare for some common conditions albeit to a limited proportion of the population.

A key issue in primary care is maternal mortality and the provision of emergency obstetrics training. The World Health Organisation in Southern Sudan established the Making Pregnancy Safer initiative Programme since 2006. However, there remains a shortage of trainers to roll out this programme.

5.1.5 Nutrition

Malnutrition is common in Southern Sudan and makes a significant contribution to morbidity and mortality, both in primary care and secondary care. The Ministry of Health Nutrition Program is a directorate staffed with one Director General and three nutritionists. At the state level it is reported that 7 states have appointed a nutrition officer. There is a serious shortage of human resources with no visible offices and roles. There are four key thematic areas: Policy & Advocacy, Prevention, Detection and Treatment of Malnutrition and Micronutrient Deficiencies.

The screening tools being used for children within Southern Sudan include:

- Weight measurement (Salter's Scale) and height boards
- Mid-upper arm circumference (MUAC) tapes

For the assessment of childhood malnutrition, the indices used in localized surveys are:

- Weight for height charts, for tracking acute malnutrition
- Weight for age and height for age charts, for tracking chronic malnutrition

Growth monitoring practices are rarely seen but the MOH has plans to adopt the new Growth Monitoring Curve, developed by WHO, when the budget allows. Tracking adult malnutrition is not a common practice, although it is universally recognised to be important. Current plans so far include measuring the BMI of pregnant mothers at antenatal clinics.

5.2 PROVISION OF CLINICAL SERVICES AT JUBA TEACHING HOSPITAL

We were informed that Juba Teaching Hospital, together with the nearby Al Sabah Children's Hospital, are better equipped and better staffed than other hospitals throughout Southern Sudan. If this is correct it indicates a major problem throughout the region.

Juba Hospital is situated on 8 hectares of land. A rough map can be found in Appendix 3

5.2.1 Medical Departments:

For a 569 bedded hospital serving a population which may be anywhere between 1 and 3 million there are Consultants in:

- Medicine (1)
- Surgery (2)
- Obstetrics & Gynaecology (3)
- Paediatrics (2)
- ENT (1)
- Chest Medicine (1)

There is no subspecialisation.

Units are supported by Medical Officers, a few House Officers and Medical Assistants. The Medical Assistants are unqualified.

Each specialist is responsible for approximately 75 to 100 inpatients at any one time. Although there is a designated bed number there are often numerous patients sleeping on the floor and more than one patient to a bed.

Common conditions treated as inpatients include:

- Trauma (RTAs, gunshot wounds, stabbings, burns, fractures etc)
- Intestinal obstruction
- Hernias
- A wide range of infectious diseases, including malaria, TB and HIV
- Malnutrition
- Chest infections
- Obstructed labour
- Ante-partum and post-partum haemorrhages
- Paediatric conditions, including dehydration from diarrhoea, malnutrition, measles, malaria and yellow fever.

Many of the above conditions, which in the UK would be easily treatable, carry a significant mortality in Juba or, at best, result in a prolonged hospital stay.

A number of specific issues with respect to individual departments were identified:-

Surgery: Based on visits to the surgical wards and theatres the 2 Consultant Surgeons appear to be providing effective treatment for a wide range of conditions with very limited resources. New operating theatres are under construction. Immediate priority needs are the training of more surgeons and focus on emergency surgery, especially trauma management. Subspecialisation, even between General Surgery and Orthopaedics, is impractical given the current small numbers of surgeons in Southern Sudan.

Obstetrics&Gynaecology: The wards have been structurally renovated but the increasing population is putting more and more demands on the O&G Department. There is a severe shortage of trained midwives. There is a high consumption of donated blood.

Drugs such as Syntometrine are available for use in the labour ward. There is no routine HIV screening service for pregnant mothers although there is a unit that counsels, tests and can give anti-retroviral therapy. This is run jointly by GOSS and an NGO.

ENT: The ENT department is staffed by one ENT specialist who has an otoscope. This represents the total equipment available to him. The main needs of the ENT department centre on providing equipment for outpatients and for operations such as adenoidectomies and tonsillectomies.

Accident and Emergency: There is an emergency ward that gets congested due to lack of triage.

Anaesthesia: There are no medically qualified anaesthetists.

Ophthalmology: The Eye Unit has recently undergone renovation and has a new operating theatre that will be opened shortly. It was suggested that a Southern Sudanese Ophthalmologist, currently working in Zimbabwe, may soon be joining the department.

Psychiatry: This unit has 23 beds, 11 nurses and 1 medical officer. Drugs used are limited to Chlorpromazine, Promethazine and Diazepam.

5.2.2 Nursing:

Members of the Core Team met with a wide range of senior nursing officials. The Nursing Representative to the Core Team had much more detailed discussions with the Director of Nursing and Midwifery at JTH - Mrs Anita Peter Modi, the World Health Organisation Technical Officer for Nursing/Allied Health - Roya Sadri Zadeh, the Director of Nursing and Midwifery at the Ministry of Health (GOSS) – Janet Michael, 5 Registered Nurses and the only qualified midwife employed at Juba Teaching Hospital.

We were informed that at Juba Teaching Hospital (JTH) there were 256 certificated nurses, 104 students, and 13 registered nurses. However, our observations did not support these figures. Every “nurse” observed working on the wards was either a second or third year nursing student under no obvious supervision. There were no first year students due to the closure this year of Juba Nursing School to new students. Two students manned each ward at the time of observation.

There are huge problems with communication. Registered nurses are currently trained in Arabic in Khartoum and generally speak only limited English. Although it was stated that the certificated nurse training provided in the Nursing School at JTH was given in both Arabic and English there is only one trained tutor whose English is limited. Of the 5 Registered Nurses and one midwife that were interviewed, only 3 were fluent in English. Patient records and instructions are written in English by the doctors resulting in obvious communication difficulties.

The current nursing curriculum is designed in Khartoum and written in Arabic. There is no translated version of the curriculum into English for use in the Southern Sudan. Hence it was not possible for us to evaluate the curriculum. The AMREF curriculum has not yet been implemented for reasons that have been discussed. At the moment nursing students rotate every three months through Paediatrics, Surgery, Medicine and O&G. They have 2-3 hours of classroom time each day when they learn anatomy and physiology, community medicine, basic nursing, pharmacology, first aid, microbiology, practical skills, English and Arabic. However, the team learnt that the nurses are not adequately taught essential practical skills. This leads to the development of poor technique and inaccuracies in procedures such as measuring blood pressure.

5.2.3 Midwifery:

On the maternity ward we were informed that the staff comprised one registered midwife, some village midwives or traditional birth attendants, as well as some student nurses.

A School of Midwifery has been built and there is a plan to train more midwives. We were shown a midwifery curriculum developed by AMREF. However, it is uncertain where trainers for this course will come from.

5.2.4 Pharmacy:

We were informed by the resident pharmacist that until December 2007 a satisfactory supply of basic drugs was provided by the ICRC. Responsibility for this has now passed to the Ministry of Health and there are some problems with supplies. Drugs come in a kit form, each kit containing a mixture of drugs and dressings. These do not always match the needs within the hospital. There are also issues with drugs that require refrigeration. If the electricity fails the pharmacy can lose thousands of dollars worth of drugs unless the generator is switched on. The generator appears to supply the whole hospital and is extremely expensive to run. We feel strongly that consideration should be given to installing a small generator purely for essential circuits such as the pharmacy, operating theatre, microbiology laboratory and the blood bank. Another alternative may be to invest in solar powered refrigerators.

5.2.5 Laboratories:

There is a small, pleasant but ill-equipped pathology laboratory. Tests which can be undertaken include microscopy for parasites and Tuberculosis (TB), cross matching for blood transfusions, screening for Hepatitis B & C and HIV, urea and electrolyte tests, liver function tests, full blood count and erythrocyte sedimentation Rate (ESR). However, there is no medically trained doctor in this department, no facility for specimen culture and no histopathology service. Any histopathology that is required has to be sent to Khartoum.

5.2.6 Radiology:

Radiology is extremely basic and restricted to plain x-rays undertaken by a technician. Some basic barium contrast studies can be performed, as can hysterosalpingograms. There is no medically trained radiologist although the x-rays as seen were adequate to diagnose major fractures. There is an ultrasound machine but no ultrasonographer.

5.2.7 Nutrition:

Under the ICRC this consisted of a Therapeutic Feeding Unit which was led by a nutritionist and provided supplementary feeding to malnourished children. There was also a kitchen which provided two meals a day to all inpatients. Since the ICRC withdrawal this has stopped. There are plans to appoint one dietician and to commence screening for malnutrition at Juba Teaching Hospital. However, Juba Teaching Hospital currently depends on donated food which may hamper progress.

5.2.8 Laundry Unit:

This has been recently renovated and has two automatic driers, two automatic washing machines (one for theatre washing only) and some ironing machines. There are four laundry staff. It was not clear who would maintain the machines in event of machinery breakdown.

5.2.9 Incinerator:

Some hospital waste is disposed of using an on-site incinerator.

5.2.10 Other departments:

These include Physiotherapy, Outpatients, the Dental Unit, Maintenance, Security, Domestic, Gardening/Lands and the mortuary which is housed in a refrigerated Portakabin.

5.2.11 The Wards:

The Core Team reviewed the wards. These are fairly dark, Nightingale-type wards with no air conditioning, no mosquito nets and are very overcrowded. There are ceiling fans in most wards but the electricity supply is intermittent and patients are often moved outside under the shade as the heat in the wards can be intense. There are limited washing facilities within the wards (one hand basin per ward). Although basic nursing care is provided all personal care including meals is provided by relatives.

It is clear from what we saw that the doctors and nurses are undertaking good work under difficult circumstances. The senior doctors are responsible for very large numbers of patients. They know the medical details of their patients and have an excellent rapport with them. Many nurses are given responsibility way beyond their capabilities.

Al Sabah Children's Hospital was visited by two of the Core Team who expressed concern that the general ward conditions were in a poor state compared even with JTH. At the time of the visit there was no running water, no doctor present and only one nurse present. There were no ceiling fans and there were hardly any mosquito nets around the beds or windows. Those that were in place were damaged.

5.2.12 Management:

There has been some management training provided by a Japanese team. The main administration building comprises the following offices:

- o Office of the Executive Director of JTH
- o Office of the Hospital Administrator
- o Office of the Director of Nursing & Midwifery
- o A few other offices used for general work by all staff

Another building is used as a meeting hall. Offices for heads of departments are scattered throughout JTH.

5.2.13 Medical Records & Statistics:

Medical records are kept in a book by the patients. They do not always remember to bring this when they come to hospital. The hospital keeps rudimentary medical summaries of in-patient stays.

There is a Statistics Department but records are kept in storage without evidence of ongoing data analysis. There is therefore little information to assess clinical outcomes or to support clinical audit/ research.

5.3 GENERAL FACILITIES FOR EDUCATION AND TRAINING

- There is no culture of ongoing education and training for any of the healthcare professionals. This partly relates to the lack of skilled staff to undertake training and the fact that those skilled staff that do exist are very busy treating patients.
- Very few organised educational activities appear to be occurring. There was no evidence of any weekly clinical meetings for doctors or nurses, morbidity or mortality meetings or clinical audit apart from the Obstetrics &

Gynaecology Department which has recently begun keeping and discussing maternal mortality records.

- A room measuring 8.5mx6m has been allocated for developing a Postgraduate Medical Centre and Library. We understand that the United States Agency for International Development (USAID) has promised to provide Information Technology (IT) facilities and possibly projection equipment. At the time of our visit the room was in good condition but empty.
- Facilities for nurse training are also extremely poor. Physically there is a nursing school but with a marked lack of teaching aids such as books and computers. Most important is the lack of nursing tutors. As a result the certificated nurse training is presently closed.
- The postgraduate training of pharmacists, medical assistants, laboratory staff and theatre attendants is said to take place at the Health Sciences Institute but this has recently been shut down due to a pay dispute.
- Although there is currently little education and training occurring and facilities are very limited there is enormous enthusiasm from both the doctors and nurses for the development of education and the St Mary's Hospital-Juba Teaching Hospital Link project.

5.4 GENERAL REQUIREMENTS TO UNDERTAKE THE PROJECT

Details of the proposed educational project are given in Appendix 1.

The conditions, facilities and resources required to undertake this project were reviewed during the fact-finding visit and the following considered:

1. Travel arrangements to Juba, including airport tax
2. Personal insurance
3. Visa for South Sudan and Registration fee
4. Accommodation and living in Juba
5. Transport in Juba
6. Communication when in Juba
7. Security and general conditions in Juba

5.4.1 Travel : The Core Team travelled by Ethiopian Airlines from London Heathrow to Addis Ababa via Rome and from Addis to Juba via Entebbe. The cost of the flight was approximately US\$750 each. This was a cheap flight but prolonged as a result of multiple stopovers and only flying on certain days of the week. Other routes may need to be explored such as London-Entebbe-Juba or alternatively London-Nairobi- Juba. These routes however may be more expensive.

5.4.2 Personal Insurance : There was some difficulty in obtaining insurance because of the Foreign and Commonwealth Office advice that there should only be "essential travel" travel to Juba. This excluded most insurance policies. The Core Team obtained cover from Norwich Union at a cost of approximately \$65 per person but this allowed only administrative work to be done and excluded the treating of patients. A more comprehensive corporate business insurance policy is available through Towergate but the cost of this would be in the region of \$350 per person. It also has to be in the name of the organisation rather than the individual. Discussion with NGO workers in Juba suggest that other alternative policies may be more appropriate. This requires further investigation.

5.4.3 Visa and Registration fee amounted to US \$260 for each member of the Team. These were dealt with by Dr Louis Danga on behalf of the Team and administratively

involved a considerable amount of work. For a rolling programme these administrative processes need to be facilitated. It may be possible to get a Visa more cheaply through the Sudanese embassy in London. We also understand that GOSS are due to open an office in London. This would clearly be the optimal route of obtaining a South Sudanese Visa.

5.4.4 Accommodation is scarce and expensive in Juba. Various options were considered. Hotel or guest house accommodation is expensive (US\$50-\$100 per night), of generally poor quality and not very close to the hospital. University accommodation was considered but this is not available at the moment. The preferred option of the Team was to establish a 3-4 bedroomed prefabricated bungalow on JTH grounds. We understand that these can be purchased and placed on site for approximately US\$12,000 each and we have agreement from JTH to position one of these opposite the main entrance to JTH, in proximity to the doctors mess. In due course a more permanent bungalow may well be constructed but this would cost in the region of US\$50,000. Accommodation will be self-catering and this will require some housekeeping support.

5.4.5 Internal transport in Juba may be an issue if the accommodation is not close to Juba Teaching Hospital. The roads are poor, visitors are advised against driving themselves and travel outside Juba is not recommended. As long as the accommodation is close to the hospital internal transport should not be a problem.

5.4.6 Communication : It is advised that visitors should maintain communication and the most appropriate method was considered either to buy a *Sudani* mobile phone or *Gemtel SIM cards* which can be used in UK purchased mobile phones as long as they have been unlocked prior to departure from the UK.

5.4.7 Security and General Conditions in Juba: Questions are inevitably raised due to the short time since the end of the civil war in 2005 and the Foreign and Commonwealth Office(FCO) advice of "only essential travel to Juba". Discussions with the NGOs indicated that the current situation is quiet and stable. There have been occasional incidents but these have been sporadic and remote from where the expatriates live and work.

We had a meeting with the Security Adviser at United Nations Department of Security Services (UNDSS). He advised that Juba is currently Level 1 for security, which means the security situation is stable. The overall advice was that from a civil order point of view Juba was currently as safe as other cities in other developing countries and probably safer than London.

Caveats to the above are that a structured Police Force is only now being established and trained and that there are a large number of guns left over from the civil war which remain in the hands of demobilised fighters. There is some crime in the markets and general advice was to avoid the markets, especially at night. Visitors should avoid travel outside Juba as there are still landmines in certain areas but not within Juba city.

We have registered our email with the UNDSS and they will inform us of any change in the security rating.

In the event of conflict or civil unrest personnel are advised to go to any of the UN compounds in Juba and we were assured that evacuation would be offered to the volunteers in the St Mary's, IW –Juba Teaching Hospital Link without question.

A formal risk assessment has been undertaken for the purposes of insurance and employer's liability but there really did not seem to be any major problems in the current situation.

6. POTENTIAL BENEFITS FROM THE PROJECT

The proposed project will deliver substantial benefits both in Southern Sudan and the UK.

6.1 In Southern Sudan there is an enormous desire and recognised need to develop the education and training of healthcare professionals. A culture of ongoing professional development and improvement of skills is urgently needed. We believe that by focusing on these needs and especially on priority areas there will be a progressive and accumulative benefit, both in the recruitment and in the skills of healthcare professionals. We are already working in partnership with colleagues in Southern Sudan to ensure that training is appropriate to local needs. Those trained will be able to pass their knowledge and skills on to others thus helping to create educational self-sufficiency in Southern Sudan.

6.2 In the UK and the Isle of Wight there are substantial short and long-term benefits from this programme to the NHS and the UK in general.

In the short-term healthcare professionals are able to broaden their outlook by seeing a healthcare system with very different needs and problems. This may be humbling but extremely motivating. It is also excellent reflective learning.

From a clinical point of view the range of conditions and volume of work in Southern Sudan is enormous. Many of these conditions are common to both the UK and Southern Sudan but are seen under different circumstances, often in much more advanced forms and with much more limited resources for treatment. This is a challenge to one's initiative and resourcefulness. Other conditions, such as malaria and tuberculosis, are seen much less commonly in the UK but do occur and it is absolutely vital that they are not missed. The value of the clinical experience in Southern Sudan cannot be underestimated.

There are also educational benefits from training. Training requires preparation and skills training requires examination of one's own technique.

In the long-term : Historically Britain has had an enviable reputation for developing healthcare across the world and many countries still value these links. There are major reciprocal benefits to the UK National Health Service, which at various times in its history has depended upon overseas doctors and nurses.

Furthermore, Southern Sudan is trying to establish itself after 23 years of civil war and would welcome a close relationship with the UK. Cultural links at a professional and academic level would have mutual benefits to both countries.

7. CONCLUSION:

The St Mary's Hospital, Isle of Wight – Juba Teaching Hospital Link is now established and after several months of fund-raising we were able to go to Juba to undertake the fact-finding visit. This has highlighted a number of issues, especially the profound shortage of skilled healthcare workers. The proposed project to send trainers to Juba on a rolling programme has received enormous support both locally and in Southern Sudan. We have examined the constraints and believe that the project is entirely feasible. Inevitably the project will start small and hopefully

develop. We believe that it will form the basis for a long and fruitful institutional link between St Mary's Hospital, Isle of Wight and Juba Teaching Hospital, Southern Sudan.

8. ACKNOWLEDGEMENTS AND THANKS:

The visiting Team would like to express their heartfelt thanks for the warm reception and generous hospitality extended to us by all those who received us in Juba. We are very grateful for the support given to us by the Ministry of Health of the Government of Southern Sudan and to the staff of Juba Teaching Hospital whose help enabled us to obtain the necessary information in the short time we were in Juba and made the visit such a success. We would particularly like to extend our thanks to Dr Louis Danga for the enormous amount of work he did in organising the visit and the Hon. Martin Aligo Abe (Member of Parliament) for his untiring support. We would also like to thank all those people on the Isle of Wight who supported the visit by their kind donations and the Tropical Health Education Trust in London whose "Seedcorn Grant" enabled the project to get off the ground.

Appendix 1

DETAILS OF THE PROPOSED EDUCATIONAL PROJECT

The central feature of the project is to arrange for experienced trainers from the UK and other countries to visit Juba Teaching Hospital, each for 3 to 4 weeks and on a rolling programme.

During their stay in Juba they would undertake training of healthcare workers. The major objective would be to improve the skills and education of qualified doctors, nurses and other healthcare workers. This may lead towards further qualification or the undertaking of examinations, such as the MRCP (UK). For the majority it will be on the job training to improve skills and achieve appropriate competencies. It is also hoped that with the return of the Medical School and Nurse Training to Juba visitors may undertake some training of undergraduates. This will support the appropriate Faculties with their limited resources of trainers. Consideration will also be given to modular courses directed towards specific ends. This could include a trauma course or a course in emergency obstetrics for example.

The number of trainers going will depend upon funding and availability. The aim is to send up to 20 per year across all the professional disciplines. Not all trainers will be from the Isle of Wight and in the early stages of the project the numbers are likely to be somewhat smaller. The specialty of the trainers will necessarily depend upon availability but priority in the first instance will be given to Emergency Obstetrics/Midwifery, Nursing, Paediatrics, General Medicine, Surgery in General and medical education. The estimated costs per person will be made up of :

| | |
|---|---------------|
| return economy flights and airport tax | \$1600-\$2000 |
| plus visa and insurance | \$ 400 |
| registration fee in S.Sudan | \$ 60 |
| internal travel in UK | \$ 200 |
| living costs in Juba (based on an estimate of \$50/day) | \$1500 |

The greatest uncertainties with these costs revolve around the accommodation but an overall cost of US\$4000 per person or US\$80,000 per year for the full programme is reasonable. The visitors will not be paid but we have assurances that the Isle of Wight Healthcare PCT will release personnel within reason. Many visitors will be willing to take some of the time as annual leave.

It is hoped that the project will also include donation of some equipment, the facility for UK trainees to spend some time in Juba and for Southern Sudanese trainees to undertake short attachments in the UK, particularly those keen to take examinations in the UK.

In due course, it is hoped to roll out this programme to other parts of Southern Sudan.

Options for Fundraising:

Local fundraising on the Isle of Wight is likely to raise relatively small contributions. It is unlikely we could raise more than \$10,000 per year on a recurring basis. We would therefore be looking towards more substantial funding through the Government of

Southern Sudan, making application either to the Multi-Donor Fund or directly to an international agency such as the Department for International Development (DIFID). The Core Group running this programme has pledged to be transparent and accountable in its handling of any donated funds. A quarterly statement of accounts will be published on the Link website and available to local Southern Sudanese newspapers for the public and donors to see the use to which their donations have been put.

Appendix 2

The following is a list of organisations with whom we had discussions and those people involved in the discussions:

Ministry of Health (GOSS):

| | |
|-----------------------------------|---|
| His Excellency Dr Joseph M Wejang | Minister of Health |
| Dr Monywaar Arop Kuol | Undersecretary |
| Dr Olivia Lomoro Damian | Director General, Research, Planning & Health |
| | System Development |
| Dr Samson Paul Baba & | Director General External Assistance |
| | Coordination |
| Janet Michael | Director of Nursing & Midwifery |
| Dr Yatta Lugor | Director General of Curative Medicine |
| Victoria Eluzai | Director of Nutrition |

Ministry for Regional Cooperation (GOSS):

| | |
|----------------------------|---|
| Dr Barnaba Marial Benjamin | Hon. Minister |
| Beatrice Khamisa Wani | Director General Multilateral Relations |

State Ministry of Health (Western Baher El Ghazel):

| | |
|--------------|----------------|
| Dr Awad Juma | State Minister |
|--------------|----------------|

Parliament:

| | |
|-----------------------|----------------------|
| Hon. Martin Aligo Abe | Member of Parliament |
|-----------------------|----------------------|

Juba Teaching Hospital :

| | |
|------------------------|---|
| Dr Festus Jambo Elias | Executive Director of JTH & Consultant O&G |
| Dr Louis Danga | Registrar in Paediatrics |
| Dr Alex Wani | Consultant ENT Surgeon |
| Roya Sadri zadeh | WHO Technical Officer for Nursing Education |
| Ewinio Rumudu Alakai | Hospital Administrator |
| Anite Peter Modi | Director of Nursing & Midwifery |
| Dr Paul Tingwa | Integrated Disease Control Programme |
| Dr Esther Palffy | Paediatrician |
| Dr Julia Rubena Lumaya | O&G |
| Dr Thomas Akim | O&G |
| Dr Rose Michael | O&G |
| Ustaz Christo Dol | Principle, School of Nursing |
| Dr Mutwakil Hamza | Director of Pharmacy |
| Dr Robert P Napoleon | Medical Officer, Medicine |
| Dr Emmanuel Baya | UNICEF |
| Dr Betty Ayoub Philip | Head of Dental Dept. |
| Dr Hassan Chollong | Consultant Paediatrician |

Dr Dario Kuron Lado
Dr Maker Isaac Wel
&Gynaecologist
Dr Abdul
Dr Monica Elisa
Dr Sarah Juwa
Dr Margaret Betty Eyobo
Dr Martin Abole

Consultant Surgeon
Medical Director /Obstetrician

Consultant Chest Physician
Medical Officer O&G
Medical Officer Surgery
Medical Officer Paediatrics
Consultant Paediatrician

Non-Government Organisations:

Dr Chris Lewis
Dr Karinya Lewis
Emma Fitzpatrick
Health

Sector Specialist – Health, Tearfund DMT
Ophthalmic Surgeon, Christian Blind Mission
Sector Strategy & Coordination Adviser,

& Nutrition, Office of the UN Resident &
Humanitarian Coordinator
Emergency & Humanitarian Coordinator,

Adili Matontu
WHO
Roya Sadri Zadeh
Dr Margaret Itto
Research

Nursing & Allied Health Officer, WHO
Country Director, African Medical &
Foundation

Multi-Donor Fund:

Mr Bengt Herring

Medical Adviser

United Nations Dept. Of Security Services:

Mr Saleem Babu

Security Adviser

University of Juba

Mr.Bojoi Moses Tomor
Juba

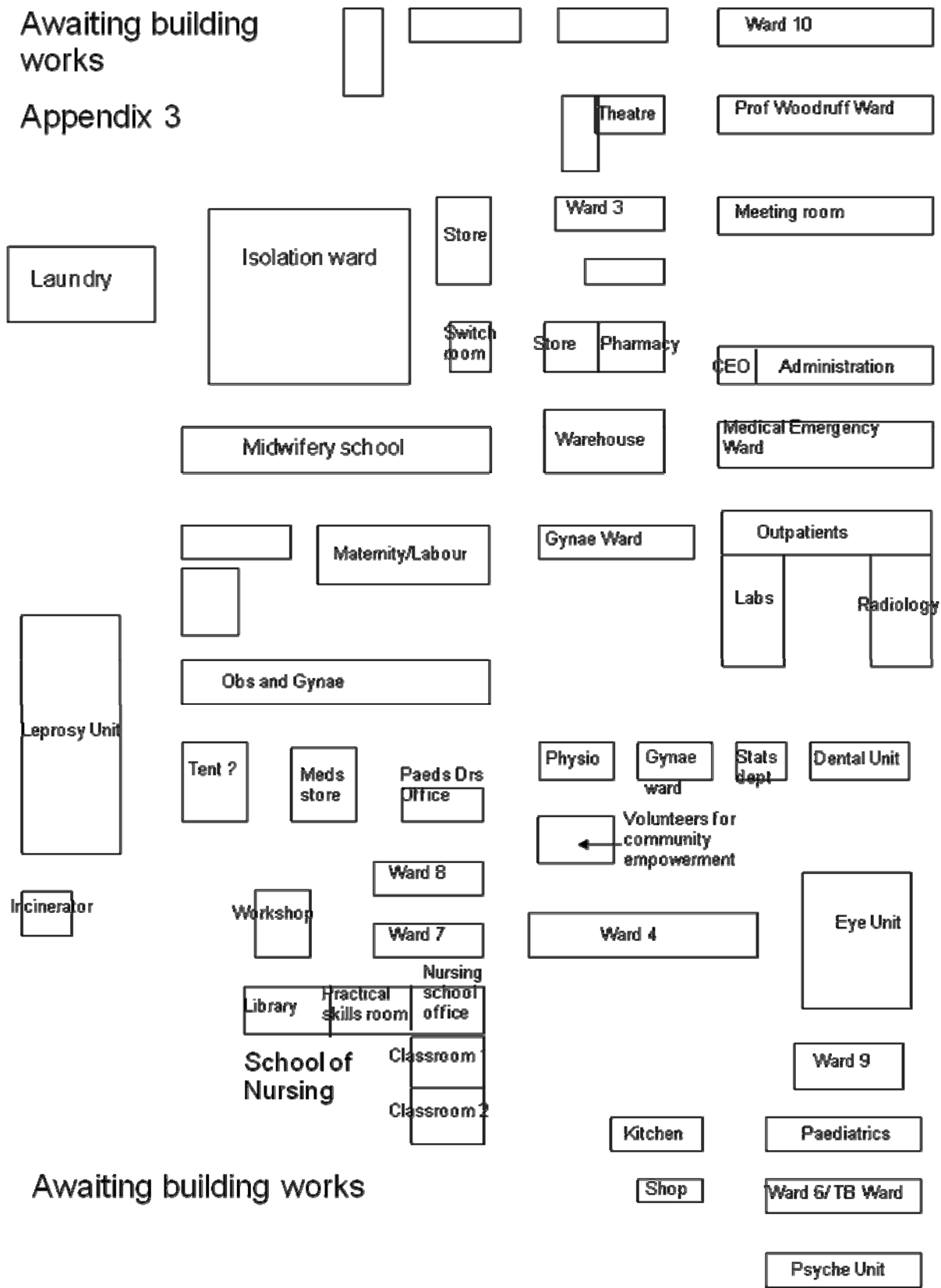
Deputy Academic Secretary, University of

Mr.Festus Abdelaziz
University of Juba

Director of Projects & Research,

Awaiting building works

Appendix 3



Awaiting building works

SOUTHERN SUDAN HOSPITALS AND HEALTH FACILITIES

