

ELECTIVE (SSC5b) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

I spent 3 weeks working at Ekwendeni Mission Hospital along with four other friends. The hospital is a relatively small, 250 bed district general hospital, which was set up by the local CCAP mission and falls under the remit of the local synod. As a mission hospital it only receives government funding for certain services such as HIV management and maternity care, while most others must be paid for. The hospital consists of an outpatient department as well as 5 main wards: male, female, maternity, paediatrics and a private wing. Additional services include a laboratory, a radiology room (for plain X-rays), a pharmacy and an operating theatre.

Our role at the hospital was to assist on the wards where help was needed, usually assisting or leading ward rounds, assessing patients and making decisions about their management.

1. Describe the prevalence, presentation and management of infectious diseases including HIV, in the populations served by Ekwendeni hospital. Discuss this in the context of global patterns of infectious disease.

Infectious diseases were ubiquitous in the hospital and chief amongst these was malaria. This single disease was the cause of admission for the majority of inpatients on the male and female general wards. In 2016 there were estimated to be over 4 million cases of malaria in Malawi. If each case was in a separate individual, this would correspond to approximately 25% of the population being infected in a single year. Due to its abundance, diagnosis and management of malaria has become routine with well established protocols in place. Despite these good intentions, malaria was not immune from the resource shortages that afflicted the whole hospital. Microscope slides for blood films and MRDT cassettes were each out of stock at times during our brief tenure. Although most cases were uncomplicated with patients responding to IV treatment within 24-48 hours, there were cases, particularly on the paediatric wards, which were not treated early enough and progressed to severe, cerebral malaria resulting in seizures and obtundation.

According to UNAIDS, in 2016 Malawi had 1 million people living with HIV (5.5%), compared with a global prevalence of around 0.5%. At that time 66% of those infected Malawians were accessing antiretroviral therapy (ART). While these figures vary, most sources list Malawi in the top 10 countries in the world for rates of HIV.

As a result of this epidemic, significant efforts have been made, supported by substantial funding, to reduce the rates of infection and increase the number of people on ART. This was apparent in all aspects of work in Ekwendeni. Patients' HIV status (positive, negative or unknown) was recorded on every admission proforma, and any patients whose status was unknown would be reviewed and tested, often unprompted and on the day of admission. This was one healthcare strategy which seemed to be well refined and put in to practice effectively. Patients who were HIV positive were seen and treated in specialist ART clinics, of which there was one in the hospital. In addition to their testing of inpatients

the ART clinic staff were also available to counsel and discuss management and adherence with inpatients if any concerns had been raised.

Interestingly and understandably there was still an element of secrecy around patients' HIV statuses indicating that stigma still abounds. We quickly learnt to ask the guardians to exit the room while discussing HIV matters with patients and had to take care not to disclose a patient's status in the ward environment where privacy was scarce. Furthermore, ARVs were not prescribed on the inpatient drug charts, being left to the patients themselves to manage along with the ART team.

HIV patients are at significantly increased risk of another important infectious disease: TB. Prevalence in 2014 was approximately 1%, around 10 times the global average (USAID). Around 1 in 1000 people are diagnosed with TB each year with treatment being successful in around 86%. Drug resistance is on the rise within MDR-TB comprising between 0.5 and 5 percent of cases. The relatively high incidence of TB in Malawi made it a clinical priority, entering our differential diagnosis for many patients with respiratory symptoms. When suspected, sputum samples were analysed using the GeneXpert machine which uses PCR techniques to recognise MTB specific DNA sequences as well as picking up rifampin resistance. During my time in Ekwendeni, despite several suspected cases we only diagnosed one case of TB, which was actually based on clinical findings and a cavitating lesion on CXR, rather than GeneXpert results. Once the diagnosis is made, treatment there is a well established protocol for prescription and administration of the TB treatment regimen. It consists of 2 months rifampicin, isoniazid, pyrazinamide and ethambutol (referred to as RHZE rather than RIPE as in the U.K.), followed by 4 months of rifampicin and isoniazid. The regimen is designed to maximise adherence by all drugs being part of a single tablet and the administration of them being logged on a specific drug chart.

Other infectious diseases we observed included typhoid fever, cryptococcal meningitis (in the context of severe HIV) and pneumonia.

2. Describe how acute care is delivered in the hospital setting of a rural Malawian town. Compare and contrast this to healthcare provision in an NHS hospital.

Ekwendeni is typical of Malawian hospitals in its staffing which differs hugely from the structure of a UK hospital. Firstly there are less staff overall with often just one or two nurses and one clinical officer per ward. As a result much of the basic care is done by the patients guardians such as feeding, washing and toileting. In addition, much of the clinical assessment of patients that would be done by junior or middle grade doctors in the U.K., here is done by clinical officers (COs). COs do a 3 year degree, followed by a clinical internship, after which they become responsible for most if not all of the clinical work in the hospital. Their responsibilities range from seeing patients in OPD, to assessing unwell patients on their wards, to performing ultrasound scans, minor procedures and major surgical procedures such as Caesarean sections. The role of the doctor is very different in Malawi. Ekwendeni has just one doctor, Dr Katete who is the 'chief medical officer' for the hospital. This is a strenuous and intense role demanding him to both manage many administrative aspects of the hospital as well as reviewing patients and attending to emergencies.

Compared to the vast raft of investigations available in even the smallest of U.K. hospitals, in Ekwendeni we were limited to:

- Urine dip

- Capillary glucose
- MRDT for malaria
- HIV test
- Gene Xpert for TB, gram stain and microscopy for sputum or swabs
- Hb, FBC, Urea, LFTs, Blood group and cross-match, blood film
- Ultrasound (by non-specialist)
- Plain X-ray (by untrained practitioner)

Even amongst these, many were unavailable during our time at the hospital.

As described in previous sections, acute treatment for infectious diseases such as malaria was done well and in line with most international guidelines. However in other areas, effective treatment was hindered by the lack of qualified doctors and the lack of resources. For example, patients who presented with a febrile illness would often receive IV benzylpenicillin and IV gentamicin for several days, regardless of the likely source of infection or the potential side effects of these drugs. This practice was partly due to the limited investigations available and the fact that few alternatives were available, but also reflected a lack of awareness of antibiotic stewardship and a laissez-faire attitude towards prescribing.

Finally, I cannot fail to mention the ever-present spectre of financial payment. Ekwendeni receives some government funding and some support from the local synod, but still requires patients to pay for their care in order to cover the bulk of the hospitals expenditure. This was the first time I had worked in a fee-paying medical environment and I found it both strange and distasteful to have to ask patients whether they were able to afford an investigation or treatment that I knew was medically indicated.

3. Identify the biggest challenges faced by hospital doctors in Malawi that limit the care they can provide for their patients. What is being done to overcome this and what steps are still needed?

As alluded to above, one of the main obstacles to healthcare delivery in Ekwendeni is the resources available in terms of medications and technical equipment. Unfortunately this problem is further exacerbated by an undercurrent of corruption and manipulation by certain members of staff. We heard about numerous members of staff who had been fired due to financial corruption, stealing drugs, or failing to perform their basic duties. This significantly limits the investigations and treatments which can be offered meaning that many patients receive sub-optimal care.

In addition to the lack of physical resources is the lack of Human Resources, as detailed above. This stems from a lack of funding limiting the number of staff that the hospital can employ as well as the low number of COs and doctors being trained in the country. This problem is worsened by the proverbial 'brain drain' from which the country suffers, with many of the brightest trainees being lost from the mainstream healthcare system, attracted by the opportunities and salaries available in countries such as South Africa or private sector organisations in Malawi.

During our placement we were lucky enough to attend a regional meeting of doctors and administrators from Northern Malawi to discuss the strategies in place to overcome their biggest challenges. Some of the key areas of discussion included blood transfusion services, use and provision of clinical specialists and management of certain priority conditions such as cholera, rabies and TB. There was a lively discussion surrounding each of these topics. Suggests improvements included:

- Improved communication between doctors at different hospitals to share expertise e.g. Using WhatsApp
- Improved usage of the specialists who work at central hospitals e.g. Mentoring programmes at district hospitals, improved referral systems.
- Better data handling to improve clinical governance e.g. Auditing past management of cholera outbreaks in order to prepare for future

Overall, despite major improvements in certain areas (e.g. incidence of HIV has dropped significantly since 2010) many aspects of Malawian healthcare are a work in progress.

4. To increase my confidence in providing good supportive treatment for patients who are acutely unwell, and to do so with limited resources.

I had the opportunity to practice these skills on a number of occasions. Due to the limited investigations and minimal senior support, I quickly developed rules of thumb for assessing whether patients were well or unwell. This was crucial for planning and prioritising the daily tasks and assessing which patients were suitable for discharge. Examples of the scenarios I was required to deal with included patients with sepsis, recent seizures, pre- or post-operative care, wound care and severely comatosed patients.