ELECTIVE (SSC5b) REPORT (1200 words)

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

My four friends and I spent the first 3 weeks of our medical elective working with the World Medical Fund for Children (WMFC). WMFC is a British charity operating in central Malawi which aims to provide primary healthcare services to children in areas where access to health services is limited. WMF achieves this through two major activities.

The first is a mobile clinic which travels out to remote villages to treat the health problems of children in the vacinity. The clinic assesses and treats around 150-400 patients per clinic and travels to 12 separate locations in the area around Nkhotakota on a monthly rotation. This is an area of great need in terms of healthcare with (like much of Malawi) an agriculture dependent, rural population with very high levels of poverty and infectious disease. The clinic is staffed by nurses, clinical officers, local volunteers, and elective medical students who provide a range of services including registering patients and recording their weight; assessing them based on their current presenting complaints; testing them for malaria; dispensing and administering medications; and referring and transporting sick children to hospital.Under the supervision of experienced clinical officers, and usually sitting on a bench under a tree, our primary role was to make a clinical assessment of the children and come up with a management plan. However our role was flexible such that when clinics were busy we were often required to help with malaria testing as well as packing and dispensing medications in the (portable) pharmacy.

The second major activity of the charity is an anti-retroviral therapy (ART) clinic for children in the area living with HIV. There is a great burden of HIV in the region, as in Malawi as a whole, with vertical transmission meaning that many children are born with the disease and face an entire lifetime on ART. WMFC sees a number of these patients on a monthly basis at its permanent clinic in Nkhotakota to review their management, prescribe their ART, diagnose and treat any complications and promote adherence to treatment. In addition to these clinical activities WMFC tries to provide a fun, sociable environment where children can relax and play in the time before and after their appointment. Our role as students was again a practical one, being required to assess their adherence to treatment as well as any current health problems of the childen. After spending some time doing the challenging and often complex work of the clinic it was a real pleasure to spend some time playing with the kids with football, tennis, skipping and arts & crafts all on offer.

1. Describe the range of diseases commonly affecting children in rural Malawi. Compare the incidence, presentation, severity and management of these to their equivalents in the U.K.

After a few days working in the mobile clinic it became clear that the majority of patients present with a small range of common presentations and underlying diagnoses.

Malaria was extremely common with a prevalence of approximately 50-80% of clinic attendances. Patients who presented with symptoms of malaria (abdominal pain, fever, headache) were tested using the MRDT (malaria rapid diagnostic test) and if positive were treated with a 3 day course of Lumefantrine/Artemether. Most cases were mild but occasionally patients presented with reduced consciousness, seizures or severe anaemia in which case they were referred to hospital for IV artesunate

therapy. Having seen only one case of malaria in a UK hospital during my training, all of this was new to me and I followed a steep learning curve. While many aspects of healthcare in Malawi are less well developed than the UK, malaria diagnosis and treatment is extremely well established due to many years of attention and investment. The endemic nature of the disease means that by adulthood, most Malawians have experienced malaria first hand, recognise the signs and symptoms and understand what treatment is required.

Respiratory tract infections were also very common with many patients presenting with a cough and fever. This was much more familiar territory but the approach taken differed in a number of ways from that taken in the UK:

a) Presentation: History was limited, making it difficult to establish the time course and associated symptoms. On examination, lymphadenopathy was common and widespread.

b) Antibiotic usage: Antibiotics were given almost universally, despite many seeming viral in origin. This was partly due to a difference in attitudes towards antimicrobial stewardship but also due to the lack of follow-up and the distance from secondary care making the usual 'safety netting' approach much more difficult.

c) Investigations: A limitation intrinsic to primary care is that there were few investigations available to assess severity. Therefore clinical signs and symptoms were our only guide.

Skin infections were different in aetiology, more common, and more severe than those I have commonly seen in the UK. Infestations such as scabies were seen in almost every clinic and often presented in an advanced stage. Fungal infections such as tinea capitis and pityriasis versicolor were almost universal. Bacterial skin infections such as erysipelas and impetigo were abundant and often superimposed on the everpresent cuts and scars that cover the childrens' legs (badges from hours of wielding a hoe in the maize fields).

Overall there were significant differences from the UK:

- **Increases prevalence of infectious and tropical diseases**
- **Reduced prevalence of non-transmissible diseases such as diabetes and asthma**
- **Diffferent prescribing practices**
- **Socio-economic factors differed greatly from the UK and complicated management further:**
- **Restricted resources**
- **Distance from hospital**
- **Malnutrition**

2. To improve my ability to diagnose patients presenting with undifferentiated symptoms, based on clinical examination and observation and to risk stratify patients accordingly.

In order to make a diagnosis and propose a treatment plan, the tools at our disposal included a brief history using our rudimentary Chichewa which consisted of a list of presenting complaints, a thorough examination and malaria testing when indicated using the MRDT (malaria rapid diagnostic test). Making a diagnosis from such limited information was challenging and really tested my clinical judgement. The

approach I developed was to first differentiate a child who was seriously unwell and needed urgent intervention or referral from one who was stable and could be managed in the community. The key metrics I used for this were vital signs (heart rate and respiratory rate), work of breathing or respiratory distress, as well as holistic indicators of health such as eating, drinking, urination and alertness. In suspected cases of malaria I used more specific signs of severity such as conjunctival pallor, seizures and splenomgaly. Once this distinction was made, approximate diagnoses were easier to come to and I could be guided by the limited treatment options available.

3. Identify the main challenges faced by local people and their healthcare providers in meeting their basic healthcare needs. Are any strategies in place to overcome these?

The challenges of delivering good healthcare in the communities of rural Malawi were many. One of the most important was the lack of infrastructure such as roads and public transport. This means that when people become unwell in the villages they are often unable to send their children to hospital due to the high cost and duration of the return journey. This is compounded further by the combination of high fees charged by private hospitals that provide healthcare in areas not covered by the underfunded government healthcare system, and the poverty of the rural population. This affected our work directly on a number of occasions as urgently unwell patients declined to go to hospital due to the prohibitive costs. While we were in Nkhotakota, road works were actively underway on the main road suggesting that infrastructure projects are receiving government funding.

The second major challenge of healthcare delivery in this environment which enhances the above difficulties is the limited resources of the healthcare providers. This pervades both government hospitals as well as the numerous NGOs, charities and private providers, meaning that even when patients get access to a provider, the investigations and treatment options are limited. This is a complex issue with limitations in all aspects of medical provision from skilled human resources to technical equipment and pharmaceutical supplies. It was interesting to see that funding from local government as well as foreign aid has made major improvements in treatment of longstanding priorities such as HIV and malaria, while in other areas such as non-communicable diseases much more progress is neeeded.

4. To apply my existing knowledge in a new clinical environment, but to ensure safety by seeking help in a timely and appropriate way.

I was pleased that the knowledge I had gained from my course helped me a great detail from the outset, but as described above much of the medicine was new to me. While I gained in confidence and independence during the 3 weeks, I relied on the local clinical officers for a lot of advice and support. I learnt to acknowledge my limits and judge when to ask for help, skills that I hope will be applicable in my subsequent hospital placement and my FY1 post.

I commonly asked for help in the following situations:

- **Clinically unwell patients**
- **Language/translation difficulties**
- **Unfamiliar presentations (e.g. Tropical skin conditions)**
- **Patients with chronic conditions requiring more detailed history taking (e.g. Children with learning difficulties)**

Overall, working with WMFC was a great privilege and fantastic learning experience. It opened my eyes to the challenges of delivering healthcare in a rural part of a developing country and allowed me to meet and spend time with a lot of wonderful people, all of which will stay with me as I return to the UK to start work.