ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

SCHOLARSHIP REPORT

This report should be completed by recipients of awards and scholarships from the Royal College of Physicians and Surgeons of Glasgow on completion of the activity for which they received their award or scholarship. Please complete all sections of the report form.

Please return your completed report via email to: **scholarships@rcpsg.ac.uk**

Or via mail to: **Scholarships Committee Administrator, Royal College of Physicians and Surgeons of Glasgow, 232-242 St Vincent Street, Glasgow G2 5RJ, UK**

Please use typeface when completing this form.

SECTION 1 | PERSONAL AND AWARD DETAILS			
Title	Miss	**PID**	
Surname	Brown	**Forename(s)**	Mhari
Scholarship/award awarded	Medical Elective Scholarship	**Amount awarded**	£1000

SECTION 2 | PROJECT/VISIT DETAILS	
Name/Title	Medical Elective at Saint Francis' Hospital
Location	Zambia
Aims and objectives	**Gain experience in a resource poor setting** **Compare and contrast management of conditions seen in the UK with that of Zambia** **Hone my clinical and communication skills** **Increased knowledge of infectious and tropical diseases**
Summary *Include methodology, results and conclusions if applicable*	I spent my six week elective at Saint Francis' Hospital (SFH) in Katete, rural Zambia. SFH has a 350 bed capacity which sees over 22,000 admissions each year. There is also an extremely busy out-patient department (OPD) which sees over 93,000 patients each year, averaging at around 250 per day. SFH is part funded by the Zambian government and part funded by Anglican and Catholic churches, however at present most of the funds are provided by the government. I spent my first week working in the OPD, and the remainder of my time mostly working on the female medical ward, St Monica. OPD at SFH sees a variety of patients ranging from chronic disease management, to acute minor illnesses, to A&E style cases. Patients have to queue up outside the door of 'Room 13' in OPD, waiting for their turn to be seen; however if someone if deemed unwell enough by the triage nurse, they can skip to the front of the queue to be seen sooner. St Monica is a 31 bedded medical ward. Seven of these beds are 'ITU'; the only differences from the main ward being that patients get observations done four times daily instead of twice daily, and there are two oxygen concentrators used for the sickest patients. During my time on St Monica, I was able to review patients on a daily basis and decide on a management plan which was then discussed with my supervising doctor. Prior to my travels I fundraised for SFH by holding a ceilidh. I successfully managed

to raise over £1000 to spend on resources for the hospital. I spent a small amount on glucometer sticks, urinalysis sticks, batteries, pen torches and a BP machine. I am having ongoing discussions with the resident doctors as how best the other funds can be utilised.

My time at SFH is now one of my most cherished moments of medical school. It truly was an invaluable experience where I learnt so much from each of the patients I encountered, and enjoyed the extra level of responsibility I was given. Not only was my experience at the hospital brilliant, I was then able to enjoy a holiday of a lifetime, travelling to South Luangwa for safari and to Livingstone to canoe on the Upper Zambezi and to see Victoria Falls.

Learning outcomes

Detail here how the aims and objectives were met

1. Gain experience in a resource poor setting.

Throughout my time at SFH, there was no availability for testing urea and electrolytes (U&Es) because the machine was broken and they were awaiting the part being delivered. The only way of getting such results was to send the patient on an 86 kilometre journey to Chipata General Hospital, and even still their machine didn't always work either. In the UK we test patients U&Es almost daily when they are in hospital. Without this test we had to be very attuned to any clinical signs of electrolyte imbalance, dehydration, or possible acute kidney injury. There were also problems in obtaining full blood count (FBC) results, although haemoglobin was available most days. To combat this, once or twice a week samples would be collected from patients on the ward and then sent to the local health clinic in Katete. Having worked as a phlebotomist during my time at medical school, I have often thought that we request 'routine bloods for monitoring' – full blood count and U&Es – too frequently, leading to patients being bled unnecessarily. I think in my future practice I will consider the rationale for doing such tests for my patients, and not just request them because I can as from my experience at SFH it is clearly possible to safely manage patients without daily blood tests.

There is a radiology department within SFH, with the availability of ultrasound scanning, x-ray, and some barium studies. As anticipated there was no CT or MRI scanning facilities, and patients would have to go to Lusaka if there was a compelling reason for such investigations. I was actually really impressed with the radiology department as patients would get ultrasounds and x-rays done on the same day as they were requested, the patient just had to wait in a queue outside. Patients too unwell to go to the department were able to have portable x-rays or ultrasounds, just like we do here. Ultrasonography requires a high skill level to produce useful images, but SFH were lucky to have three radiographers trained in

this therefore providing good results. The sonographers would provide detailed reports from patients' investigations, and provide screenshot images where necessary to supplement the written information. In the UK, because we do so many imaging studies, there can be a long wait to get investigations such as ultrasounds performed.

Every week at the morning clinical meeting there would be reports from the pharmacy, radiology and laboratory departments to inform clinical staff of any shortages or unavailable services. During my first week, there were only two antihypertensive drugs available to prescribe – furosemide and propranolol. That is just one example of drug shortages that I encountered at the hospital. There was also problems with ceftriaxone, this tended to be a 'go to' antibiotic if doctors weren't sure of the source of infection.

With all that said, on the whole the hospital was better equipped than what I was envisaging. One thing that did shock me was that there was no defibrillator available at all in SFH. As I organised my elective through the Responsible Electives programme, I fundraised over £1000 for the hospital. Perhaps something like an automated external defibrillator would be useful, but then that would incur additional training needs for the staff. I am in ongoing discussions with the resident doctors at SFH in order to decide how best to spend these funds to increase the resources available.

2. Compare and contrast management of conditions seen in the UK with that of Zambia

I knew prior to going to Zambia that non-communicable diseases were becoming an increasing problem, however I was surprised to the degree that this is true. One week there were four out of the seven ITU beds were occupied by patients who had had a stroke. Clinically strokes present in the same manner – with hemiparesis, sensory deficit, visual deficit, aphasia etc – however there seems to be an increase in the number of patients who have decreased consciousness as part of their presentation. Whether this is a true difference in the general presentation of strokes in Zambia, or whether it is just skewed based on the patients I saw during my time at SFH is not clear. In the UK we perform CT scanning on all patients presenting with stroke to determine whether it has been ischaemic or haemorrhagic, and to see the extent of the stroke. This is however not possible in SFH, and most patients are treated as ischaemic strokes. Patients are prescribed Aspirin, and blood pressure is monitored and treated if hypertensive. In contrast in the UK, if a patient has presented within 4 hours of the onset of symptoms and has a proven ischaemic stroke, it is possible to use thrombolysis. Aspirin, and secondary prevention medications such as statins and antihypertensives are then initiated. In the UK we aim to manage all patients with acute strokes in a dedicated stroke unit, with specialist input, as there is evidence that this has the best outcomes for the patient. Obviously this is not possible in SFH, and they have to be managed as best as possible on the main ward or in the ITU area. Patients do get some rehabilitation therapy at SFH, with daily physiotherapy referrals however I suspect this is not to the same degree as what is done in the UK; and there is no occupational therapy service to help with adapting their environment. We relied heavily on the patient's bedsiders to assist greatly in

their care and rehabilitation – turning them regularly to prevent pressure sores; feeding via NG tubes where required; practicing physiotherapy exercises; stimulating and interacting with the patient. I was at times surprised at how quickly the stroke patients were discharged, however it was explained to me that they often do better once they return home as there is more stimulation for them there from their families. Having not worked in a stroke unit in the UK it is difficult to comment on the role of the patient's family in their rehabilitation. However if they have little involvement, then perhaps we should take a leaf out of the Zambian's book and encourage an increased involvement particularly with physiotherapy exercises and stimulation.

I saw a man one afternoon in OPD who was hallucinating that mice were running up and down his legs, and biting him. After delving further into the history I learned that he had been seen previously with the same symptoms and had been successfully treated with Chlorpromazine, but the symptoms had returned when he had ran out of medications (an extremely common occurrence!). Psychiatric illnesses are challenging to manage in this setting, not half because one of the only antipsychotic medications available was Chlorpromazine. It seems that every patient is just labelled with 'psychosis' rather than determining an actual diagnosis. I think there are several reasons as to why this might be. Firstly, taking an accurate history of symptomatology can be difficult – this can be true of a psychiatric history in the UK, never mind in Zambia. Unless experienced it can be tricky to word the questions correctly and cover all of the different domains. If the patient doesn't speak English, as you can not be sure that a translator has asked the question you meant them to or if they are telling you exactly the story the patient has given. Secondly, the stigma of psychiatric illness seems to be even greater in Zambia than in the UK, with many patients denying past psychiatric illness, and often labelling it as having epilepsy instead. With such stigma, patients are reluctant to engage with medics to find their diagnosis. Thirdly, while there are psychiatric specialists, and units within Zambia, there was no psychiatrist at SFH. One of the clinical officers has a special interest in psychiatry however she was not always available to see patients depending on her shift pattern and workload.

I think because there are many European doctors working within SFH, guidelines tend to be quite similar between the UK and Zambia however are very dependent on the availability of drugs in order to instigate them. There is a book of guidelines available at SFH, however it was written several years ago so is a bit out of date. Two of the UK doctors (one GP who has worked at SFH for a few years now, and one ST1 doctor) are currently championing writing a new edition of the guidelines so it reflects best practice.

3. Hone my clinical and communication skills.

I was independently consulting with and examining patients every day of my elective placement, both in OPD and in St Monica. As expected, communication was a problem at times due to the language barrier. English is the national language of Zambia however it is typical that only those who have been to school have a good grasp of the English language, and the majority only speak Nyanja, the local language. I very quickly learnt some Nyanja to enable me to communicate a little with my patients. Despite this, communication was a challenge as I often

found that although I could ask a question about a particular symptom, I didn't always understand the response. The nurses and nursing students were always happy to help me with translation if they were not busy with their own duties. Additionally, when working in OPD there were translators available – but often only one or two to assist up to six doctors or students all working in one OPD room. While having people to assist me with translation was essential, I often became somewhat frustrated with the level of detail of responses. It was not uncommon for the patient and translator to have what seemed like quite a detailed dialogue, then the answer I would get was 'yes' or 'no'. I regularly encouraged those that were translating to tell me exactly what the patient said, and not to paraphrase, so that I got all of the information to ensure that no key details were missed. I think some of the nursing students I was working with really took this on board by the end of my time on the ward, and we were able to work more efficiently together. There were occasions in OPD in the evening when there was still a large queue of patients waiting to be seen, but the translators had clocked off. One of the OPD doctors has a reasonable grasp of Nyanja so was able to continue seeing patients when this happened. However it was really infuriating on such occasions that I, and many of the other doctors or students, could then only see patients who spoke English. It should not be that those who can speak English can skip in front of those only speaking Nyanja who had to wait for that one doctor. It is evident that OPD repeatedly runs beyond the time that the translators work to, so the hospital management should look to see how translator support can be extended for even an hour longer each day. At times I felt that having to use a translator to assist me with a consultation distanced me from the patient, which was unsatisfying. It made it more difficult to build and maintain a rapport with them. Having these challenges really made me appreciate how much you rely on the history, and having a good doctor-patient relationship, to construct an appropriate differential diagnosis list.

Examining numerous patients has made me much more confident in my ability to correctly identify clinical signs. I practiced top to toe examinations almost every day, which was excellent preparation for working as a junior doctor. I now feel much slicker in my examination techniques, whilst maintaining a high standard. Over the course of my six weeks I was able to identify hepatomegaly, splenomegaly, and an enlarged kidney on abdominal examination of my many patients. I also felt my first palpable thrill on precordial examination, and am more attuned to hearing murmurs. On respiratory examination I feel my percussion technique has improved, therefore making it much easier to hear any change in percussion note. Neurological examination was often challenging due to the language barrier, even if I had someone helping me to translate. One day when trying to do a neurological examination with a patient who presented with limb weakness, I ended up with the patient, her bedsiders and adjacent patients all laughing at me – not quite the outcome I was hoping to achieve! Nevertheless, I did see some interesting neurological signs despite the difficulties eliciting them.

4. Increased knowledge of infectious and tropical diseases.

While I perhaps didn't see the diverse range of tropical diseases I had hoped I might, I did see several cases of tuberculosis (TB) (both pulmonary and extrapulmonary), malaria, neurocystocircosis, and typhoid. My clinical exposure of

tropical diseases has truly helped me to have a better understanding of them. To supplement our clinical experience on the wards, the doctors arranged weekly student teaching. We had a session on malaria, and one on TB too; as well as other sessions not relating to tropical diseases.

Prior to my travels I knew about the presentation and treatment of TB, however I had never actually seen any cases and this quickly changed after arriving at SFH. Something that I was interested to learn was that at SFH they use a single tablet containing all four drugs (rifampicin, isoniazid, pyrazinamide, ethambutol (RHZE)) in order to increase compliance of taking the medication. I am not sure whether this one tablet composition exists in the UK or not; something I will need to find out! They then determine the dose, or number of tablets, to be prescribed based on the patients weight. Once diagnosed, TB management and follow up is co-ordinated by 'TB corner' and a lovely man named Dennis.

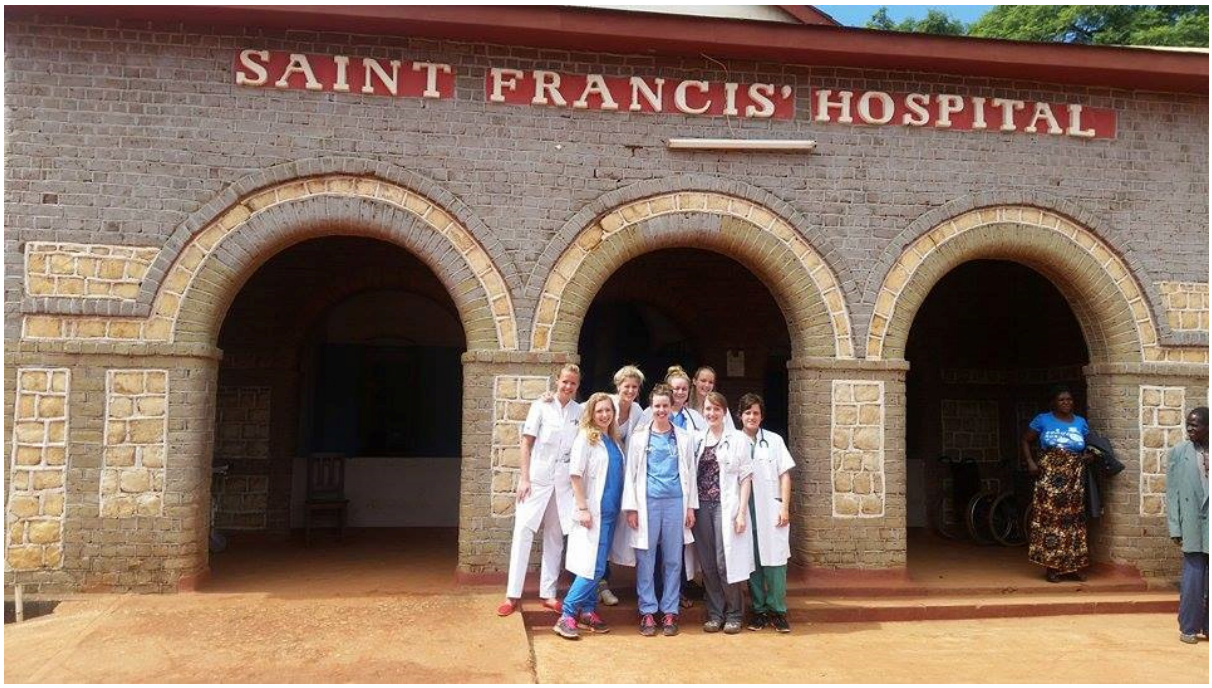
In Zambia, Plasmodium falciparum is the primary species causing malaria. Due to the non-specific clinical presentation of non-severe malaria a high clinical suspicion is required; and we also found ourselves regularly carrying out a malaria rapid diagnostic tests or sending blood films for detection of the malaria parasite. It was rather interesting to be at the hospital during the phase where Artesunate was being introduced to the hospital. Prior to this, Quinine had been the first line treatment. Training sessions were arranged, delivered by the ministry of health, for doctors and nurses to attend. I had hoped to be able to attend some of the sessions however it was a particularly busy couple of days on St Monica so my help was better needed there. A week or so after this training had been delivered, a patient was admitted to St Monica with severe malaria – malaria with evidence of organ dysfunction – she had anaemia with a haemoglobin of 30 g/L. The doctor prescribed Artesunate, as per the new guidelines with this now being first line. Problems arose from a nursing point of view, as none of the nurses had been in attendance at the training and so did not know how to make up the Artesunate solution. After much discussion about why it was not appropriate to just change the prescription, and that the nurses should contact other wards to see if their staff knew how to make the solution, we managed to administer the Artesunate as planned.

HIV is highly prevalent in Zambia (12.7% of the population). With every admission we must ask the patient if they know their HIV status, and if they do not or have not been tested for a while a VCT (voluntary counselling and testing) was requested. Most of the patients with HIV are managed by the Sandy Logie clinic, which is well established within SFH. While I still do not fully understand all of the different antiretroviral drugs available, I have a better knowledge of them than I did at the start of my elective. One doctor I worked with said that she never really grasped them either until she did a diploma in tropical medicine; I think it is a case that until you are prescribing them, you may never have a full knowledge of them.

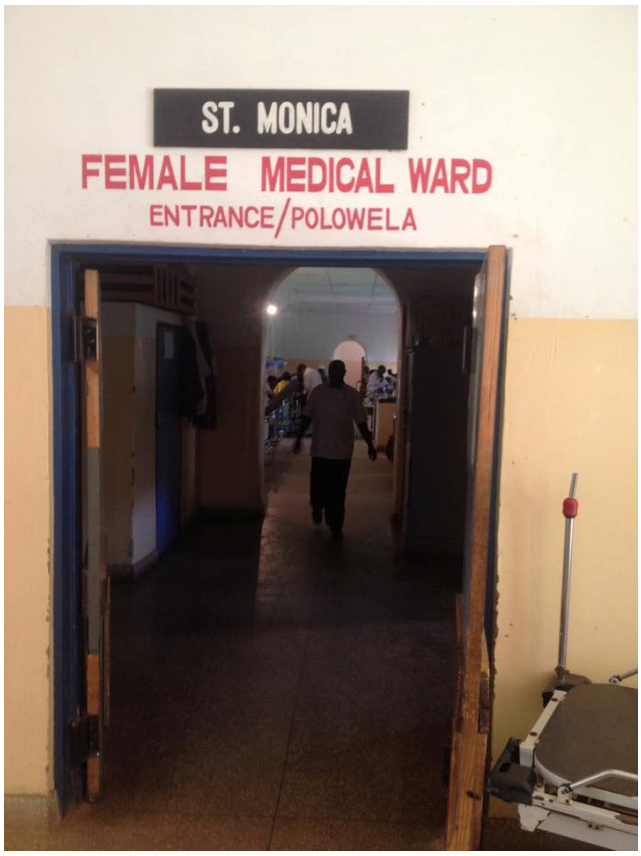
Evaluation *How has this scholarship/award impacted on your clinical/NHS practice or equivalent?*	I think that whilst I was at SFH I was able to positively contribute to the hospital. As mentioned, I was reviewing my own patients daily, requiring only minimal supervision therefore meaning that I was a valued member of the team and was not requiring constant tuition. Additionally, where possible I would help to teach the Zambian nursing students on the ward, as well as two Belgian nursing students; for example I led a group teaching them how the lead placement and how to conduct an ECG. In addition to what I was able to contribute whilst on location, I also fundraised for the hospital prior to my travels. I was able to raise over £1000, which will be solely for the hospital and in no way contributed to my own expenses. I am having ongoing discussions with the doctors at SFH as to how this money can be best spent. As mentioned, my elective in Zambia has most definitely been one of the major highlights of my time at medical school. I really felt like I was a key part of the team and was making a difference for the patients I was helping care for. During my placement, I was able to develop many skills required as a foundation year 1 doctor from clerking patients, to ordering investigations, to deciding management plans, and writing discharge letters. The experience has therefore made me more confident about starting work as a junior doctor in the very near future. Furthermore, I think my experiences at SFH have strengthened my clinical skills and diagnostic acumen, whilst not having to rely on hordes of investigations to reach the diagnosis. I will forever look back on my elective with fond memories! I wholeheartedly thank Royal College of Physicians and Surgeons of Glasgow for awarding me this bursary in support of my medical elective. This funding truly allowed me to make the most out of my elective, and also concentrate more on fundraising for the hospital instead of worrying about my own personal costs. Thank you to the team at Responsible Electives for their assistance in the organisation of my elective. I would also like to thank everyone I worked alongside at SFH who helped to make my elective so memorable.

SECTION 3 | IMAGES

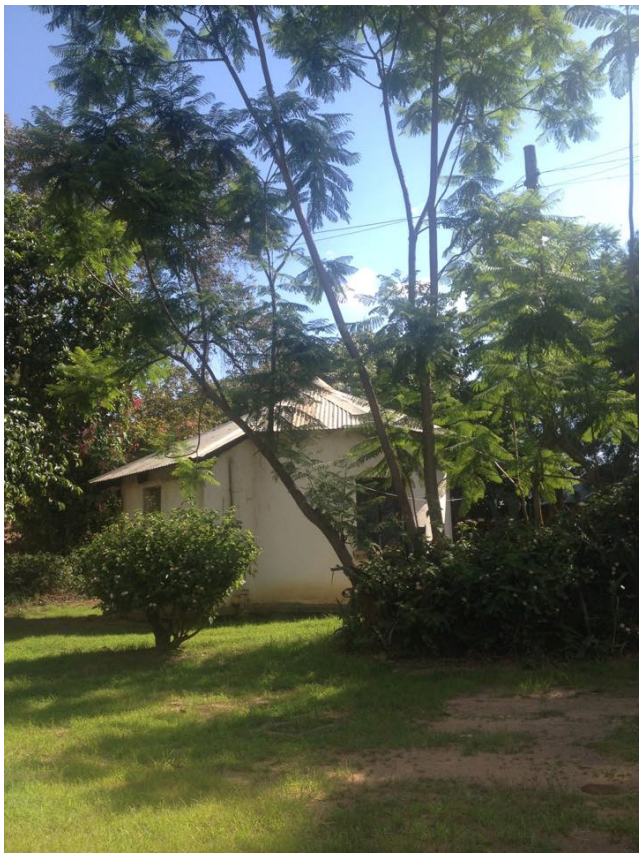
If available, please provide some images to support your report



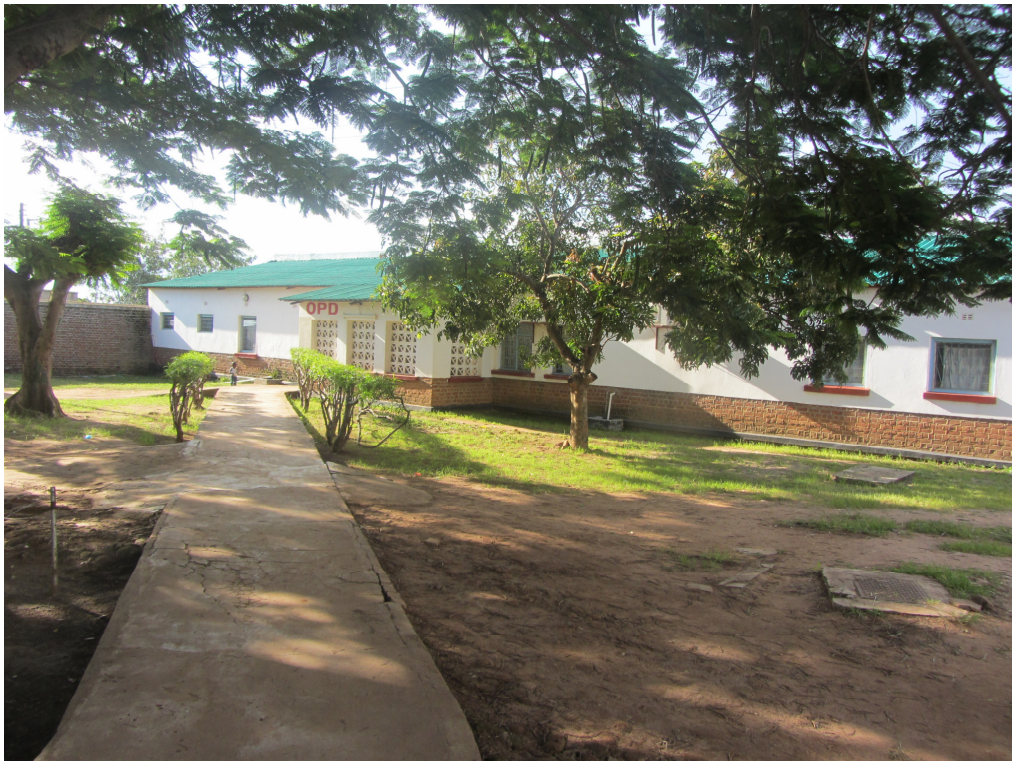
My fellow elective students (from Netherlands, New Zealand and Denmark), and myself outside SFH.



The entrance to St. Monica, the ward I was based on.



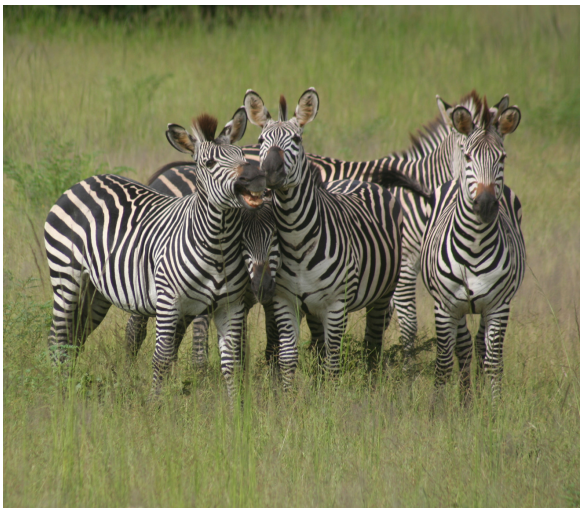
My home for 6 weeks.



Outpatient department in a calm, quiet moment.

A beautiful sunset and the lush greenery of the rainy season, just a short walk from the hospital.

The incredible Victoria Falls.



Some of the incredible wildlife seen in South Luangwa National Park.

SECTION 4 | EXPENDITURE	
Breakdown of expenditures *Please demonstrate how the scholarship/award funding was used to support your project/visit*	Return flights Edinburgh- Lusaka £680 Accommodation at Saint Francis Hospital £360

SECTION 5| PUBLICATION	
Scholarship/award reports may be published in College News. Please tick here if you agree to your report being published.	☒ I give permission for my report to be published in College News *If your report is selected for publishing, the editor of College News will be in touch to discuss this with you.*