ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

SCHOLARSHIP REPORT

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Please use typeface when completing this form.

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

SECTION 2 | PROJECT/VISIT DETAILS	
Name/Title	Emergency & Trauma medicine
Location	Tygerberg Hospital, Cape Town, South Africa
Aims and objectives	1. To develop an understanding of how medicine is practised in South Africa and compare it to the UK. 2. To understand the impact that HIV and TB has on the patients and the provision of safe health care. 3. To gain exposure to the common presentations in the trauma department. 4. To gain an understanding of the social factors underpinning South Africa's high crime rate.

Summary *Include methodology, results and conclusions if applicable*	I undertook my four week senior medical elective at Tygerberg Hospital in Cape Town, South Africa. Tygerberg is the second largest hospital in the country with a bed capaccity of 1899. During my elective I was an international student affiliated with Stellenbosch university. I was under the supervision of an emergency physician and divided my time between the trauma and emergency departments. Tygerberg's ED functioned like an acute medical receiving unit rather than a standard A&E. The unit is the area's tertiary referral centre for patients from surrounding community practices. Patients were divided between a high and ward level care dependent on their condition. The ward round started at 8am every morning, and I was required to attend my supervisors rounds every Monday and Wednesday. After the ward round finished at ~11am I would then look for tasks like cannulation and clerking in patients. Due to the department's hectic nature I was granted a lot of autonomy in deciding and facilitating my own learning. The trauma department was chaotic and intense. It consisted of a long ward of beds with an adjacent corridor of metal chairs for patient overflow. A metal gate at the ward's entrance was constantly guarded due to the violent circumstances often related to the trauma. The department's ward round commenced at ~9am and was relatively short (~1 hour) apart from a Wednesday when the chair of surgery Professor Steyn led it. This round was always well attended with 20+ people huddling in. After the round I would go on to clerk patients and help the doctors with tasks. I was able to perform arterial bloods gases, venepuncture and suturing. I also was able to observe chest drain insertions. Being placed in Tygerberg hospital was for me the highlight of medical school. My experiences both professionally and personally were life changing, and I will take what I learned into the rest of my professional career. On top of this I was able to enjoy a once in a lifetime holiday, travelling along the Southern Coast of South Africa.
Learning outcomes *Detail here how the aims and objectives were met*	To develop an understanding of how medicine is practised in South Africa and compare it to the UK In the UK sound communication skills are intrinsic to good medical practice. Medical students are taught to always gain consent before procedures whilst respecting the patient and their autonomy. In South Africa medicine is practised paternalistically. For instance, during the ward round when discussing a care plan the patient's opinions were not asked. Often the patient and their family would have no idea what was happening due to poor communication. Patients would often be manhandled to facilitate examination rather than being politely asked to sit forward. In my view the patient was treated like an object rather than a human being. These observations highlighted the importance of the good bedside manners and communication skills practiced in the UK. In Tygerberg the ability to perform routine investigations was limited. Basic assessments like ECGs and chest x-rays were often not requested for patients due to a lack of resources. In the emergency department a patient could go without a CXR for days when it was clinically indicated. Furthermore, due to malfunctioning equipment simple tests like pulse oximetry were commonly not possible. These factors meant doctors relied more on their clinical acumen to decide on the diagnosis. In terms of advanced imaging there was only one CT scanner and one MRI scanner for the nearly 2000 bed unit. This meant patients would regularly not get the scan they required. These factors contrasted to the UK where a patient's diagnosis and management are often not commenced until baseline investigations are gathered. Until my South African medical elective all my clinical attachments had been in Glasgow hospitals. These generally have a maximum of 4 patients to a room. In South Africa the structure of the emergency and trauma department was strikingly different. Patients were

lined up in beds with minimal space between them, meaning examinations and interventions were difficult. There was also not any privacy curtains for patients. This meant intimate exams were done without any seclusion from the busy ward. The trauma department had the added detriment of managing patient overflow with metal chairs. Patients were often sat in the chairs for several days prior to a bed becaming available. I would often see patients on these seats with chest drains in situ and in one instance a man with a knife in their skull. This situation became considerably worse after the weekend when the inflow was so immense that even the metal chairs could reach capacity. Overall the conditions suffered in the hospital highlighted how privileged we are in the UK to have such good facilities and comforts for our patients.

Tygerberg hospital only had 10 ITU beds meaning the critically unwell were usually managed in the trauma/emergency department. This reality was brought home by the case of a middle aged women involved in a road traffic accident. She had suffered a cardiac contusion and developed bilateral pleural effusions. Because of here life-threatening injuries she required ventilation. Initially, she received a general anaesthetic to facilitate intubation however this could not be maintained long term due to a lack of anaesthetic staff. This meant whilst intubated she only received midazolam and morphine sedation. The women was visibly distressed yet all the nurses could do was handcuff her to the bed to prevent self-extubation. I found this particularly distressing to watch however realised that due to staffing shortages and no ITU beds a general anaesthetic could not be safely maintained. This situation would be a never situation in the UK, so stressed the vastly different care standards of the two countries.

In the emergency department due to a nursing shortage basic observations were taken infrequently. This could lead to patients deteriorating without any warning to the doctors. This was demonstrated by one round where a patient had not had her oxygen saturation's done for 12 hours and then they were shown to be <80%. This led to the patient being frantically shifted to the resus area for more intense care. In the UK due to regular basic observations this would have been picked up before the round by nursing staff with medics informed of the deteriorating sats.

To understand the impact that HIV and TB has on the patients and the provision of safe health care

HIV alongside both latent and active tuberculosis have a high prevalence in South Africa at 18% and 80% respectively. This has major implications for the health of the patients and care workers. Before this elective I had never witnessed advanced HIV's consequences. On a regular basis I would clerk in patients who had varying severities of HIV. I felt the consequences I witnessed must have been similar to that experienced during the epidemic in the 1980's. One case that resonated with me was a young women who admitted with fever and confusion. The patient presented late due to living in an informal settlement outside of Cape Town. This represented a meningitis type picture with testing revealing her to be HIV positive and have a low CD4+ cell count. A lumbar puncture was performed with microbiology growing cryptococcus i.e. cryptococcal meningitis. The patient was transferred to the high care area of the ED and promptly started on intravenous antifungals. Despite the best medical care available the patient sadly died in the following days. This affected me as it was the first patient I had seen from admission till death.

Whilst in the ED I witnessed many presentations of pulmonary TB alongside some more unusual manifestations. One patient suffered military TB which is massive lymphohematogenous spread of mycobacterium tuberculosis with multi-organ involvement. The case was a young man who presented with fever, weight loss, dyspnoea and a productive cough. Imaging and microbiological investigations revealed the patient to

have military TB which had spread to his lungs, pleura and liver. The patient was managed in the general ED ward and commenced on the typical TB treatment of rifampicin, isoniazid, pyrazinamide and ethambutol. Contrary to the UK no infection control measures were in place meaning the patient was managed in a ward with 30+ patients. This posed a hazard to the health of others however was unavoidable due to a lack of private rooms.

The provision of safe health care requires doctors to wear appropriate personal protective equipment (PPE). Protection from blood borne viruses (BBV) requires an apron, gloves, and eye wear. A potential BBV exposure could be from a needle stick injury or bodily fluid splash. After the incident the exposed body part must be washed with soap under running water, treated with an antiseptic and wrapped in a clean dressing. A HIV test was then taken from the patient and if positive the medical staff was commenced on a one month course of post-exposure prophylaxis (PEP). I did not suffer a needlestick injury when in Tygerberg however a few of my international colleagues did. Yet, the risk of HIV transmission from a needlestick when the recipient takes PEP is negligible.

Personal protective equipment against TB involves wearing a protective mask. This is important as TB can survive for extended periods in the air and on various surfaces. For instance, 28% of tuberculosis bacteria remain alive in a room after 9 hours. Yet, despite these facts PPE was rarely worn by healthcare workers in Tygerberg. The status quo was maintained by the consultants not wearing TB masks. As a medical student from a low risk area I did not want to take this chance so always wore protective masks. The lack of enforcement of occupational health protocols potentially makes the TB problem worse as healthcare workers could act as a vector spreading the virus amongst the patient population.

To gain exposure to the common presentations in the trauma department

Trauma accounts for 1.7 times the cumulative mortality from malaria, tuberculosis and HIV. In Tygerberg, trauma presentations were predominantly penetrating injuries like gunshot wounds and stabbings. These almost exclusively occurred in young men, many of whom were heavily involved in gang crime. The most memorable admission I witnessed was a patient with extensive chest trauma who underwent an emergency thoracotomy. This procedure was done to to control a haemorrhage caused by penetrating injuries. This procedure is relatively common in South Africa due to the frequency of penetrating chest trauma. It involves an incision into the 5th intercostal space, division of the pleura and intercostal muscles then rib retraction to allow thorax visualisation. Sadly, the patient died which is a common outcome as the majority of patients undergoing the procedure do not survive.

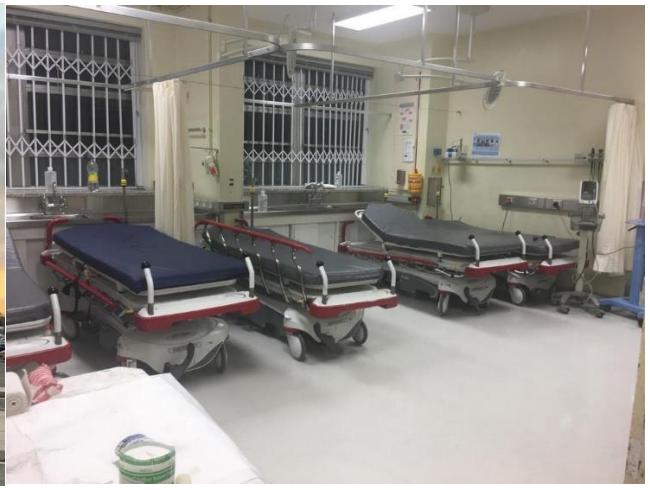
The payday weekend was the most eye opening experience in the trauma department. It is well known that when the locals are paid they drink substantial quantities of alcohol resulting in lots of crime. This leads to the trauma department being inundated with admissions throughout the weekend. Due to the sheer number of admissions, patients with potentially life threatening injuries had to wait hours before they could be assessed. The beds situation would become hectic with as many patients as possible squeezed in. Patients with serious injuries were even treated on metal chairs. This would never be tolerated in the UK and again stressed how lucky we are in being able to provide a good standard of care within the NHS.

To gain an understanding of the social factors underpinning South Africa's high crime rate

One of the most emotive experiences I had whilst in South Africa was learning how the country became so violent. Many of the country's problems stem from Apartheid which was a system of racial segregation existing from 1948 until 1994. The white minority benefitted from the repression of black, Asian and other non-Caucasian ethnicities. Whole communities were evicted from Cape Town by the government and placed into 'townships' outside the city. Mixed race families were often separated and placed in

	different areas based on their skin colour. The area where the majority of individuals were relocated to is called the Cape Flats and remains one of the most dangerous parts of the world. The poverty and tensions inflicted by Apartheid led to the development of a violent gang culture. This is not helped by the government's lack of investment in the area. Whilst I was in Cape Town the violence in the flats reached a crux with the army being sent in due to the daily murder rate reaching double digits. Overall, Apartheid's impact on the country was deeply saddening to learn about with the continued violence acting as a reminder of the country's troubled past.
Evaluation *How has this scholarship/award impacted on your clinical/NHS practice or equivalent?*	As mentioned, my elective in South Africa was one of my major highlights of medical school. I was able to experience healthcare in a resource poor country whilst appreciating the facilities we have in the NHS. During my placement, I developed many core skills required as a junior doctor including clerking patients, clinical skills and deciding management plans. The placement also exposed me to diseases and procedures that are less common in the UK. I will look back on my elective with fond memories. I would like to thank the Royal College of Physicians and Surgeons of Glasgow for awarding me this bursary in support of my medical elective. Without this funding this elective would not have become a reality. I would also like to thank everyone I worked alongside at Tygerberg hospital who helped to make my elective so memorable.

SECTION 3 | IMAGES




RESUSCITATION
THEATRE STORE
THEATRES






A: Tygerberg Hospital

B: Trauma ward

C: Me standing outside Tygerberg

D: Entrance to theatres

E: Tygerberg Hospital

F: Bo Kaap Cape Town

G: Rhino Kruger NP

H: Lion Kruger NP

I: Garden Route

J: Elephants Kruger NP

Breakdown of expenditures *Please demonstrate how the scholarship/award funding was used to support your project/visit*	£700 - Flights £400 - Accomodation £600 - spending money

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.*