

## **ELECTIVE (SSC5c) REPORT (1200 words)**

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

**1. What are the prevalent cardiological and dermatological conditions in Brazil? How do they differ from the UK?**

The cardiological conditions that we encountered in Brazil were similar to those encountered in the UK. Coronary heart disease being the primary cardiovascular pathology that we encountered. The mortality associated with cardiovascular disease is approximately 35% in Brazil, compared to the UK, which has an estimated 25% of total deaths attributed to cardiovascular disease. The patients that we encountered presented with long standing risk factors for cardiovascular disease that were poorly controlled. Due to the primarily private provision of healthcare the Brazilian population that are of a lower socioeconomic class are unable to afford to see a doctor regularly to monitor longstanding cardiovascular risk factors. This results in poor control of preexisting conditions and delayed diagnosis of new risk factors. Education of the rural population that is traditionally of a lower socioeconomic class is poor, with high levels of illiteracy and especially poor health education. The Brazilian state of Rio Grande Do Sul that we were based has a high production of tobacco crops, and consequently a high level of smoking in the rural population. This population appeared to be unaware of the dangers of smoking, especially naïve to the associations with heart disease. The second observation that we observed during our project is the poor diet that is prevalent in Brazil. There is a high proportion of fast food and processed food stuffs. Also the primary food source is heavily salted red meat. During our cardiological consultations we noticed that there was a very high proportion of patients in the rural community had hypertension, and that young patients were included in this group.

The dermatological conditions that we encountered during the project were similar to the conditions that we encounter in the UK, however at a greater severity at presentation. This is probably due to the fact that the state we were placed in is in southern Brazil and is of a less tropical climate than the northern states, therefore tropical communicable diseases are rare in the state. Rio Grande Do Sul has a very large population of people of German descent due to mass migration during the early 20<sup>th</sup> century. Therefore in the farming communities, where we were based there is high levels of sun damaged skin, with many patients having type 1 or 2 skin. We therefore encountered several malignant looking skin lesions at an advanced stage. This is presumably due to poor education of the population to the dangers of prolonged sun exposure.

**2. How are cardiology and dermatology services organised and delivered in Brazil? How does it differ from the UK?**

The health systems of Brazil and the UK differ greatly. The Brazilian system is majorly privately focused. There is public funding and the government claims that 50% of Brazilian health care is publicly funded, however from our experience the definition of public funding vastly differs from the UK definition. There are massive health inequalities within Brazil. There are geographical inequalities and socioeconomic inequalities. The vast geographical area of Brazil results in most quality health care being situated within the major cities, with the poor rural communities being unable to attract quality physicians due to the private nature of the health care system. This results in a lack of physicians in the rural areas, where the poorest people live and thus cannot afford doctors and consequently doctors cannot make a worthwhile wage. Even within the cities there is inequality of

health care quality. In the Porto Alegre hospital that we were located there were different floors for different class of patients. The top floor was for private cash paying patients, which had hotel quality accommodation and the finest quality medical equipment. These patients were seen by the consultants. The middle floors were for the private medical insurance patients, who were treated in slightly less luxurious surroundings and treated by the resident trainee doctors. The ground floor was for the public patients, who are treated by the medical students with supervision from junior trainees. The government provides a limited range of pharmacological treatments and we were told by one of the consultants that the public patients are kept in relative discomfort to discourage them from using this particular hospital due to the costs incurred by treating public patients, which does not match the government spending. From being trained in the NHS culture, we found this prospect of money based medicine rather than evidence based medicine a challenging concept when observing the management of the different class of patients.

**3. Assess benefits and disadvantages of telemedicine as a tool to provide medical health care to remote populations in developing countries.**

Telemedicine is not a cost effective tool in the UK. This has been shown due to the small geographical area and the wide access to good public health care. However, in Brazil, due to the huge geographical distances and associated health inequalities, telemedicine has been shown to be an effective tool in treating patients in remote areas. The clear advantage is that the populations in these remote communities would never otherwise have access to quality healthcare without the provision of telemedicine. Telemedicine is cost effective due to the fact that it allows health technicians or junior physicians to see patients and relay their findings to a tertiary centre for senior review and implementation of a management plan. Our experience within these remote communities certainly supported this view due to the fact that we were encountering patients in advanced stages of disease that would otherwise would not have been diagnosed or treated. Therefore highlighting the clear benefit of this system in a developing nation such as Brazil. However, there are several disadvantages that we could see from this system. The quality of the technician or junior doctor is vitally important to acquire the relevant information to send back for senior review. There were a few situations that we encountered where, junior members of our Brazillian team missed vital information from their history of a patient that we had to rectify before sending the information to the consultants. Also the time frame from first presentation with the telemedicine team and the provision of treatment by the local health unit is variable and totally dependent on the organisation of several different teams spread over a vast distance, which is prone to error. Especially in a developing nation with poor communication technology.

**4. Develop skills in:**

**-Clerking patients with the use of an interpreter:** The rural communities that we were placed did not have one patient that spoke any English and we exclusively used an interpreter to take communicate with the patient and take a history. This was a challenge that required short, well structured questions that the interpreter could understand while maintaining a relationship with the patient. This skill improved with prolonged practice.

**-Utilising diagnostic tools i.e. ECG and digital photography equipment:** The project allowed for us to take over 40 ECGs of patients in rural communities and over 50 dermatological images using photography equipment that was specialised for telemedicine purposes that we were trained on before the start of the project.

**-Telemedicine technology: Received extensive training on all the telemedicine equipment and computer technology.**

**-Interpreting ECGs: Analysed and reported to a consultant cardiologist via telemedicine technology on over 40 ECGs during our project**

**-Diagnosing dermatological and cardiological conditions (tropical and conditions found in UK): Analysed over 50 dermatological conditions, sent images, described and sent differential diagnoses to consultant dermatologist via telemedicine technology.**

**-Working as part of MDT: Worked with a team of Brazilian 2<sup>nd</sup> year medical students, Nurses and non medical translators to successfully run clinics in remote communities to send telemedicine data to specialist consultants in tertiary centres in the state capital of Porto Alegre.**