ELECTIVE (SSC5b) REPORT (1200 words)

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

Cairns is a city in far north Queensland, Australia, with a tropical climate and access to the Great Barrier Reef, so is a popular destination for tourists. Throughout my 6-week experience I came across many of the same chronic health conditions as in the UK with diabetes, renal and heart disease in particular putting a large burden on health services.

A large proportion of admissions to ED/MAU that I witnessed were for heart failure and COPD, with frequent comorbidities such as diabetes and co-existing rheumatological and dermatological disease. The MAU was set up to provide a high turnover of patients with an ideal length of stay less than 3 days, and I saw this working effectively on multiple occasions and for a variety of conditions and severity of morbidity. For example an elderly vasculopathic aboriginal lady with poorly-controlled diabetes was able to be transferred to ICU quickly, and equally as effectively a 35-year old man with pericarditis was able to have an echocardiogram as an outpatient rather than staying unnecessarily. 'Hot' clinics a few days later, run by MAU consultants, provide effective follow-up for patients. These I felt were sensible adaptations to the burden of chronic disease in a developed part of the world, but there were other chronic (and acute) conditions in Cairns which were perhaps as a result of factors not found elsewhere. Dermatological conditions were clear in most older patients, with significant sun damage and multiple actinic keratosis amongst others. Cellulitis of the limbs appeared more frequently anecdotally in comparison to London hospitals, as did other Staphylococcal infections including infective endocarditis. I found that many patients presenting for other ailments had significant chronic rheumatological disease, often in more advanced stages than in the UK. The clearest example is that of gout, and I saw multiple patients with tophaceous gout on their hands and feet which I have not seen in the UK, perhaps due to the later presentation of disease or a reflection of poorer diet/alcohol consumption. The tropical climate also lends itself to other conditions which, from the UK, I had only considered in patients returning from abroad. It was quite an eye-opener to see leptospirosis, Q fever, or even mosquito-vector diseases such as Dengue high up on differential diagnoses! Cairns hospital is the tertiary tropical referral centre for Queensland and I chose to shadow some infectious disease ward rounds, giving me further insight into the range of conditions. Tick-borne diseases are seen in returning travellers from Papua New Guinea as I saw in a missionary with likely Rickettsia in ICU. When the wet climate is combined with the poorer populations and other risk factors such as smoking, alcohol and diabetes, opportunistic infections such as melioidosis surface (1). This is a rare condition hardly heard of in the UK and unfortunately sensitive to few mainstream antibiotics (meropenem, ceftazidine), providing another challenge for doctors and one often unseen until too late to treat, especially in different cultural populations such as the native Aboriginals.

These cultural variations within Australia are a huge economic, political and healthcare issue and the gap in socioeconomic class in Cairns is unfortunately clear between Aboriginal/Torres Strait Islanders (ATSI) and others. Approximately 10% of the population of Cairns are ATSI (2) and this is addressed very clearly in and around Cairns hospital; one cannot walk through the hospital without seeing signs publicising the need to ask about ATSI heritage, and the sensitivities surrounding the heritage pervade to this day as I experienced when talking to a patient in ED angrily questioning the relevance of her heritage. The large presence of alcohol dependence within the Aboriginal population along with their poorer standard of living compared to other Australians unsurprisingly makes them more at risk of

many chronic conditions, in a similar way to the immigrant population of East London. Poorer education in the native communities also leads to poorer management of chronic conditions such as diabetes, which I saw when in the Wuchopperen clinic in South Cairns as well as when travelling to Hope Vale clinic. For instance in a 23-year old man with poorly-controlled type 2 diabetes not taking his insulin and already showing signs of microvascular complications. This was not unusual, and the ATSI population are more likely to be overweight/obese, have high blood pressure and high cholesterol, and to smoke (3). The Hope Vale clinic in particular was a fascinating experience, demanding an open-minded holistic approach from general physicians to successfully treat the range of conditions in such a community, such as MRSA boils being passed between family members and discussion of HIV infection, still hugely stigmatised in isolated communities when compared to London and other cities.

However, the incidence in ATSI populations cannot be put down to education entirely and there are other factors than social determinants of health such as intrauterine exposures and possible genetic predisposition (4) to diabetes. In some ways I find this parallels the East London population in that divisions of disease prevalence due to ethnicity (e.g. predisposition of Indian sub-continent descent for diabetes), make for unique pressures on primary care not found elsewhere in the rest of the country. This can make it challenging for an individual in a minority population as they often feel they can't access a GP for drugs or educational services, complicated further here by the delicate cultural relationships between the Aboriginal and Caucasian populations, whereas in the UK language is often the barrier. Alcohol is a large drain on resources in Cairns, with excess alcohol consumption in Queensland at 26% (5), higher than the national average, and I saw many patients on an alcohol withdrawal scale, with many of ATSI heritage. Many of these patients then self-discharge or have no desire to engage with rehab in the community, and so the hospital physicians are left with no choice but to simply treat their presenting medical problem. This is where the importance of the outreach and community clinics, attended by not just GPs but also endocrinologists and general physicians, makes a difference both to the individual and from a public health point of view.

In Australia there are many anti-obesity government campaigns and advertising to encourage a healthy diet and a good exercise regime, yet Queensland obesity levels are 10% higher than the rest of Australia, which itself has 63% overweight or obese. Primary prevention strategies are similar to the UK such as smoking cessation and education about chronic conditions such as diabetes, and the Centre for Chronic Disease Prevention (6) exists in Queensland to try to help minimise the impact of chronic disease on the community. Compliance in the ATSI community I saw in Hope Vale, most notably in diabetes, taught me a lot about the choice of treatment depending on social factors. For example, exenatide is used a lot more freely in Queensland compared to my UK experience, partly due to its efficacy as an appetite suppressant but also due to its ease of monitoring and ensuring compliance in comparison to complex insulin regimes.

I was lucky enough to see a variety of chronic rheumatological and endocrinological conditions and had a wonderful experience meeting different teams within the hospital and in the community. I feel that this has helped me immeasurably and as I start practising in the UK, and would love the opportunity to return during my career.

1. Stewart, J et al; The epidemiology and clinical features of melioidosis in Far North Queensland: Implications for patient management; PLOS Neglected Tropical Diseases, 2017. DOI: 10.1371/journal.pntd.0005411

2. Australian Bureau of Statistics, Cairns Census 2011 http://stat.abs.gov.au/itt/r.jsp?RegionSummary&region=306&dataset=ABS_REGIONAL_ASGS&geoconcept=REGION&datasetASGS=ABS_REGIONAL_ASGS&datasetLGA=ABS_NRP9_LGA&regionLGA=REGION&regionASGS=REGION

3. Burrow S, Ride K Review of diabetes among Aboriginal and Torres Strait Islander people. Australian Indigenous Health, InfoNet 2016, http://www.healthinfonet.ecu.edu.au/chronic-conditions/diabetes/reviews/our-review

4. Azzopardi P et al, Type 2 diabetes in young Indigenous Australians in rural and remote areas: diagnosis, screening, management and prevention; Med J Aust 2012; 197 (1): 32-36.

5. The Health of Queenslanders 2014, Chief Health Officer Queensland, https://www.health.qld.gov.au/__data/assets/pdf_file/0024/444156/cho-appendix-cairns-and-hinterland.pdf

6. Centre for Chronic Disease Prevention, http://www.ccdp.jcu.edu.au/