1. Describe the pattern of major trauma incidents in Australia and globally, and how trauma systems are adapted to optimise response

Worldwide, trauma is the third biggest cause of mortality. It is seen as an important cause of morbidity and mortality, as the affected population tend to be young people, with few other co-morbidities, who have active economic and social roles in their communities.

Like the UK, Australia is a more developed country. As such, the patterns of trauma in the two countries are alike. During my time in the Royal Melbourne Hospital (RMH), I observed trauma cases arising from a variety of common mechanisms: road traffic collisions, falls, self-harm, and assault. In developed countries, there tend to be fewer traumatic accidents which occur as a consequence of poor governance and regulation, such as unexpected building collapse. Natural disasters leading to traumatic injury (such as earthquakes) are relatively uncommon in Australia.

Similarly to the United Kingdom, Australia has chosen to pool trauma resources in 'Major Trauma Centres' (MTCs). Within Melbourne, there are two MTCs. Even here, there is an element of sub-specialisation - for example, RMH specialises in pregnant trauma due to its proximity to the Royal Women's Hospital.

MTCs must contain certain basic facilities - for example, an operating theatre which can be cleared for use at extremely short notice. MTCs also ensure that an appropriate skill level is maintained in staff, by aggregating rarer cases into fewer hospitals, and by providing training and audit opportunities to the staff.

However, the critical function of the MTC is to implement major trauma pathways which ensure that necessary interventions can be carried out in a timely fashion. These pathways begin before the patient even reaches the hospital - a trauma alert or trauma call is put in to the MTC by the approaching ambulance. Thus, by the time the patient reaches the hospital, a team consisting of doctors, surgeons, nurses, and porters are gathered to meet the patient in a specially equipped trauma bay in the Emergency Department (ED).

In the ED, the team's behaviour is highly protocol driven to ensure that the patient can pass through the ED and onto appropriate definitive care in the minimum possible time. The role of the ED is to stabilise the patient, to obtain the appropriate initial history, examination and investigations, to select the most appropriate specialty for the patient's ongoing management, and to refer the patient clearly and effectively to that specialty.

2. How is the health service in Australia organised and delivered? How does this differ from the NHS?

Like the UK, the healthcare system in Australia is divided into public and private sectors. However, in Australia, the private sector plays a considerably larger role in healthcare provision - around 50% of Australians hold a private healthcare insurance policy.

However, working within the ED, this split between public and private healthcare is only minimally apparent, affecting only where the patients are transferred to after their initial management. Like the NHS, emergency medical care in Australia is free at the point of

delivery to all who need it. This means that the atmosphere in the ED is similar to that of an Accident and Emergency (A&E) department in the United Kingdom.

In fact, EDs in Australia have recently adopted the '4-hour rule', whereby a patient should be admitted, transferred or discharged within 4 hours of first presentation at the ED. This rule was implemented in the United Kingdom to try and minimise length of stay in the A&E department.

Ironically, as the 4-hour target is becoming more widely implemented in Australia, it is facing heavy criticism in the UK. Accusations levelled include promoting a culture which is target focussed, rather than patient focussed; and encouraging poor practice (such as making inappropriate referrals) in order to achieve the targets and their accompanying financial rewards.

In my opinion, the staff at the RMH have a very healthy attitude towards the 4-hour rule. I felt that the rule ensured that staff were considering onward care and placement from an early stage, but that this was not over-emphasised, and that the clinical needs of the patient always came first.

In terms of healthcare governance, Australian hospitals receive input from the local health board (in this case, Melbourne health), the state, and the national government. This means that whilst there is an underlying national coherence, there are also relative degrees of freedom, and differences in practice and policy may be observed between different public hospitals.

3. Discuss the long term consequences of being involved in a major trauma incident, both physical and mental

The scope of this topic is enormous, and could easily fill the word count of this essay by itself, so I will try and reflect on some of the potential consequences of a trauma I witnessed whilst working in the RMH - a Road Traffic Collision (RTC) involving multiple cars.

The patient I observed was found to be bleeding into their abdomen. The long term consequences of the subsequent hypoxia include permanent organ damage, potentially to all major organ systems. Localised scarring atthe site of injury will cause reduced functionality of the affected tissues.

These problems can all result in severe long term disability and high level long term healthcare needs.

Common mental health issues following RTCs mental health issues such as depression, anxiety and Post Traumatic Stress Disorder (PTSD). These problems may be compounded by perceiving oneself to be at fault, or if the consequences of the accident were extremely grave.

4. Reflect on your placement at the Royal Melbourne Hospital, and what you have learned that you can carry forward into your F1 year.

I am glad that I chose to complete my elective in A&E/trauma. I feel that this experience has provided me with the opportunity to consolidate my learning regarding the initial

presentation and management of a wide variety of different conditions. Going into my F1 year, I feel more confident that I would be able to begin appropriate investigation and management of a patient. I hope that my acuity in recognising the very unwell patient has also improved, and that I will be able to escalate the care of such patients appropriately.

I feel reassured that I will be a competent junior doctor, despite being placed in an unfamiliar hospital, in an unfamiliar deanery. Here, I was able to acquaint myself with a new hospital geography, equipment, and administration system within the space of four weeks. I was also able to improve my practical skills, such as cannulation.

My placement has reinforced the importance of having a good working relationship with hospital colleagues. I met many helpful and supportive staff members at the RMH, both administrative and clinical, and they enabled me to have a fulfilling and enjoyable placement.

Overall, I very much enjoyed my time at the Royal Melbourne Hospital, and I hope that I will be able to use my experiences here to inform and improve my clinical practice.