

ELECTIVE (SSC5b) REPORT (1200 words)

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

I was fortunate enough to have the opportunity to undertake a four-week elective placement at Essex and Herts Air Ambulance (EHAAT), a life-saving charity for the critically ill and injured of Essex, Hertfordshire and surrounding areas. During this period of time I shadowed the teams on shift, which comprised of a doctor, paramedic, pilot and co-pilot, and observed them on their missions to attend to patients in the prehospital setting. I was also able to observe Death and Disability meetings, Clinical Governance Days and undertake my own research project with EHAAT that was presented in a meeting in my last week. For the purposes of this report I have chosen a few highlights of my elective to discuss in the context of the objectives I set out prior to this placement.

1. Describe the pattern of prehospital medicine emergencies and trauma in Essex and Herts and discuss this in the context of emergency medicine as a whole

Having had experience in the past working with prehospital services in London, what interested me most about the pattern and epidemiology of patients that are attended to by EHAAT were the differences. For example, EHAAT is not just a trauma service like some other HEMS, but also attends to medical cases and as a result a significant proportion of their patients include medical cardiac arrests and thrombotic events. In addition, EHAAT covers a much larger area and population compared with London, requiring two helicopters and teams, and as a result paramedics at the control centre desk monitor thousands of 999 calls a day to identify patients that EHAAT need to attend. In the context of trauma, road traffic accidents usually occur at a much higher speed with therefore more significant injuries, but on the other hand there are less person under train incidents. In terms of emergency medicine as a whole, EHAAT patients clearly represent a very small subgroup of critically ill patients compared to the demographic of patients seen in the average Emergency Department. However I feel that as EHAAT also attend to medical patients, it is more representative of the range and variety in patients that are seen in a resus department.

2. Describe the provision of Helicopter Emergency Medicine Services in England and contrast this with other countries

The first air ambulance in the UK flew on the 1st January 1987 in Cornwall, shortly followed by London's Air Ambulance on the 1st January 1989. Nowadays there are more than 30 air ambulances flying nearly 20,000 missions every year. Air ambulances in the UK are mainly charity run, generating over £45 million a year through donations from the public and sponsorship. Air ambulances are constantly expanding across the UK and prehospital medicine has become an emerging subspecialty of Emergency Medicine in its own right. Internationally however, air medical services have been established for much longer, usually in countries where people live remotely or the landscape makes towns and cities inaccessible by roads. In the 1920s air ambulance services were set up in Sweden, Thailand and Australia. Australia's Royal Flying Doctor Service still operates to this day. Air ambulance services were established in Morocco and Scotland in the 1930s. The concept of the first air ambulances however were established in the military around 1870 using balloons as an evacuation

method during the Siege of Paris, and again the concept was experimented with in the First World War. Across the world, different models for these services exist, such as government operated (the case in Poland and Scotland), shared ambulances (e.g. in New South Wales, Australia a local hydroelectric utility helicopter is used as an air ambulance when not needed, and in Los Angeles, US, the County Fire Department helicopter is also equipped as an air ambulance), fee for service (such as in Switzerland) and donated by business (e.g. Germany, Netherlands, Australia and New Zealand).

3. Discuss the role of prehospital care providers in the advancement of public health in the UK

Prehospital care providers have a unique insight into the process of disease and trauma and as a result have the potential to play a massive role in the advancement of public health in the UK. From a charity standpoint, HEMS are constantly advertising and engaging with the public and therefore at the same time are pushing forward key public health issues such as the introduction of AEDs in public places, and general road safety awareness. During my elective placement I had the opportunity to be part of the team trialling a free education session on CPR and basic life support (BLS) to schoolchildren run by EHAAT. We went into two different schools and ran the session for two classes, one group aged 6-7 and one aged 17-18, showing them how to perform BLS using the Resus Council lifesavers app. Programmes like these are critical in saving lives prehospitally as prompt, effective bystander CPR gives cardiac arrest patients the best possible outcomes, as shown by Seattle's outstanding survival outcomes for out of hospital cardiac arrest patients. In addition the research that prehospital teams are able to undertake lead to new advancements in clinical interventions and care that improve outcomes, such as REBOA and ECMO. I was able to appreciate this during my elective from not only attending weekly journal paper presentations at the air bases but also undertaking my own research project, which will be presented in the upcoming EHAAT aeromedical conference 2017.

4. Reflect on the development in both clinical skills and crisis resource management (CRM) skills that have been made during this elective, and how this will impact on future work

Throughout this four-week elective placement I have been involved in patient care where I have observed examples of excellent clinical and CRM skills and as a result have also been able to develop my own. One of the first cases that I went to was a 65 year-old male who had collapsed whilst rambling and gone into cardiac arrest. It was the first prehospital cardiac arrest scene that I had been to, with multiple crews, a difficult terrain and many members of the public witnessing. However the team remained calm throughout the situation, with the paramedic at the airway even offering to teach one of the crew paramedics how to intubate. I admired that despite the scene she was not task fixated, was able to include all the team members on scene and even identify the situation as a teaching opportunity without compromising patient care. Following from this, it is important to me that I not only take away from this elective all the specific clinical knowledge and practical skills that I have learnt from the team, but also from now on to make a conscious effort in each experience I have managing a patient to be aware of my surroundings, try not to let emotions or stress take up bandwidth and use the situation, no matter how urgent or difficult I may think it is, to always keep learning and improving and if in a position to do so, encourage others to also learn at the same time.

In conclusion I have had an extremely educational and enjoyable four-week prehospital elective placement within a busy Helicopter Emergency Medical Service. I have had the opportunity to really integrate myself within the teams and experience patient care and management from their point of view. It has been a privilege to watch them work and to have an insight in to how clinical decisions are made. I have gained invaluable experience in checking and handling prehospital kit, including drugs, and improved my communication skills with other emergency services. Overall this has developed my interest even further in the field of prehospital and emergency medicine and I hope to one day build upon these experiences to pursue a career in these fields.