

ELECTIVE (SSC5b) REPORT (1200 words)

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

With the Royal London Hospital (RLH) being a major trauma centre and the home of London's air ambulance, it may not necessarily be the frequency of trauma patients, but certainly the severity and types of injuries that differ from non-major trauma centres. During my time, I was able to observe the initial management of a range of patients brought to the RLH after trauma, which included patients brought in by ambulance by road, but also patients brought in by air, including severely injured patients who have already been intubated at scene. I was able to observe the sequence of patients being treated, from initial primary survey and stabilisation of patients, to imaging, to definite treatment.

While Emergency Medicine (EM) is a firmly rooted specialty in the UK, this is not the case for all countries in the EU. EM is a primary specialty in only three fifths of EU countries, while others only recognise EM as a subspecialty of other disciplines such as anaesthesia, internal medicine, surgery or trauma (Totten and Bellou, 2013). Traditionally there have been two dominant models for EM the Anglo-American and the Franco German models. The main difference between the two models is where care is delivered– pre-hospital i.e. the doctor comes to the patient, or hospital, the patient comes to the doctor (Totten and Bellou, 2013). However, it seems the lines between these two contrasting systems are blurring. Germany for example has a long tradition of pre-hospital care, where emergency physicians attend to patients at the scene, and provide specialised care and interventions. Traditionally, the patient was referred directly to the relevant specialty department (Bey et al. 2008). Whereas previously, different disciplines such as surgery, trauma, internal medicine or gynaecology among others had their own specialised emergency departments, many German hospitals have over the last two decades established centralised emergency departments, as has long been the case in countries following the Anglo-American model of EM (Bey et al. 2008). On the other hand, pre-hospital care in the UK is a relatively new but rapidly emerging subspecialty of EM, following the recognition of the value of delivering emergency care and life-saving interventions on scene, especially in cases of severe trauma.

In addition to emergency and trauma care and its delivery in different countries in Europe, I was interested in the safety of cycling in London and the UK, and how public health initiatives in the UK to improve cycling safety compare to public health initiatives in other European countries.

Cycling injuries of all severities from minor to life-threatening and life-changing were treated at the RLH during my elective, and I was able to observe the care of a range of patients. There is also an observational study currently running at the Royal London Hospital called “Bespoke”, analysing the types and patterns of injuries sustained by cyclists presenting to RLH in order to collect data which may give some insight into ways cycling safety can be improved in London.

Despite having significant health benefits, from improved cardiovascular health to reduced incidence of cancers and lower all cause mortality, as recently shown by a study by Celis-Morales and colleagues (Celis-Morales et al. 2017), fears in relation to road safety deter many people from cycling, especially in traffic-rich cities such as London.

The latest statistical release by the Department of Transport (DoT) reports that in 2015 there were 100 cycling fatalities in the UK, with 9 of these deaths having occurred in Greater London. In addition, 3,237 cyclists were seriously injured and 15,508 slightly injured in 2015. While, the number of fatalities in 2015 represent a 12% drop from the previous year, and overall the number of casualties of all severities fell in 2015 compared to the previous year, this statistic may be falsely reassuring. The number of seriously casualties recorded in 2015 is still the second highest number since 1997, and the DoT indicates in its report that 2015 was on average a colder year than 2014, which may have led to a reduced level of cycling traffic, and with this, lower number of casualties.

Overall, the UK has a poorer performance record in terms of road safety compared to other European countries. In particular, Dutch and German policies have led to safer road conditions in these countries. For example, both the Netherlands and Germany have invested in extensive cycling networks covering practical destinations as well as recreational routes. Moreover, both the Netherlands and Germany have created “bicycle streets” where cyclists have right of way over cars, as well as traffic lights for cyclists giving advanced green lights to cyclists, to reduce the accident rate of motorised vehicles versus cyclists at junctions and traffic lights. In addition, urban planning in both the Netherlands and Germany is very pedestrian and cyclist oriented, implementing many car-free zones and strict speed limits, for example a maximum of 30 km/h or less in residential areas (Pucher 2013).

London has seen some improvement in cycling infrastructure, for example new Cycle Super Highways have been built under London Mayor Boris Johnson. However, despite growing number of cyclists on London’s roads, London has still a long way to go in not only raising awareness of cycling safety among motorists, including HGVs which are involved in many fatal collisions with both cyclists and pedestrians, but also making London’s roads safer for cyclists.

Mayor Sadiq Khan announced that he aims to have all dangerous HGVs removed from London’s roads by 2020, but many argue that this should happen much sooner, given that HGV collisions now account for half of all London’s fatal cycling accidents.

For Londoners, it’s not only road safety that’s concerning, air pollution comes high on the list of deterrents to cycling. This year for example, London has reached its air pollution limit for the whole year on the 5th of January. This is a significant public health concern, not only for people with respiratory conditions, but also the wider public, given the recently proposed link between living in close proximity to a major traffic road and the incidence of dementia, especially for people living in major cities (Chen et al. 2017). While London’s mayor has now made air quality a top priority for London and has increased annual funding to tackle the problem, as well as plans to ban all Diesel vehicles, which are largely responsible for the high levels of air pollution from London’s inner city roads, it is likely that any measures to improve air quality will take a few years to take effect.

Another objective for my elective was to familiarise myself with the use of ultrasound in the ED, which was my main learning point during this placement. Having, maybe naively, associated the use of ultrasound in the emergency department purely with trauma, I came to the realisation that ultrasound is useful beyond its well-established use in trauma. While the FAST (Focused Assessment with Sonography for Trauma) scan is useful to rule out internal bleeding or assess the source of bleeding in unstable patients, during my time at the RLH I have observed the use of ultrasound being used to successfully investigate non-trauma patients. For example, I was able to observe the use of

ultrasound to establish cardiac function, investigate suspected gallstones, or assess patients with suspected urinary retention.

While there are stark differences in the way emergency care is being delivered in different European countries, we can certainly learn from looking at the benefits of healthcare delivery in different systems, and use an evidence-based approach to optimise EM in the UK and the rest of Europe.

References:

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Chen H, Kwong JC, Copes R, Tu K, Villeneuve PJ, van Donkelaar A, et al. Living near major roads and the incidence of dementia, Parkinson's disease, and multiple sclerosis: a population-based cohort study. *Lancet.* 2017;389(10070):718-26.

Pucher J, Dijkstra L. Promoting safe walking and cycling to improve public health: lessons from The Netherlands and Germany. *Am J Public Health.* 2003;93(9):1509-16.

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