ELECTIVE (SSC5c) REPORT (1200 words)

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

1) Describe the pattern of disease/illness of interest in the population with which you will be working and discuss this in the context of global health.

What are the current challenges facing Medical Education, in the UK and globally, and how can Innovation solve some of these issues? Describe the approaches and technical issues involved.

As a student who has studied abroad in the middle-east for a substantial amount of time, I know full well that there is a great discrepancy between the level of resources and research opportunities found in the UK as opposed to those in the gulf and arabian states. The difficulties arise because of the health education protocol in most of these countries are constantly changing, as well as there being a very limited training program due to the sparse level of hands-on experience that is available to those students and medical and surgical trainees. Having spoken to many of my colleagues and friends from Jordan and Saudi Arabia, the same theme and difficulties were mentioned, and that was the lack of hands on surgical training and experience. So I set out with my team at RLH to look at what available technologies and methods we could use to deliver quality education to a worldwide audience and make it as immersive as we possibly could. Knowing the difficulties of delivering a virtual experience that can as beneficial if not more than the status quo would inevitably be very difficult however the team I was working with were very well versed and experienced in this field of study, having broadcast live surgies around the world using only a prototype google glass. There were several approaches that we decided we could look into, One was trying to making a 3-dimensional space where future surgical trainees could roam and view a surgical procedure wearing a Virtual Reality headset. Enabling them to see all aspects of the procedure several times if need be and from different angles. This would be accomplished by using 5 high definition cameras that are set up onto a custom made rig to be able to capture all the video angles before having to be rendered by a computer into one 360 degree video. We also believed it would be beneficial from the patient perspective to be able to be immersed in a similar experience so that they are able to understand what happens prior to surgery what kind of checks are needed and how consent is obtained. The second project that I was more involved in was to develop case scenarios from the point of entry to the GP or the Hospital until the end of recovery. The best way we felt to approach this was to use simulated patients where they would describe their symptoms systematically and we would show how they would progess with time, for example on initial presentation of an appendicitis the patient would initially have mild central abdominal pain and then progress over time with extreme pain in the RIF with associated nausea and vomiting. During each scenario we had several sub-sections where the prospective student or user could be tested on their knowledge with relative explanations of each answer. We believed that testing the student at each stage of a specific scenario would consolidate the students learning in a way that is most akin to a hospital environment. There were a few difficulties that I encountered initially having had difficulty using the software needed to be able deliver these scenarios as it required a steep learning curve, however thankfully with help from one of the experienced members of the team, it proved to be very possible. This is important because whatever technology we decided to use had to be tried and tested, and easy to use and most importantly inexpensive, and using the platform moodle which is used in several learning environments in the UK, could be easily implemented anywhere in a world with an internet

connection. The final project and application that we were looking into was how we could use the google glass in different applications where we could use its mobility and ease of use to our advantage. We felt that simulated emergency scenarios would be very beneficial on a global scale, especially as the Royal London Hospital is one of the leading trauma centres in the UK, and being able to share the resources of this world class institution to the rest of the world would be invaluable to the highest degree. However due to time constraints as well as other difficulties such as feasibility this was highlighted as a future potential scenario where this technology could be used to benefit the wider public both internally and externally.

2) Describe the pattern of health provision in relation to the country which you will be working and contrast this with other countries, or with the UK

What are the major educational themes of Medical Education in the UK? How does this differ to those of other countries? Describe the overall impact of such differences.

The main medical themes that we come across in the UK centre around, practical skills, communication skills, examination skills and theoretical knowledge. We have many years of hands on clinical experience where it is drilled into us the importance of the aseptic non-touch technique, as well as guidelines associated with different diseases and the management of said diseases. We are also lucky to have a very immersive surgical experience where we can scrub up with and assisst in surgical procedures seeing first hand how the surgery takes place and how it affects the patients. We also have a very well established primary care system where general practitioners are better trained than most countries in the world. This all affects the end product which is quality and availability of care to the patient. However in many countries this level of training and education is not feasible. As I am more well versed in the health system in the middle east I will draw comparisons to that. Having spoken to several family members and friends who have gone through the jordanian medical system, they told me consistently that theoretical knowledge is to a high standard and is widely available because they used the same reading resources as the British and American Health systems, however they lack in clinical experience. They note that this is because of the nature of their health system. It is mostly private and that sense the hospital managers are less likely to let students carry out standard tasks that are required in your medical education training as the patients expect qualified and name doctors to do them for them as they are paying for that privilage. This is especially noted to be present in the surgical system where it will take many more years to gain the same standard of hands on experience that is available here in the UK.

The impact that this causes is two fold. Firstly there is problem at the training level where there is a lot left to be desired, and Second at the care level where due to the business like nature of such health care systems the tests and examinations that they are required to do might not be to the best interest of the patient but contrarily to the expense of said patient.

Discuss the impact innovation has on medical education, and subsequently medical practice and healthcare.

I genuinely believe that innovation in the medical sector could really bridge the gap between the highest level of care in well developed countries and those in less developed ones. The level and speed of availability of content though the internet at a reduced price will be the mode of delivery and hopefully will bring our vast and diverse world within reach of a unified learning environment for all at a reasonable price

I enjoyed my time during this elective, having learned skills that shall prove invaluable for many years to come and I wish my team well and thank them for helping me throughout this elective.