

Elective report

Anika Morjaria

New York Weill Cornell Medical Centre

Objectives

1. Disease demographics - The disease demographic in New York, USA is very much like the UK due to it being an incredibly advanced developed country, more so than the UK. The population therefore suffers from conditions related to them living in a developed country. Most are chronic conditions such as obesity, asthma, cancer, heart disease, etc. Infectious diseases are rare due to the high quality of care, immunisations and low immigrant population, similar to the UK.

2. Health provision in the USA - Healthcare in the USA is privatised and health insurance is provided by many different legal entities. Some are insured by their employer, or by a health insurer and the rest are uninsured i.e. patients are billed for the healthcare they receive, which is either paid by their insurers or by themselves.

3. Health-related objective - I want to see how the privatisation of healthcare in the USA compares to the free NHS in the UK.

4. Personal/professional developmental goals - I would like to learn how the medical teams in the USA interact with each other and if it is any different from the UK. Also I would like to see how far advanced their imaging technology is in the radiology department and if we would benefit from these techniques or protocols.

Elective report - Paediatric radiology/Interventional radiology

The paediatric disease demographic I have seen at Cornell, whilst carrying out my placement included children suffering from conditions due to the child being premature, especially as Cornell is a big neonatal specialist unit. Therefore most of the presenting cases I have seen are related to the infant being premature such as interventricular haemorrhage, respiratory distress syndrome, also other specialist neonatal/paediatric conditions such as malrotation, biliary atresia, etc. Also due to the affluent population surrounding Weill Cornell hospital the conditions in the Paediatric department are mostly congenital abnormalities, surgical and post surgical complications such as appendicitis.

The most interesting cases that I saw during my Paediatric radiology placement included a neonate whose chest X-ray showed a mass in the upper left lobe of the lung, which was initially thought to be thymus but had appeared on the patient's images over 2 days. However, after investigation by both the paediatric radiologists and the paediatricians it was found to be an aneurysm and the infant was immediately taken to surgery for the aneurysm to be clipped. The next interesting case that I saw during my time in Paediatric radiology was a male child who had undergone surgery to correct his scoliosis, however this led to him developing SMA syndrome, which was confirmed on contrast study of his upper GI tract which showed dilatation of his duodenum.

I was taught how to read ultrasounds, especially of the kidneys and what to look for in children who had been shown to have antenatal kidney abnormalities. I was also exposed to a vast number of procedures including video-urethrograms and upper GI tract contrast studies, where I was able to watch and be taught by the residents and attendings who carried out the procedure.

During my time in the paediatric radiology department I was taught that certain procedures and imaging were carried out due to protocols enforced by evidence based medicine, however have now become redundant due to the small numbers of positive findings such as screening all infants who present with a UTI, including both males and females via a video-urethrogram. However in the UK this is not the same procedure and most infant patients are referred for an ultrasound if children present with recurrent UTI's. This shows that many unnecessary studies and tests are ordered for patients who don't really need them compared with the NHS where we don't order enough tests on patients who need them the most.

The privatisation of healthcare in the USA does not have much impact on the care given to the patient, regardless of whether the patient has insurance, they are provided with the highest quality of care. I feel that the UK can learn from the quality of this care, as we are prone to many errors due to using hand-written notes and charts and this can impact the patient's care badly causing serious, maybe even fatal mistakes, where as at Cornell they use computerised notes and documentation. The USA is also much more advanced in their imaging techniques, such as using moving ultrasound images and having procedures such as barium follows and videograms everyday. In the UK, there are set days for when these procedures can occur, which increases waiting list times for patients who urgently need care. The USA is also much more advanced in their imaging techniques and there are more interventional radiologists available at the hospital with many residents and fellows to assist in procedures than in the UK, this means that procedures are done within hours of a request by the medical/surgical team, however in the UK the lack of interventional radiologists means that most of the work is done by the surgeons themselves and this increases waiting list times before a patient is able to undergo a specific procedure.

In the UK, radiology is primarily a speciality where the department is run by consultants. Most of the images and procedures are carried out by the consultants and sonographers share the patient lists equally with consultants. Registrars sit with the consultants and give their input on reporting the images, whilst being taught by the consultants. However in the USA the team interact completely differently, the work is delgated to the residents who are corrected on their findings by the attendings. Also ultrasounds are only carried out by sonographers. I feel that this system would work well in the UK, as it would decrease waiting times and doctors would not be so over-worked as the work would be shared equally between the team compared to the hierachical system we have in the UK.

The disease demographic I have seen at Weill Cornell New York Medical Centre within the interventional radiology department included patient's suffering from malignancies and their treatment for it either using ablation, arterial embolisation or procedures that aided the medical treatment of the cancer through chemotherapy via PICC line insertions etc. Other interesting procedures I have watched are biopsies of different organs such as the thyroid, liver and bone to check for any dysplastic/metaplastic activity of cells. The affluent population surrounding Cornell conditions other than malignancy are not common.

The most interesting cases that I saw during my time in interventional radiology was the embolisation of a hepatocellular carcinoma via the hepatic artery. There were multiple tumours in the liver which ranged from medial to distal, however they were not particularly vasculitic which made mapping the tumours during the procedure, difficult and tedious. Another interesting case that I was able to observe was cryoablation of bone metastases in the hip from a primary bladder cancer. The sclerotic bone (especially at the acetabulofemoral joint) was identified and frozen and thawed twice, hopefully providing pain relief for the patient. On the CT image, I was able to see the area which had been frozen become more dense 10-20 minutes after the procedure.

I was taught how the procedures were carried out and particularly during biopsies I was shown the anatomy of particular organs on ultrasound. I was exposed to a vast number of procedures and shown the breadth of the advanced technology that the interventional radiologists used during their procedures, such as, when suturing wounds the radiologists used 'glue' called 'dermabond' instead of a running stitch, which reduced healing times.