My elective at Columbia Medical School, New York – Charlotte Dewdney

"There is an elective where you're expected to work over 50 hours a week", was how I first heard about an elective at Columbia Medical School, New York. Rather than putting me off, this piqued my interest and I decided to apply to the university's exchange programme. After undergoing a selection process requiring an essay and a CV, much to my delight, I was offered a place. I had been looking forward to my elective since starting medical school and decided that I wanted to work in the United States, given its reputation for medical excellence.

Pre-departure

Before leaving for Columbia I developed a number of aims and objectives for my elective. First and foremost I hoped to experience world-class medicine and to be challenged whilst doing so. Medical school has helped me to develop a strong work ethic and I expected that an elective at Columbia would allow me to demonstrate that. I knew that there would be a steep learning curve, as medical students in the US are given a great deal of responsibility and treated as if they were junior doctors. I hoped that this would allow me to further develop self-confidence in my own capabilities, particularly the ability to work effectively as part of a team in an unfamiliar environment.

Additionally, after hearing so much about the American health care system I was looking forward to experiencing it first hand. It is easy to take the NHS for granted and I hoped to gain an appreciation of how the structure of a healthcare system impacts on patient care, while at the same time improving my own abilities to provide excellent patient care as a future doctor. Finally, I hoped to have a better answer to the ubiquitous question: "What kind of doctor do you want to be?" than "I don't know yet".

I chose to spend my first 4 weeks in emergency medicine at Harlem Hospital Center, a Level 1 trauma centre, and then 4 weeks in neurology at the New York-Presbyterian Hospital (NYPH). Last year I completed my SSC4 with the Edinburgh Emergency Medicine Research Group (EMeRGE). In addition to my research project I took advantage of every opportunity to gain a flavour of the clinical aspects of emergency medicine including shadowing doctors in A&E and the Scottish Ambulance Service. Despite its challenges and the unsociable shift patterns, I was hooked and I immediately started thinking about how I could acquire further experience during my elective. I considered Harlem an exceptional place to complete an emergency medicine placement considering the diversity of its patient population and the wide range of acute medical admissions. After completing my Neuroscience BMedSci, I developed a keen interest in neurology, and so Columbia's neurology elective at the NYPH was particularly appealing given the department's world-leading reputation in neurology and neurosurgery.

Harlem Hospital, Emergency Medicine

Harlem Hospital emergency department (ED) sees and treats 18,000 adult patients per year. Harlem's population is approximately 67% African-American and 20% Hispanic.[1] It has the highest mortality rate in both Manhattan and New York City overall.[2] Here, I was integrated into one of two teams for twelve hour shifts. I was given the opportunity to clerk patients, perform examinations and form my own management plans. I saw many patients with diabetes, hypertension, stroke and cardiac disease. There was a high prevalence of both substance abuse and psychiatric problems in the area, with a drug known as "K2" (equivalent to a Legal High in the UK) causing particularly high rates of admissions. The department also sees high rates of trauma and during my induction I was given a word of caution: if members of two different gangs are injured after being involved in a fight then they will be sent to different EDs to avoid further rivalries between their friends when they come to visit the patient. During my elective I saw gunshot wounds, several stabbings and head injuries as the result of physical abuse. Indeed this made me consider my own safety walking around Harlem, and I was cautious never to walk home alone at night.

The provision of healthcare in the US is complex. Harlem is a state-run hospital and so provides care to low-income populations, many of which are uninsured or receive Medicaid, a tax-funded public insurance programme for patients with low incomes. I had expected there to be large differences between the provision of healthcare in the UK and US. Indeed one patient who had suffered a severe motorcycle accident did not once complain about pain but simply exclaimed, "man this is going to cost so much". Despite this preconception (which does hold true for most other specialties), the provision of emergency care is remarkably similar between the two countries: like in the UK, emergency care is provided free of charge to all patients in the US. When discussing this with the doctors who worked there they explained how this was one of the greatest attractions of emergency medicine, as there is no discrimination against patients who cannot afford to pay for their own health care. One caveat to this system is that many people treat the ED like a GP's practice and present with trivial complaints ranging from a sore throat to simply wanting to get their blood glucose checked or their repeat prescription renewed. This was particularly noticeable during my night shift when many of these patients were also homeless.

I learnt the most during my time in the trauma room. The tannoy would announce "Team 1 to the trauma room stat" and with a rush of adrenaline we would stop whatever we were doing and go to the trauma bay. One patient came in via ambulance after being knocked off their bicycle. Their clothes were torn, they had an open leg wound and they were covered in blood. Like a well-rehearsed performance the consultant quickly took charge by listing off a number of instructions in a calm but firm manner. All members of the team were assigned tasks to complete the A-E assessment such as obtaining intravenous access, ordering a CT scan and even standing at the

patient's head to offer reassurance. When things became disordered the team leader made everyone pause and catch up with what was going on. The whole process brought my resus teaching in Edinburgh to life. I saw how effective teamwork and communication could be invaluable in treating patients. Although I was often a bystander in the trauma room I learnt a lot from watching and was actively involved when it was appropriate: one time I was able to perform CPR and together we successfully resuscitated the patient, which was tremendously rewarding.

Unfortunately there were a high number of drug seekers in the community. This challenged my own abilities to deal with difficult patients. Being new to the ED I had a naivety that many of the consultants did not. I took all pain at face value: if a patient told me that they were in pain then I believed them. One patient I remember well came in with right-sided abdominal pain. I took a full history, examined them and placated their requests for "something to help the pain" with reassurance that they would get something soon. It was only when presenting patients such as this back to the consultants, when I was informed that this was their 60th ED visit with the same complaint, that I started to think twice. Was this patient being genuine? On reflection, I was glad of my initial naivety. I disliked having to question the authenticity of patients' symptoms, which on a deeper level created questions regarding the honesty of human nature. There is definitely some value in taking all symptoms seriously as one day that regular visitor will present with "real" appendicitis. But I started to recognise patterns; there were patients that claimed that they were "allergic" to all analgesics except opioids and patients that started crying out in pain only when they heard me enter the room. Seeing the doctors who were often stressed and did not have time to stop for lunch, I learnt that the biggest challenge here was to be rational and ethical when listening to patient's stories.

New-York Presbyterian Hospital, Neurology

At NYPH I functioned as a member of the neurology consult team. The team assesses patients both in the ED and inpatients admitted under different medical services e.g. a patient in cardiology who developed a left foot drop would be seen by a neurologist. The most frequent reasons for neurological consultation were abrupt changes in mental state, coma, stroke, headache, epilepsy, perioperative problems, and neuropsychiatric disorders. I was assigned my own consults to see and was required to perform follow-up evaluations on these patients. This involved taking a history and performing a neurological examination. I gained a new appreciation for the neurological exam, and realised that there is much more to it than I had previously learnt. There were a number of special tests that proved extremely useful when assessing each patient. Throughout the month I became much more proficient in my examination skills as I would be repeatedly asked to present my findings. When first asked questions along the lines of "Did you remember the finger-tap test?" or "How about Romberg's test?" I had to shamefacedly answer no. But I never forgot to do these the second time around. The consult team leader was absolutely fantastic and had a genuine

passion for teaching: my clinical knowledge was really put to the test. I was encouraged to consult the relevant literature on each case and I learnt to think about what the signs I elicited in my examination actually meant for the patient. I was constantly asked "so where is the lesion?" and I learnt to think like a neurologist. As an elective student I was also able to participate in outpatient general neurology clinics and attend teaching rounds, conferences and journal clubs.

Like Harlem, NYPH treats a large number of Hispanic patients. I was sent to assess one Spanish-speaking patient with a history of uncontrolled seizures. I had to use a Spanish translation phone service, which really challenged my communication skills. I realised how we take language for granted in the UK. I learnt to speak in short sentences and had to really think about using the second (instead of the third) person when talking to the patient through the interpreter, which took a bit of getting used to. It was also a good test of patience as it took over an hour to get a full history from the patient. There was some confusion regarding medication doses and this served to emphasise the importance of taking a full history to solve medical problems.

During my time at NYPH I gained a greater appreciation for the NHS. I found that I was often shocked by the attitude of doctors to healthcare provision and the high prevalence of "defensive medicine". In clinic doctors would type notes into the computer whilst talking to the patient, often reading from a checklist instead of maintaining eye contact and actively listening to their story. In fact they spent a huge proportion of their time documenting in patient's notes in order to provide sufficient billing information for the insurance companies. In the outpatient setting, doctors are paid according to the tests they order and the number of patients that they see; this supports a huge culture of over-investigation. Whilst this may occasionally work in the patient's favour, it can cause patients to worry over trivial complaints. Often patients would leave saying "it is serious then" and almost every patient was sent for an MRI. Part of this was due to the aforementioned "defensive medicine", in order for the doctors to avoid being sued by patients at a later date. At the other end of the spectrum there were patients that were refused the best level of care as their insurance would not cover it. For instance, a large number of patients with only basic insurance were given medications with lower efficacy or more side effects than those that had premium insurance. I felt that this was incredibly unfair and felt glad with the knowledge that I would be returning to the NHS, which although has its flaws, operates a much fairer policy.

Perhaps my favourite aspect of the elective was the ability to follow the progress of patients during their hospital stay. I first encountered one particular patient two days post pulmonary lobectomy presenting with an acute alteration in mental status and an inability to abduct both of his arms past 60°. I learnt that this was an interesting case of "man-in-the barrel-syndrome" due to cerebral hypoperfusion postoperatively.[3] He remained confused and was unable to communicate due to his new tracheostomy tube and his inability to write. He was a sad case and I was warned that he had

a poor prognosis. Each day I would go and visit him to perform an examination and note any changes. One day I was pleasantly surprised to find him sat up in a chair next to his bed. He gave me a huge smile and I was amazed to hear him talking. He had had a session with the speech and language therapist and had a tracheostomy adapter valve installed, which allowed him to talk. He thanked me for coming to visit him each day. This highlighted the importance of the multi-disciplinary team in treating a patient. I was also reminded of the impact of the doctor-patient relationship on a patient's quality of life and speed of recovery during their hospital stay.

Final Thoughts

This was an immensely challenging but rewarding elective. I was integrated into the team both in Harlem Hospital and NYPH. I was challenged to work independently and to think on my feet. I now feel competent in performing a full neurological examination and I learned how to present patients clearly and concisely, which will stand me in good stead for becoming a junior doctor. However, I appreciate that I still have a lot to learn and at times I felt out of my depth but I definitely developed confidence in my own abilities and hopefully this will continue to grow. I was impressed by the high level of patient care and the work ethic demonstrated by all of the doctors. The resident (in-training) doctors worked 80-hour weeks and even as a medical student I was given responsibility for my own patients, which often meant staying late in the evening. However, any fantasies of one day working in the US were allayed. I found the issue of insurance unfair and discriminative and at times it felt like I could be working for a business: patients were clients here to purchase investigations and medications. Despite this, I thoroughly enjoyed my time at Columbia, particularly in the neurology department and I am now seriously considering neurology as a career choice.

I could not finish this report without mentioning my experience of living in New York. Pretending that I was a "New Yorker" for eight weeks was simply wonderful. I spent most of my free time with my neck craned up to take in the amazing skyline. I went to Broadway, visited the museums, ate cheesecake and bagels and cycled around central park. I had the best elective I could have possibly asked for; indeed it has been the highlight of medical school. Finally, it was a great privilege to be given such a generous bursary towards my elective – it really did help enormously to make this elective possible. Thank you.

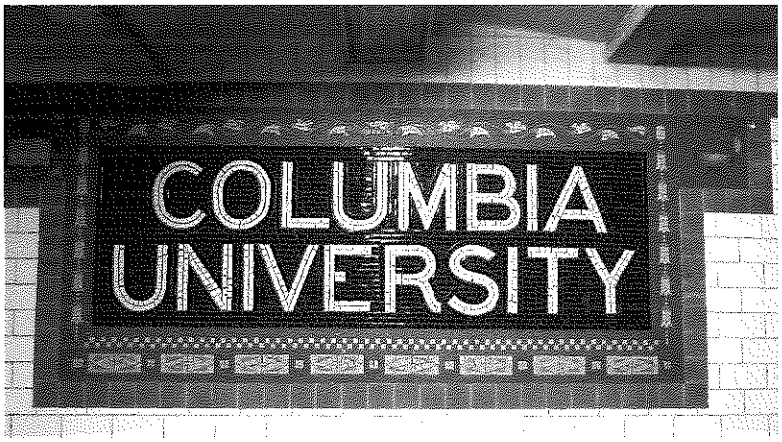
Charlotte Dewdney, November 2015

References

1. Centers for Disease Control and Prevention, Prevention Research Centers. Available at: [http://www.cdc.gov/prc/pdf/prc_mediabridge_story.pdf] Accessed 30/10/2015
2. Community Health Profile, Second Edition: Central Harlem. Available at: [http://www.nyc.gov/html/doh/downloads/pdf/data/2006chp-302.pdf] Accessed 29/10/2015
3. Sage JL. Man-in-the-barrel syndrome after cerebral hypoperfusion: clinical description, incidence, and prognosis. Ann Neurol 1983;14:131.

A small selection of photographs.

New York-Presbyterian' Hospital's "Amazing Things Are Happening Here" campaign



The wall art at Columbia University's subway station

New York's iconic skyline