AAGBI Report: Critical Care at the National Institutes of Health Clinical Center (U.S.A)

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The National Institutes of Health (NIH) Clinical Center (CC – abbreviated to NIHCC therein) based in Maryland, U.S., is the largest hospital worldwide solely dedicated to the pursuit of clinical research: Funded near-exclusively by the U.S. government, all patients based at the Center are enrolled in active clinical trial protocols, on the basis of which they receive free inpatient care: At any one time, around 800 active trial protocols are ongoing investigating disease pathophysiology.

My decision to undertake a placement at the NIHCC was ultimately prompted by my interests in critical care medicine (CCM), in which department I chose to be based for the duration of my elective, but also spurred on by my interests in translational clinical research. My understanding of the NIHCC's structure in advance of my placement also led to my postulating whether such an experimental approach to treatment would influence patient outcomes as compared to more conventional CCM settings, and specifically those in the UK.

I was joined in the NIHCC's elective programme by five other final-year medical students, though was the only student based within the CCM department. During the course of my four-week rotation, I worked alongside medical Attendings (equivalent to consultants in the UK) that had received training in both critical care and internal medicine, amongst a range of other multidisciplinary staff. My own day-to-day roles followed a similar structure to that of the of the CCM Fellow – indeed, another "unique" aspect of the NIHCC being that "junior" doctor equivalents (interns and residents) were not based or trained at the institute: Instead, senior staff were required to perform all duties normally attributed to junior colleagues in other settings, such as clinical skills, patient examination and documentation. I was also able to take advantage of opportunities touring individual laboratories during my placement, including the animal laboratories as the site of larger *in vitro* trials.

Despite working relatively long days (my shifts were 6am-6pm daily on the CCM ward), after pre-ward (6am) and morning ward (8am) rounds, the only responsibilities on part of the reporting CCM doctors included placing orders for the day – such as blood requests, or scans – and documenting any changes in the online note system before handing over to the night shift in the evening rounds. All patients on the ward were generally observed via the remote monitoring system, as vital signs were played out on large screens across the ward visible from any work station across the ward, and accessible hospital-wide. The remaining time during the day was often spent in in-house lectures, in practical training (such as weekly simulation laboratories, or departmental seminars), or in research laboratories. The ward nurses were otherwise responsible for any other care provision in the meantime, much in the same way as in NHS hospitals back in the UK.

As a consequence of its structure, patients attend the NIHCC CCM from around the world with both challenging and complex underlying diseases, meaning that a much broader range of cases are dealt with in the CCM by comparison to other smaller and less research-focused units in other US and international hospitals. I felt that from my time spent at the NIHCC involving staff discussions; clinician and non-clinician led teaching activities; participation in patient care; and shadowing of research activities, I was able to gain a strong indication of how CCM is managed at the NIHCC. However, given the relatively unique status of the

NIHCC as a joint research-clinical institute, this is not to say its model was reflective of wider U.S. healthcare practice. Indeed, the vast majority of cases dealt with at the NIHCC ICU were limited to in-hospital post-operative surgical patients, and those who developed enrolled patients acute complications during their stay at the NIHCC (sepsis being a common example). Certainly, though its model can be regarded as “unique” in the wider context of the patient demographic at the NIHCC whereupon all managed patients are engaged in active clinical trial research protocols, but does not necessarily mean “better” or “more intense” care – “atypical” would perhaps be a more suitable moniker.