FPHC 2023 HEMS elective report: EAAA

I was fortunate enough to be awarded one of the FPHC HEMS electives and was allocated East Anglian Air Ambulance (EAAA). Knowing how competitive the places are I didn't expect to have this amazing opportunity but I will be forever grateful that I did. As cliché as it sounds, it was a career defining experience and the things I learnt will stay with me throughout my working life. I hope this report provides a good overview of my time with EAAA, with some highlights and interesting shifts, as well as some advice for future elective students which I hope is helpful.

Background of EAAA:

EAAA has 2 bases, one in Norwich, where I was based, and one in Cambridge. They cover Norfolk, Suffolk, Cambridgeshire, and Bedfordshire; a total of 5,326 square miles. The helicopter at Norwich operates 24/7 and across the 2 bases they are tasked on average 7 times a day. Each crew is made up of at least 1 critical care paramedic (CCP), 1 doctor, and 2 pilots. The number of 3 person crews are increasing. These include an additional supervisory doctor/ CCP.

Opportunities I had whilst at EAAA:

- 2 clinical shifts a week. These were 2-hour day shifts, so the majority of jobs were on the helicopter rather than the RRV (rapid response vehicle).
- Research project: I proceeded to present this as a poster at the FPHC conference and I am an author in the publication.
- Teaching CPR and first aid to girl Guide groups and community groups.
- Observing/helping as faculty on an ALS course.
- Attending weekly death and disability meetings.
- Attending the clinical governance day.
- Weekly RAID meetings (Research, Audit, Innovation and Development).
- Simulation training on base.

Overview of jobs:

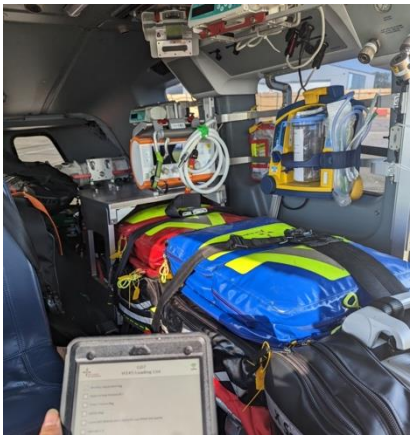
- 16 jobs in total - 2 stand down on route, 2 stand down on arrival.
- 7 cardiac arrests - 2 adult traumatic arrests, 4 adult medical arrests and 1 paediatric medical arrest
- 3 fracture dislocations
- 2 seizures with head injuries
- 1 crew assist transport to hospital.

Day 1: "bring good banter".

I was met by Kate, received a tour of Helimed house, and was introduced to everyone before going to the RAID meeting. These happen once a week and go through the current projects, posters, and papers that are ongoing; their progress and outstanding jobs. I was amazed by the innovative new studies and research constantly being undertaken.

I then went down to the crew room to receive my flying induction and I was able to sit in the helicopter for the first time to learn the basics of how to open the door and put your seatbelt. I quickly realised the lack of leg room and the amount of kit that is carried in quite a small space. I also tried on my flying suit and helmet in readiness for my first shift which added to my excitement. When I asked the crew for any advice for my first shift I was told "bring good banter". This helped to put me at ease and get a good sense of the team.

First shift: "it isn't always as busy as this".



I arrived on base for a 0700 start. I was introduced to the crew for the day and went through the usual morning routine. I got used to over the course of the month. This consisted of: handover from the night crew, drugs checks, bag checks, kit checks on the helicopter and the RRV, and then the morning briefing from the pilots.

Then the jobs began. Around 10am the phone rang. "Seizure + head injury". Helmets and jackets on, out to the helicopter and we were away. My first flight and it was an amazing feeling. The patient was swiftly moved on to the ambulance, the decision to RSI was made and everything was prepared. The patient's GCS improved and they started protecting their own airway, so we set off straight to the hospital without an RSI. My first lesson: always be willing to adapt the plan.

I just managed to have some lunch before the phone rang again. The words "20-month-old cardiac arrest" came through. The feeling on the way to this job was very different, the crew were calculating drug dosages and writing down WETFLAG in readiness. There were already many ambulance crews and police on scene when we arrived. It was remarkable to see the crew slot in so easily. They communicated the division of jobs between the team and HEMS quickly and efficiently. Unfortunately, we couldn't get a ROSC on scene, and the patient was still in arrest when they were transported. The hospital managed to get a ROSC, but we later learnt unfortunately the child didn't survive.

This was a very emotional job, and we had an immediate debrief when we returned to base with the on-call consultant which I found useful. The crew could talk through exactly what was done and the decisions behind the management as well as how they were feeling. It's essential for crew welfare and I was grateful that as a medical student I was included.

Just as we finished the debrief the phone rang again. “Septic woman who is very agitated, crew request”. We arrived via RRV at a supported living facility and were taken to her flat where the crew gave us the handover. The woman had a long history of self-neglect and had a severe skin infection which had potentially developed into sepsis. She was refusing to go to hospital but didn’t have capacity. We were called as back up with the potential of sedating her to transport her to hospital. We ended up staying for around 2 hours in the flat assessing the patient and trying to determine capacity before giving midazolam. We experienced difficulty extricating as the patient was obese. She refused to leave her flat or get in the carry chair, lived on the lower ground floor and the lift stopped working despite it working when we arrived. Thankfully, with the HEMS crew, EEAST crew and facility staff we managed to get her onto the ambulance where we then assisted with conveying to hospital. The full 3 hours of being with this patient were made more difficult by her being very distressed and verbally abusive towards all members of the team. It made it hard for us to speak to each other and formulate a plan. We finished at the hospital and headed back to base to handover to the night team, 2 hours after the end of our shift. I learnt it was not uncommon to finish late as I only finished 1 of my shifts on time. It was such a variety of jobs and really highlighted how busy and mentally draining some shifts are and how adaptable you must be. However, the biggest lesson was the importance of a debrief and how to do one well.

Traumatic cardiac arrest:

Another job that has really stuck with me was a traumatic cardiac arrest, caused by an RTC, motorbike vs car. As we approached the scene in the helicopter you could see the queue of cars in both directions caused by the police closing off the road. Once we had landed and were approaching on foot, we could see CPR was in progress. The crew quickly gave us a handover. The patient was the motorcyclist and had been in cardiac arrest since the ambulance crew had arrived. The HEMS crew had discussed what we would do whilst we were in the air and quickly got to work with bilateral thoracostomies. The CCP then intubated the patient whilst the doctor was preparing the blood to be given IO. One of the pilots had arrived and had started preparing the Lyoplas. This is freeze dried plasma and the pilots know how to mix it to prepare it to be given to the patient. I took over compressions from one of the ambulance crew as it was a really hot day, so compressions were even more tiring than usual. Unfortunately, after 20 minutes and an ultrasound that showed no heart activity, everyone agreed that the patient wasn’t going to survive. The patient had an emergency contact card in his helmet and a small old style Nokia phone, and it was a reminder that someone at home was probably waiting for him, and someone was going to have to deliver the news to them. We had a debrief when we got back, the crew began writing up their notes, and I helped them restock the kit.

Advice for anyone considering this elective or successful applicants:

Make the most of time between jobs.

On one 12 hour shift we only had one job. It came in at 18:30 (our shift finished at 19:00) so this meant 11.5 hours sitting on base. I spent a lot of this time in the "immersion suite" practicing intubations, surgical airways, and ultrasound guided arterial lines. The sim suite had mannequins of adults, children, infants, and neonates, which could all be used to simulate intubations. It also had the kit bags that we would carry, so it was a great place to practice reaching for kit and learning where things were in the bags. The crew are required to do regular simulations so I would join in with their sims. They were happy to teach me any skills I wanted to work on. I also used the time to learn more about the aviation side of HEMS and chat to the pilots. I would take my laptop in and do any admin I had and do some work on my research project. I would mostly spend time talking to the crew to learn more about life in HEMS and the different paths available to get into the specialty.

Seek out extra opportunities and say yes to things.

When you start, ask about any courses, meetings or training happening whilst you are there. Observing and helping at the ALS course was useful and I was invited to the faculty meal afterwards which was a nice way to socialise with people off base. Teaching CPR is something I enjoy doing and I was very happy to do this for the charity. The CPR trainers were so lovely to me and made me feel very welcome as part of the team and allowed me to take the lead on the sessions.

Ensure you have people you can call and methods of decompressing.

This was what a GNAAS consultant told me before the elective, and it was excellent advice. During my 7 shifts I saw 7 cardiac arrests and unfortunately none of them survived, even those in which we got a ROSC and transported to hospital. This obviously takes an emotional toll, and some will affect you more than others for different reasons. I felt relatively prepared for this having been involved in 6 fatal cardiac arrests during previous placements, so I had developed my coping mechanisms and had people I could call if I needed to. This was even more important since I was living in Norwich by myself and didn't know anybody. The team at EAAA are incredibly supportive and checked up on me after bad jobs and offered their time and support if I needed it.

Ask questions.

Every person you encounter will have useful advice or things to teach you. PHEM, and especially HEMS, is quite an unknown world for medical students. There is so much to learn from how the charity operates, aviation, research and the clinical aspects. Ask any questions you have, and people will be more than happy to answer. Many of my questions were simply about common acronyms the crew were using that I had never encountered before.

My time with EAAA has solidified my ambition of one day working in a HEMS team and I would highly encourage anyone to apply for this elective.

I would like to thank all the pilots, doctors, paramedics, research, and community staff that I met in my time with EAAA and for welcoming me as part of the team and teaching me so much. I am so grateful to EAAA and the FPHC for this opportunity. I will be happy to give any advice if people want to get in touch with me (mollyclough2000@gmail.com).