



UCL
Pre-Hospital
Care
Programme
Annual Report
2014-2015

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Introduction

Academic year 2014-2015 was the second year in which University College London (UCL) offered a pre-hospital care programme. This report intends to describe our 2014-2015 offering, evaluate our programme and also act as a reference for other new pre-hospital care programmes, or indeed programmes in development.

Background

UCL is a centrally located London university. The medical school offers an undergraduate six year course or an accelerated 5 year course for graduates; the later not including an intercalated BSc year. The school is large with approximately 320 students per year. Clinical teaching occurs predominantly at three central London hospitals, however senior clinical students spend attachments at district general hospitals in the surrounding counties. The curriculum includes mandatory components and also student selected components (SSCs), which run during some years of the programme.

Before our pre-hospital care programme, UCL offered no pre-hospital exposure; partly due to the emerging nature of this speciality, but also due to not having an associated pre-hospital provider or, indeed, major trauma centre.

At a post-graduate level, pre-hospital care was gaining considerable momentum as a new specialty training pathway¹. From base specialties of anaesthetics, emergency medicine, intensive care medicine or acute medicine, trainees may enter pre-hospital emergency medicine training at ST5 level.

At an undergraduate level, enthusiasm for pre-hospital care was very high. At UCL, such enthusiasm was previously directed into external conferences and events or the UCL student union wilderness medicine society, as no other pre-hospital care activity existed. It was a combination of new postgraduate training and undergraduate enthusiasm which gave the motivation for the creation of the UCL pre-hospital care programme.

Academic year 2013-2014

Following a two-year planning period, a senior medical student was able to lead a team in delivering a deliberately modest pre-hospital care programme. This programme consisted of six first year medical students undertaking 60 hours shadowing with the London Ambulance Service (LAS), attending five monthly pre-hospital care forums as well as completing certain written tasks. The programme ran as a medical school student selected component (SSC).

This programme was deliberately scaled back from our true capabilities so as to enable us to find a footing within the SSC structure, build a meaningful and compatible relationship with the LAS, and, to an extent, prove to the medical school that medical students benefit from the skills acquired through pre-hospital exposure.

It was very pleasing that all students completed the SSC with 'A' grades, and indeed the programme garnered the best feedback out of all (n=49) SSCs offered to this year group.

Planning a three year programme

Following a successful inaugural year, the programme had momentum to expand, as had been the intention. A working group of students considered the possibilities for an extended programme. This was not a quick process, however was crucial to ensure we arrived at a solution that conferred both practical success and programme longevity. As a group, we developed a blueprint of how we considered an extended programme could be delivered.

In so doing, we approached Wembley National Stadium (WNS). Wembley National Stadium is a unique pre-hospital care provider near UCL in north London. Following a successful series of meetings, we were able to forge a working relationship – about which more details can be found on page six.

Following our work and relationship with WNS, we approached an Emergency Medicine Consultant with our proposal. With very minor adjustments, the Consultant was in broad agreement with our plan and it was following this that we then arranged to meet with the school's Dean so as to have our extended programme commissioned.

Following the meeting with the medical school Dean, we were successful in commissioning two new SSCs that, together with the first year SSC already in place, created a three SSC rolling programme. These SSCs take place over a four year academic year period.

Wembley National Stadium

We are very fortunate to have developed a strong working relationship with Wembley National Stadium (WNS), and can now call ourselves their official educational training partner. Wembley National Stadium is the largest sporting and concert venue in Europe, and is a pioneer in the field of pre-hospital event medicine.

WNS provides unrivalled on-site, specialist pre-hospital cover at all of their stadium events. This is undertaken by a team of Doctors, nurses, first-aiders and ambulance dispatchers who, led by an experienced Consultant, run a comprehensive medical service before, during and after each event. This service includes an onsite emergency department complete with resuscitation room and minors unit, static first-aid posts, roving Doctor-lead medical teams and pitch/concert-side medics. The team are trained to manage any medical incident that occurs in any part of the stadium, and on average encounter two critically unwell patients per event.

We are very proud to have formed a strong relationship with Wembley, and we are very pleased to continue this into the future.

Logo

As part of our planning process, we created a logo. This entirely student-lead project had the aim of creating a visible and unique brand that highlights the nature of our work; namely, sending future doctors out with pre-hospital care providers. The stethoscope is characteristically associated with the role of the Doctor, and in the UK pre-hospital care is practiced predominantly by ambulance services. Thus, combining a stethoscope and an ambulance in our logo justly describes our work.

Why SSCs?

As a programme, we strongly endorse being a part of the SSC structure (or equivalent) of a medical school (figure 1). We achieved our SSC status primarily by demonstrating that the experience we offer our students directly links to the training aims for medical students as described by the GMC.

The GMC obliges medical schools to offer their students certain learning experiences to achieve certain goals. Two of the most prominent of these goals are to appreciate teamwork and holistic patient care; throughout medical school, students should be able to value the different clinical and non-clinical staff and how they help facilitate a rounded care package for a patient. Offering pre-hospital exposure does just this; it exposes students to the work of pre-hospital clinicians and how they facilitate a patient's literal journey to hospital. Not only this, but it exposes students to what it emotionally means for some patients to come to hospital from their place of residence, and the social aspect of pre-hospital care work.

Many patients attended to by Paramedics are vulnerable and frail. They often do not want to be a bother and indeed have trepidations about coming into contact with medical services. Very often their home surroundings are different to that of medical students, and the way they conduct themselves at home very different to their conduct in hospital during which they feel out of place in someone else's – the Doctors' – domain. With this in mind, for medical students to attend to a patient in their own home – or indeed outside of a clinical building – strongly highlights a patient's individuality and perspective. These qualities can sometimes be lost during a busy ward round or on-call shift. Thus, we believe pre-hospital exposure is a powerful medium through which future clinicians may learn to appreciate a patient's perspective and medical journey, thus linking to the overall training aims of future Doctors.

Furthermore, the GMC mandates that medical students must undertake placements in the community as well as in hospital settings². Whilst this optional SSC programme will not yet serve in place of core-curriculum community hours, we do believe that we fulfil that GMC obligation in so much as pre-hospital work is – by definition – practiced outside of a place of definitive care within communities.

It should be said that medical students are currently taught about these concepts within their curricular. However, students often find it difficult to appreciate the concepts of teamwork, holistic care, the patient journey and the patient perspective as they are often considered within small tutorial groups through group discussion. We believe these concepts are best appreciated through exposure, and we believe pre-hospital care offers such exposures in a dynamic, exciting and meaningful way that is not yet matched within medical school core curricular.

Running a pre-hospital care programme within an SSC structure has other advantages. As a student's SSC performance contributes to their successful

transition to the next year of medical school, SSC organisers can demand a certain level of attainment of their students. This ensures students complete all complementing aspects of the programme thus enhancing both their overall pre-hospital learning and the programme's robustness as one which delivers reliable, consistent and high performing students. This helps build a relationship with our providers as they recognise the calibre of the students, thus enhancing a sense of fulfilment and enthusiasm to continue generously offering their services to our programme.

Equally, running as SSCs ensures that we have jurisdiction to reprimand a student should they not engage with the programme in the manner we expect. Whilst reprimanding a student is a rare occurrence, the ability to do so does ensure that our students continue to attain the standard of commitment and engagement that will serve their learning best, and also represent the programme in the most positive way.

With SSCs comes SIFT money (for more details see page 18). By paying our providers for their time and efforts in taking our students, we go some way to securing long and successful relationships as we are not – as has often been the case with pre-hospital student activities – relying solely on their goodwill. Thus we are able to reimburse the LAS the standard NHS medical student-training tariff as set by Health Education England, and our WNS partner an equivalent amount.

Finally, running as SSCs ensure our students are insured whilst undertaking the programme activities. This has been a sore stumbling block for many novice programmes around the UK. Our students are insured to the same level as they would be in any other clinical settings as the SSC activities count as part of the student's curriculum and thus overall medical training.

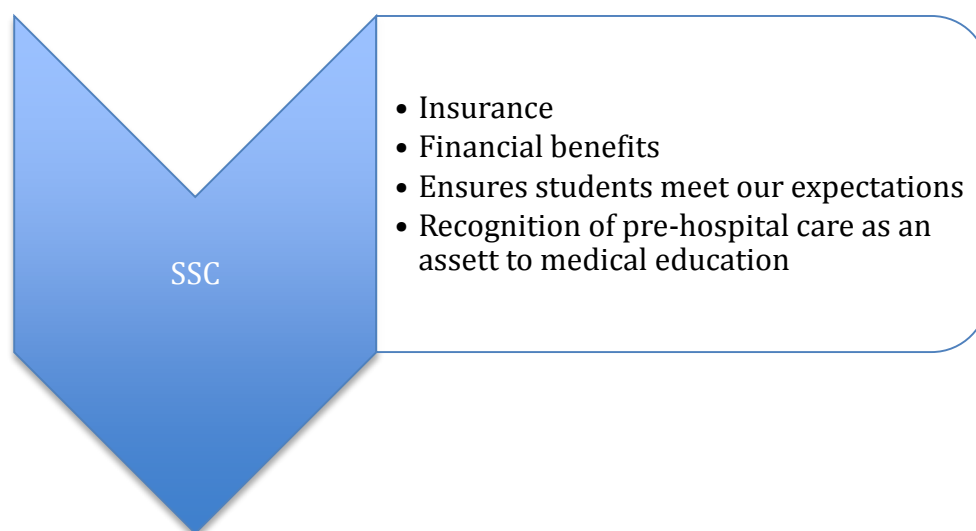
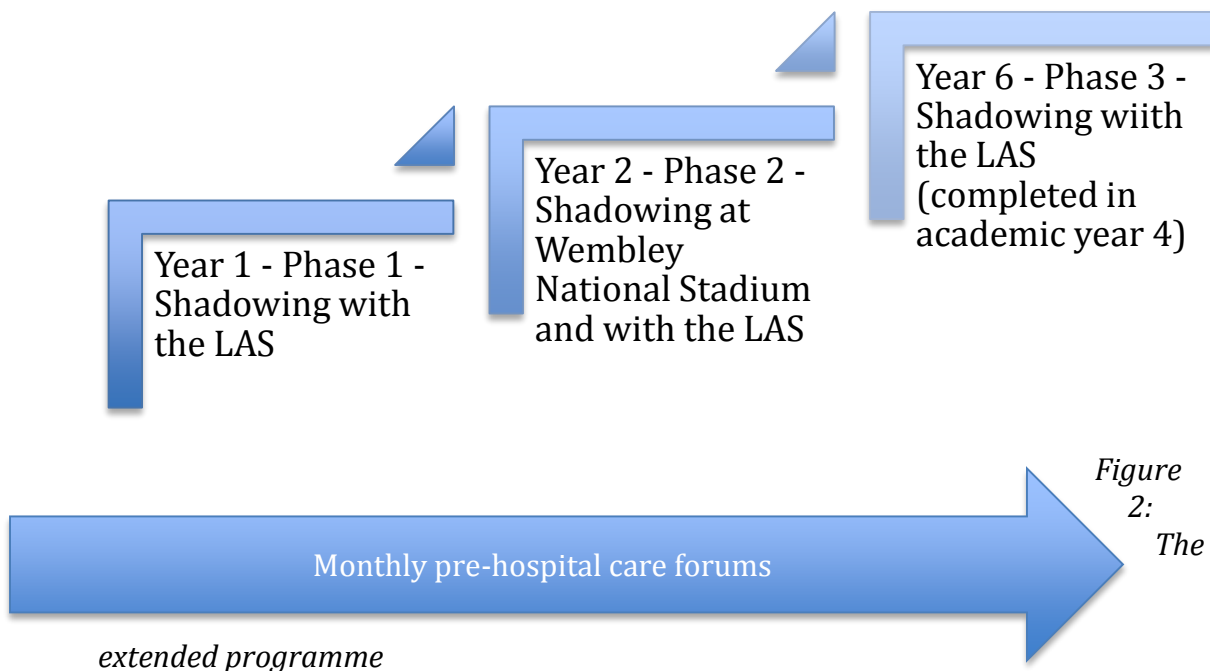


Figure 1: Benefits of running the programme as SSCs

The extended programme

From academic year 2014-2015, UCL has offered an extended, three year pre-hospital care programme (figure 2, 5). This programme works within the SSC structure of the medical school in years 1, 2 and 6. The sixth (final) year SSC is undertaken in medical school year 4, meaning that once a programme student reaches sixth year they are able to undertake self-directed learning as opposed to a four week SSC placement. All programme activities across all phases are completed in the students' spare time. So far, we have been able to run phases 1 and 2, with phase 3 starting in academic year 2016-2017.



Programme components

Phase 1

Our first year SSC consists of six medical students undertaking 48 hours shadowing with the LAS over a four and a half month period. At the start of their programme, they are put in touch with an LAS Paramedic or Technician who then acts as their mentor. They directly arrange shifts with each other. Whilst on shift, the student completes a logbook that offers space to anonymously document the nature of each encountered patient's complaint, as well as their observations and results from any investigations. After each shift, students complete a reflective entry into a journal. At the end of their SSC, they complete an extended reflective piece of writing surrounding one academic aspect of pre-hospital care. In addition to these activities, students also attend five monthly pre-hospital care forums.

Phase 2

Our second year SSC comprises six students spending time at both WNS and with the LAS. This is over a four month block. Students, in pairs, complete two eight hour shifts at WNS. The events they attend are either sport or music events. Whilst at WNS, student attend the morning high-fidelity moulage exercise before rotating through an arranged schedule of activities that involves shadowing the different components of the Wembley medical service. A logbook similar to that described above for phase one is also completed by each student whilst on shift. At the end of their shift, students have the opportunity to ask questions of the team, and the team appraise the student via a written evaluation sheet.

In addition to time spent at WNS, students complete shifts with the LAS which then count towards their year six SSC. As a programme, we specify that students must complete a minimum 48hrs shadowing with the LAS during phase two, however students may complete as many additional hours as they wish in the knowledge that this will lighten their load in fourth year. All shifts are completed with an allocated Paramedic or Technician mentor, are self-arranged and require a reflective journal entry once undertaken.

As with all other phases, students must also attend monthly pre-hospital care forums and complete an extended piece of writing at the end of their SSC.

Phase 3

This phase counts as a final (sixth) year SSC. It will run for the first time in academic year 2016-2017 as the six phase two students from academic year 2014-2015 sit an intercalated BSc during academic year 2015-2016. Students will complete this final year SSC in lieu in year four of medical school. The phase is yet to be finalised however will comprise a total of 60 hours LAS attachment alongside monthly forums, audit work and additional clinical mouldage training.

Forums

The programme ran monthly pre-hospital care forums that, whilst mandatory for our programme students, were open to any interested medical professional or student from within or outside UCL (figure 3). Organisation for this aspect of our programme was undertaken by our forum student lead. We had a wide range of external speakers and topics, and attendance was pleasing. Speakers kindly volunteered their time free of charge.

A particular highlight was a presentation from Professor Sir Keith Porter, the UK's only Professor of Clinical Traumatology, who travelled from Birmingham to address our group on advances in spinal immobilisation. This fascinating talk from the world-renowned academic was tremendous and well received by the assembled audience.

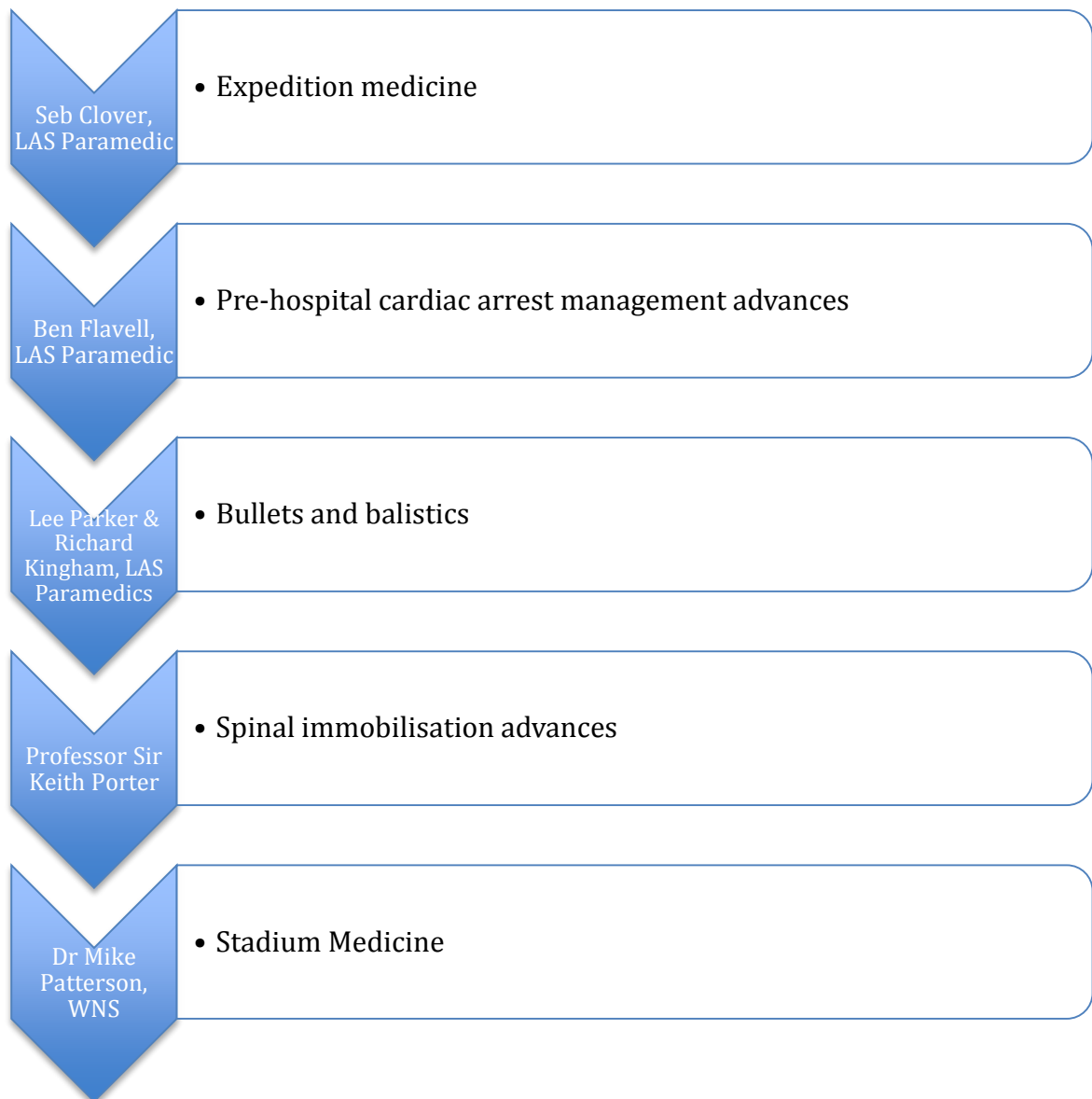


Figure 3: Monthly forum speakers and topics

Optional activities

In addition to those mandatory activities for each phase, students were invited to attend optional activities designed to compliment their overall pre-hospital learning (figure 4). These activities included time spent with the LAS hazardous area response team (HART). This team of specialist Paramedics attend incidents requiring specialist equipment and personnel, and was a fantastic opportunity for our student to experience a different aspect of pre-hospital emergency care. Students also had the option of spending time in the LAS control room with the call-takers and resource dispatchers – thus enabling them to appreciate the full journey of a pre-hospital patient from the moment they dial for an ambulance. Equally, it helped students appreciate the strains the service is currently under.

Students also had the opportunity to shadow the London Fire Brigade (LFB) during their high fidelity moulage sessions. These training events often required simulated patients, the role of which our programme students were invited to fill.

Students were invited to monthly clinical skills sessions. These took place in a simulated resuscitation suite, and were run by local junior Doctors. This high fidelity suite afforded students the opportunity to practice their pre-hospital clinical skills in a safe, controlled and managed environment. The sessions followed the DR (C)ABCDE format with each component individually discussed during one session.

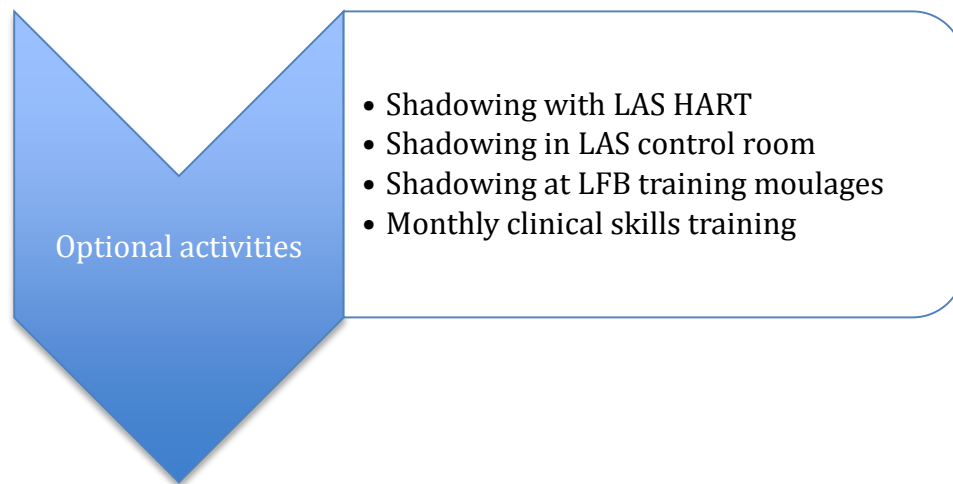


Figure 4: Optional activities

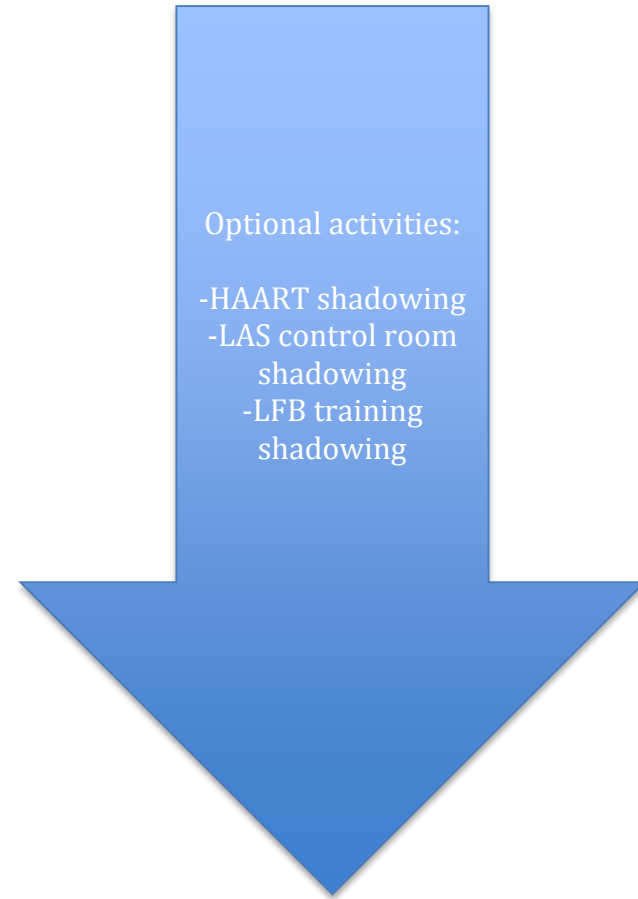
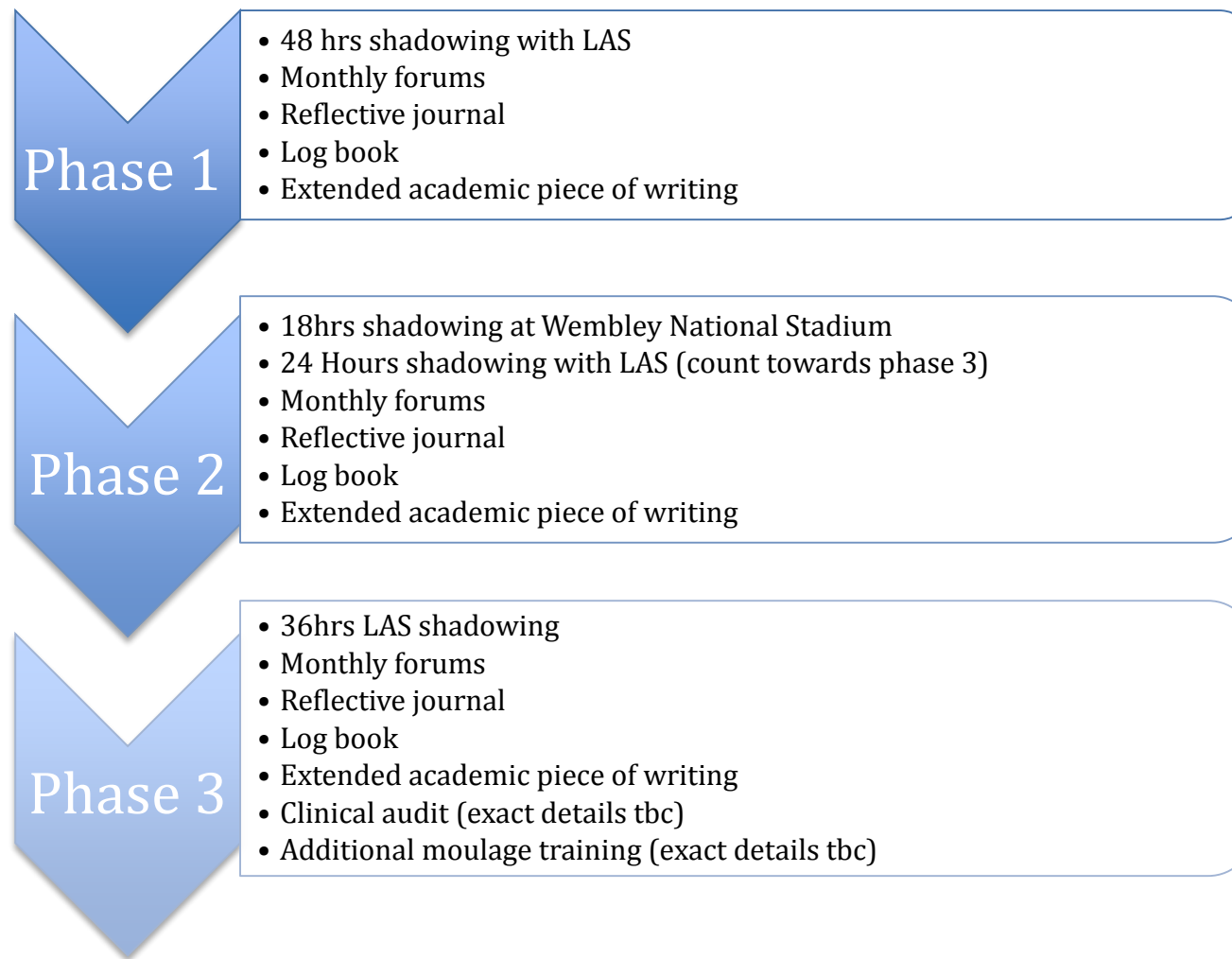


Figure 5: Extended programme overview

Leadership structure

Crucial to the successful delivery of this extended programme was a committee structure that conferred simplicity, accountability and manageability (figure 6). All members of the planning group were keen to maintain involvement with the programme and so we were able to successfully devise a hierarchical management plan which involved:

- 1 Consultant lead
- 1 Wembley Consultant lead
- 1 Lead Paramedic
- 1 student lead
- 1 deputy student lead
- 2 student leads for each phase (phase 3 yet to run)
- 1 forum and publicity lead
- 1 evaluation lead

Each individual had a specific remit which was both clearly outlined at the start of the year by the student lead, and which was also very manageable.

The committee met regularly both in person and using Skype in order to discuss progress and self-evaluate our work.

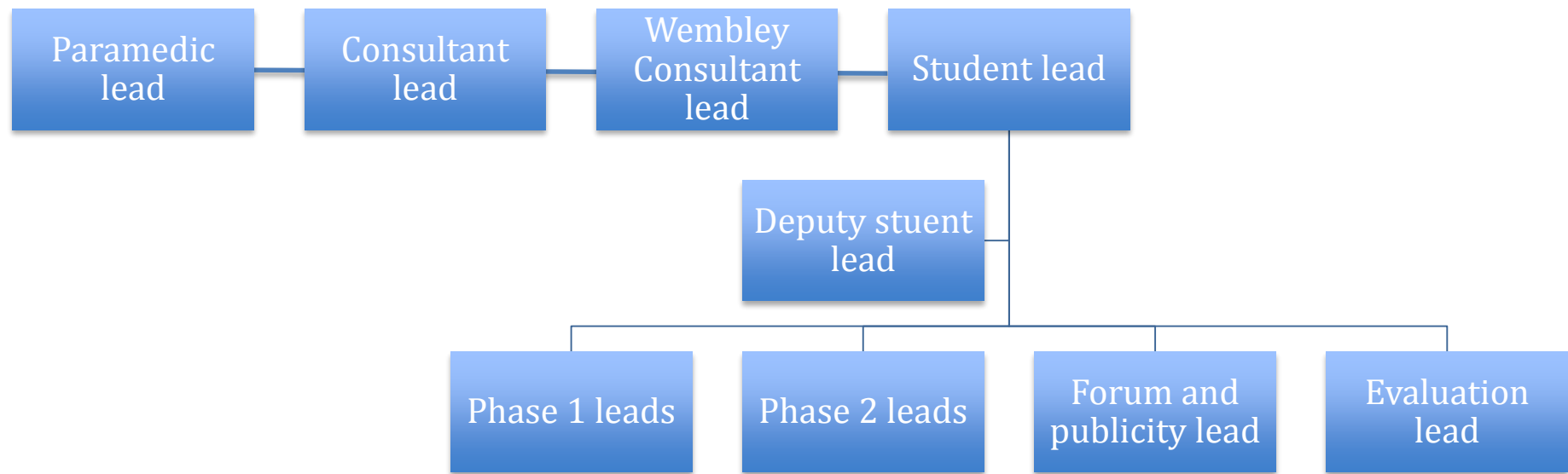


Figure 6: Leadership structure

Communication strategy

An important aspect for both the organising committee, but also our students, was our communication policy. We decided that similar to the hierarchical structure of the committee, a similar policy should be adopted for our communications. Individual phase gmail addresses were created for each phase and individual, and thus e-mail was used as our primary form of communication. However, students were also given their phase leads', Paramedic and student lead mobile numbers should an urgent need arise. Any queries not immediately answerable by the recipient were escalated according to the hierarchy.

Welfare

The welfare of our students whilst on – and after - shift was given considerable consideration (figure 7). Whilst on shift, students were instructed to wear steel-toed boots and warm, comfortable clothing. They were to wear any protective clothing or equipment – such as high visibility jackets – given by their Paramedic mentor or WNS staff. Whilst on shift, they were to follow any instructions given by their supervisor.

It was made aware to students that whilst on shift they may encounter distressing or problematic scenes, patients or situations. They were told of the LAS de-brief policy, and the equivalent at WNS. These policies involve clinicians asking for a 'time out' so they and their team may have a break to discuss the situation in a calm, controlled and meaningful way. Students were aware that at any point they may ask for such a time-out.

Equally, students were supplied with the e-mail addresses of every member of the organising committee – including our Consultant lead. Mobile numbers to the student and Paramedic lead were also made known, as was the number for the confidential UCL medical school counselling service. Students were aware that they could approach any one of these individuals or organisations at any point for a confidential discussion of anything that they found distressing.



Figure 7: Welfare considerations

Funding

As discussed on page 7, running our programme as SSCs ensures a stream of SIFT funding reaches our providers. This is funding paid by medical schools to training suppliers for their time, effort and resources in training medical students. For example, if a general practice hosts a final year student for a month's placement, that practice will receive a payment for the number of hours the student spent with the team. UCL medical school granted us SIFT funding for each hour each student spent with the LAS, and also with WNS. Thus, we paid the LAS in the region of £19 000 and WNS £2500 It is understood that no other equivalent SSC at UCL attracts such a significant payment.

We hope that this payment to our providers helps ensure a fruitful and sustainable relationship, however it is true that the money paid does not reach those clinicians who host our students, instead going to the host organisation itself.

Longevity

An important aspect to the programme is its longevity (figure 8). Throughout our planning and delivery, we hope to have secured a permanent and meaningful place within the medical school, and a long-lasting and strong relationship with our stakeholders.

Concerning the medical school, we hope to prove that our programme adds value to a medical student's training whilst harnessing core and recognised values of the modern day Doctor. We hope to prove that students leave our programme with a greater appreciation of teamwork, inter-disciplinary respect, communication skills and what it means to be a patient on a journey through the health care system. We hope to prove this through our in-house evaluation, more details of which can be found on page 22.

By taking only a modest six students per phase, we hope that we were able to efficiently direct our attentions and resources so as to offer best educational value. As this was the first year running the extended programme, we did not want to overstretch ourselves and then not deliver. So, we were deliberately conservative in our student intake. We hope that this strategy will serve us well as we are able to prove our worth as a programme before expanding our numbers.

We have a very comprehensive evaluation strategy that includes feedback from both our students and our providers. This covers both the practical aspects of the programme's activities, but also a more considered appreciation of our wider programme offering. We hope that this rigour will help us to continue improving, and to continue to alter our programme to meet the dynamic and changing needs of our students and training partners.

We feel we have developed a leadership structure which confers longevity. Student committee members, should they wish to remain a part of the programme, are able to progress through the leadership structure up to the level they desire. This is a great motivator for our committee. It also ensures that the programme does not rely solely on the impetus of one individual – instead that of a whole committee and new student lead each year.

Perhaps an obvious point is that the rolling three year nature of our programme means that once a student starts in year one, they are then on a programme trajectory which, if one includes an intercalated BSc year, means they stay with the programme for four years. Thus, the structure of our programme confers longevity by virtue of our programme covering a four year period.

We hope that by offering our providers financial payment for their services, this helps our providers remain keen to participate in the programme. Their involvement is key to the existence of our programme. We feel, also, that financial reward goes some way to demonstrate the value we place on their services; for example, the LAS receive the same tariff from UCL as a NHS foundation trust hospital receives per student contact hour. This demonstration of value, we hope, confers our trust and respect in the quality of the providing organisation, and it is this feeling of worth which helps ensure continued commitment.

Finally, a dedicated and enthusiastic Consultant and Paramedic lead are paramount to programme longevity as it is often these individuals who have influence and experience. We are very lucky to have two such individuals on our team, and we believe they will help ensure this programme's long-term existence.

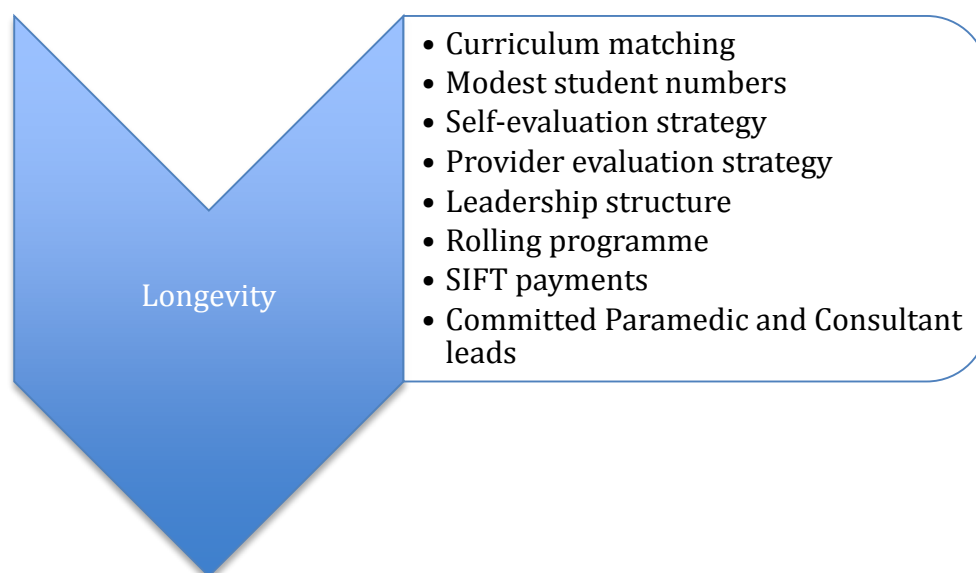


Figure 8: Longevity strategy

Affiliations

Throughout academic year 2014-2015, the UCL programme have had discussions with the Canterbury Christ Church University Paramedic Society surrounding collaborative practice and event sharing.

The motivation for these discussions was a shared belief that there is considerable benefit to medical student pre-hospital enthusiasts and paramedic trainees in sharing aspects of their training so as to learn from each other and also gain an understanding and greater respect for each other's professions.

Throughout the year, members of the Paramedic society attended our forums and clinical skills evenings. The experience was enjoyed and found to be useful by all. The collaboration this year culminated in a joint conference hosted by the society at their Medway campus. The conference surrounded cardiac arrest management, and was very well attended by both medical and paramedical students.

We feel that this year has been a year of exploratory conversations and managing expectations. We hope that in the near future we may work more with the paramedic society to create events and shared learning opportunities which will benefit all of our students, as well as highlight the benefit of this sort of collaborative practice.

Publications

The organising committee is still in the process of completing several publications, however it is very pleasing to note that one of the programme's students achieved a cover article for Ambulance UK Journal – a well renowned academic journal for pre-hospital care clinicians. The article discusses his experiences as part of the UCL programme. A copy of this article, with the author's permission can be found at appendix 1.

Student evaluation strategy

Regular feedback on our students was garnered from the LAS mentors by our Paramedic lead. Keen, however, to ensure satisfactory student progression through our programme, our Consultant met with our students at the mid-point of their respective blocks. During these meetings, students presented their logbooks and reflective accounts to date. Together with the Consultant, the student lead noted how many shifts each student had completed along with the quality of the student's logbook and reflection. Consideration was also given to Paramedic mentor reports. Should there be concerns about a student's progress, the phase leads were notified so they may closer supervise the student in the succeeding months.

At the end of their blocks, students were required to submit their logbooks, reflective journal and extended academic piece for a similar appraisal (figure 9).

The requirement for the later was a 1500 word piece of writing surrounding one aspect of academic pre-hospital care the student had encountered which particularly interested them. The student had to research and write about the subject whilst incorporating some reflection from their shifts.

This piece, along with the logbook and reflection, was given an overall grade. This grade was combined with the student's attendance record and paramedic mentor report to give an overall student grade which was then passed onto the medical school. This year, 10 out of our 12 students achieved A grades, with the remaining two receiving B grades.

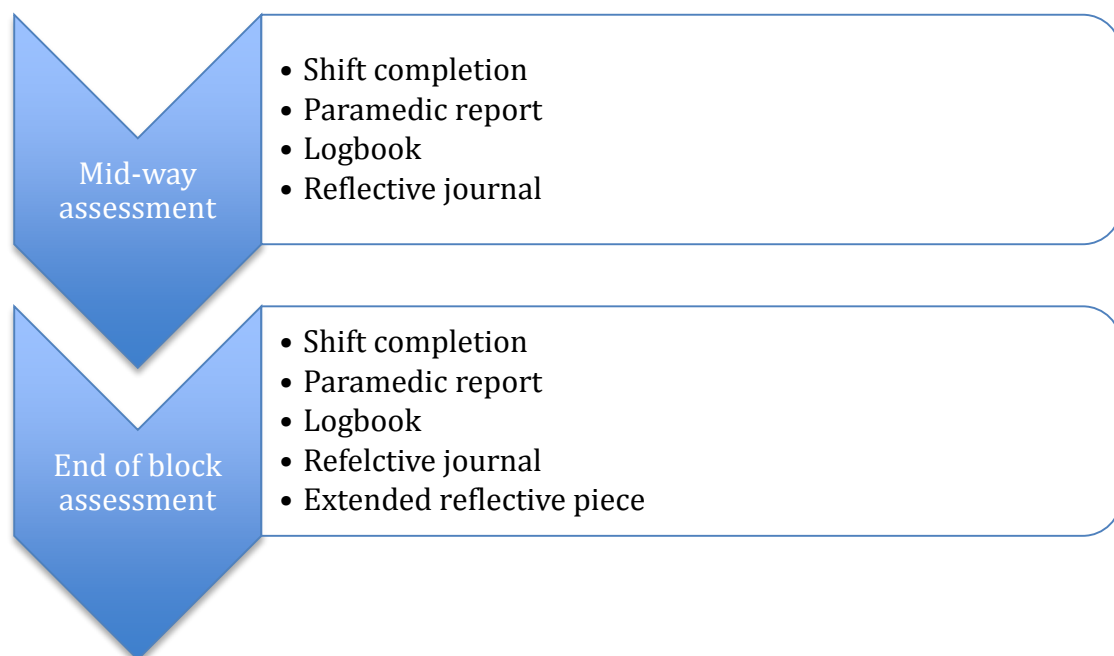


Figure 9: Student evaluation strategy

Programme evaluation strategy

Evaluation of the new extended programme was critical for many reasons. Notably, we needed to prove to both ourselves and the medical school that what our new programme offers is worthwhile to a training medical student. This is so that we maintain our position as a worthwhile enterprise that deserves the considerable funding it currently enjoys.

Method

We decided to undertake a pre- and post-SSC evaluation for those components of the programme that ran this year (phases 1 and 2). These questionnaires contained a mixture of both quantitative and qualitative questions, and were completed anonymously by students at the commencement and completion of their phase.

Analysis

Analysis was undertaken by the lead student and the evaluation lead student. Qualitative results were analysed using descriptive techniques³.

Results – phase 1

Quantitative

All six students filled in the identical pre and post-SSC questionnaires. They were asked for responses on a rating scale from one ('strongly agree') to seven ('strongly disagree') for 12 questions. The post-SSC questionnaire also included two free text questions.

Unfortunately not all students gave an identifier so we were unable to match their pre- and post-SSC answers for analysis.

Results from the quantitative questions are shown on the next page (figure 10). Response ranges are shown on each bar. Ten questions had an increased median score after completing the SSC. The remaining two had the maximum median score of seven before and after the SSC.

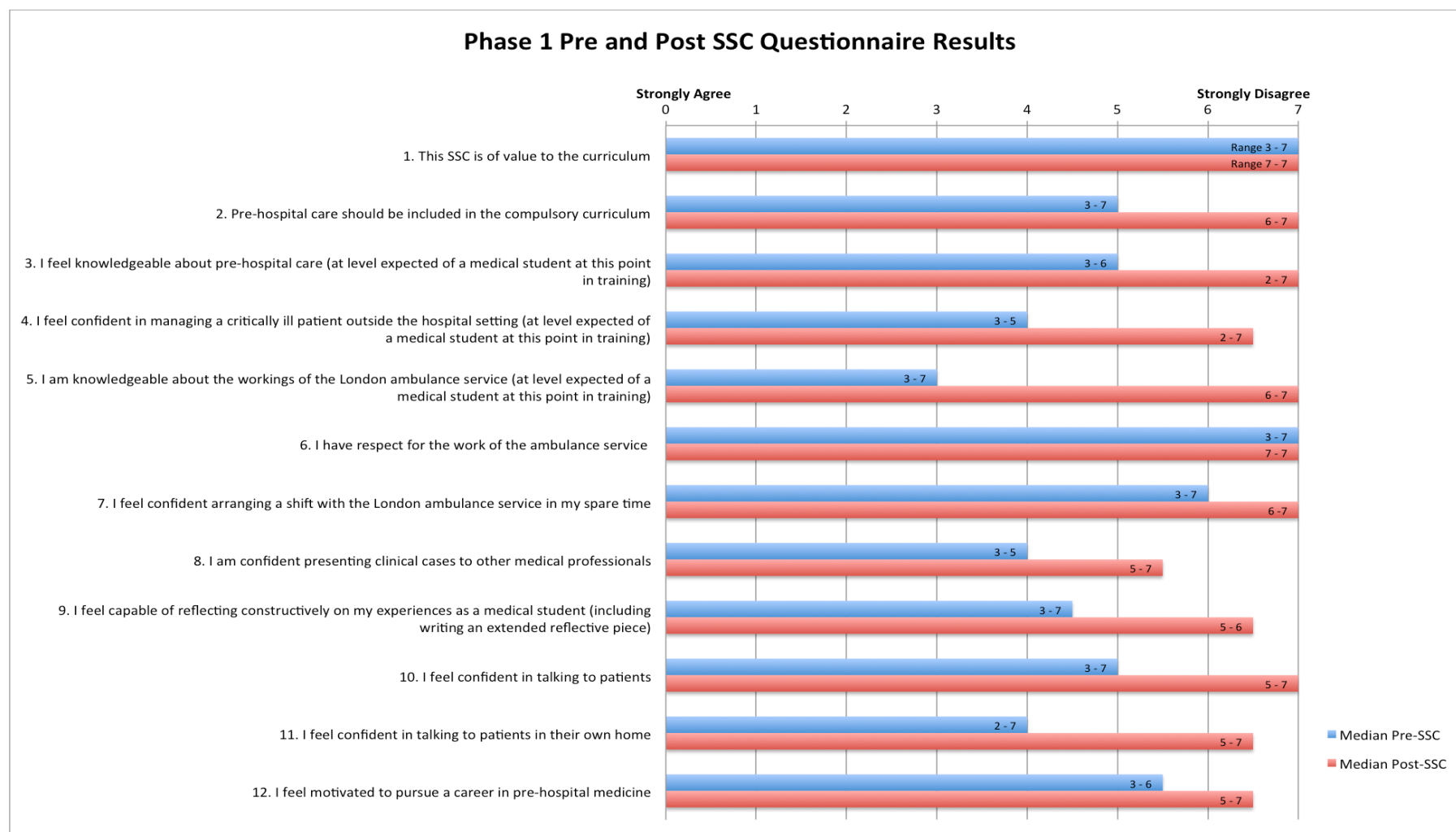


Figure 10: Phase one quantitative results

Qualitative

Students felt that the time spent on our programme complimented their core curriculum learning. They found that the experience of seeing pre-hospital patients reinforced the physiology learnt in lectures, with one student saying that the programme gave “a sense of achievement” as they were able to start to truly think like a Doctor.

Students also commented that there was great scope for meaningful reflection as part of our programme, and indeed they positively “enjoyed” reflecting on their activities.

Equally concerning enjoyment, students commented that they found their time spent with the LAS and their Paramedic mentors most enjoyable, and indeed with the LAS there was “never a dull moment”. They also commented that they felt a sense of community in being a part of the LAS.

In addition, students felt that the programme was very well organised, and they enjoyed the clarity of instruction they were given. In addition, students enjoyed the forums as they were found to be clinically relevant to their time spent with the LAS.

Overall, one student commented that this programme is “exceptionally useful for all medical students” and that the programme should be made available to “more people”.

Medical school feedback

In addition to our own internal evaluation, the medical school also conducted anonymous feedback on our behalf.

All phase one students who responded to the questionnaire gave the programme the maximum 5/5 score across the board: enjoyment, usefulness, ease of timetable understanding and quality of the constructive feedback they received.

Results – phase 2

Quantitative

All six students filled in a pre-SSC questionnaire, and five filled in an identical post-SSC questionnaire. They were asked for responses on a rating scale from one ('strongly agree') to seven ('strongly disagree') for 12 questions. The post-SSC questionnaire also included two free text questions.

Concerning the quantitative, eight questions had an increased median score after completing the SSC (figure 11). Three questions had the maximum median score of seven before and after the SSC, one kept the same median score of six, and one fell from 6.5 to 6.0.

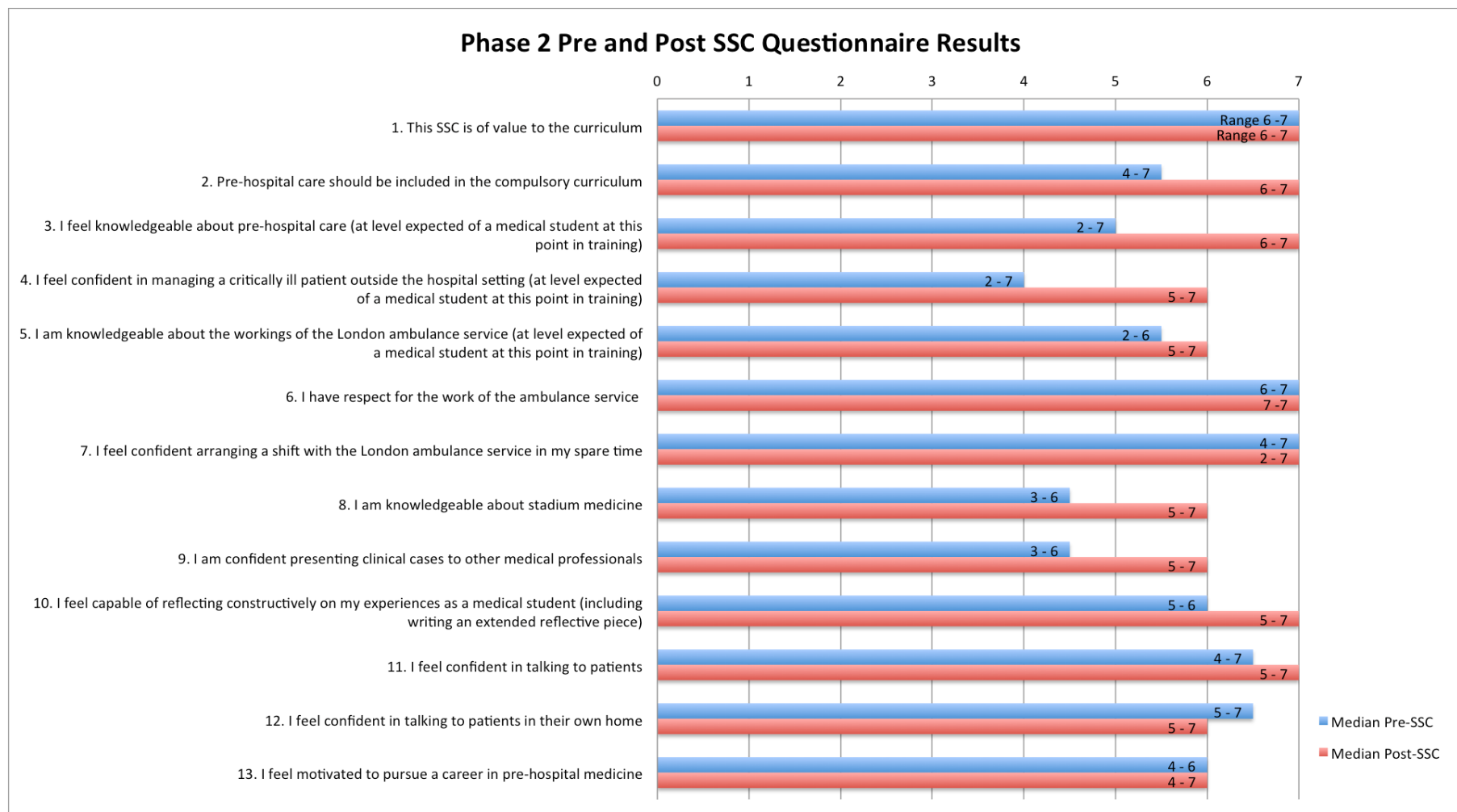


Figure 11: Phase 2 quantitative results

Qualitative

As with phase one, students found their experiences complimented their core curriculum learning, with one student saying it was “particularly pleasing to apply the knowledge [he/she] had learnt in the past two years to clinical cases”. Equally, one student commented that the experiences “really reinforced the lecture material covered over the previous two years of [the] MBBS and showed how such conditions manifest themselves in the flesh”. This student continued, saying that they “feel [they] have a better grasp of cardiac medicine, in particular, compared to [their] understanding prior to this SSC”.

One student commented that the programme helped enhance their “communication skills” and that they feel “more confident” going into clinical years because of it. Equally, one student highlighted their greater understanding of the wider medical team by saying they now have a “greater appreciation of what happens before patients reach hospital and the type of care involved”.

Similarly to phase one, students found their shadowing time at WNS and with the LAS most enjoyable. They enjoyed being part of a working medical team, and they enjoyed “medicine on the front line”.

Finally, as with phase one students, phase two students commented on how “well organised” the programme is, with the overall summary that their time spent on the programme was “incredible”.

Medical school feedback

In addition to our own internal evaluation, the medical school also conducted anonymous feedback on our behalf.

Four out of the five respondents rated the programme ‘excellent’, with the fifth respondent rating it ‘very good’. Three out of five respondents rated the timetabling ‘excellent’ with the remaining two giving the timetabling ‘very good’. Three out of five respondents ‘strongly agreed’ the feedback they received was constructive, with the remaining two responding ‘agree’.

Paramedic feedback

Our lead Paramedic facilitated anonymous discussion groups and feedback from the programme's Paramedic mentors (figure 12). This was with the aim of ensuring that our Paramedics also gained from having medical student mentees. The feedback was all qualitative white space responses to set questions. It was analysed by the student lead using descriptive techniques.

Paramedics felt overwhelming positive about having a formal relationship with medical students. This is largely due to two factors; the benefits of teaching medical students and the benefits of learning from medical students.

Concerning teaching medical students, Paramedics commented that junior Doctors can often be the most "difficult" to deal with in hospitals. Perhaps because they "lack confidence", they can sometimes appear "arrogant" and "belittling" towards ambulance staff. Paramedics commented that exposing and teaching medical students about their work can foster a "respect" between the two professions which will be of benefit to both each other and the patient's care. Another Paramedic echoed this sentiment, stating that mentoring medical students can harness a "better understanding of inter-disciplinary involvement and cooperation", as medical students "experiencing [the pre-hospital] environment will help the future clinician to understand the limitations and difficulties of working in dynamic out of hospital arena with little or no backup, support, Consultant advice or diagnostics equipment."

Paramedics also felt that the experience they offer medical students greatly contributes to increased proficiency around clinical decision making. One Paramedic commented:

"Pre-hospital exposure is beneficial as I feel that hospital based Doctors only ever see genuinely sick patients who have been admitted, therefore they tend to assume every patient is seriously unwell. In contrast, I see very few seriously unwell patients – instead thousands with minor complaints. Therefore, my initial assessment skills are fine tuned to look for subtle signs of illness that might actually warrant work up and investigation. Gaining an understanding of the subtle signs and observational skills we use is invaluable."

Paramedics also expressed considerable feeling surrounding what they can learn from medical students. Paramedics commented that they find medical students to be "intelligent, committed, academic" individuals who "prompt [Paramedics] to maintain high standards of patient care". Paramedics also said they enjoyed the "intelligent discussion of patient presentations" with medical students, and that overall they learn a lot from a medical student presence.

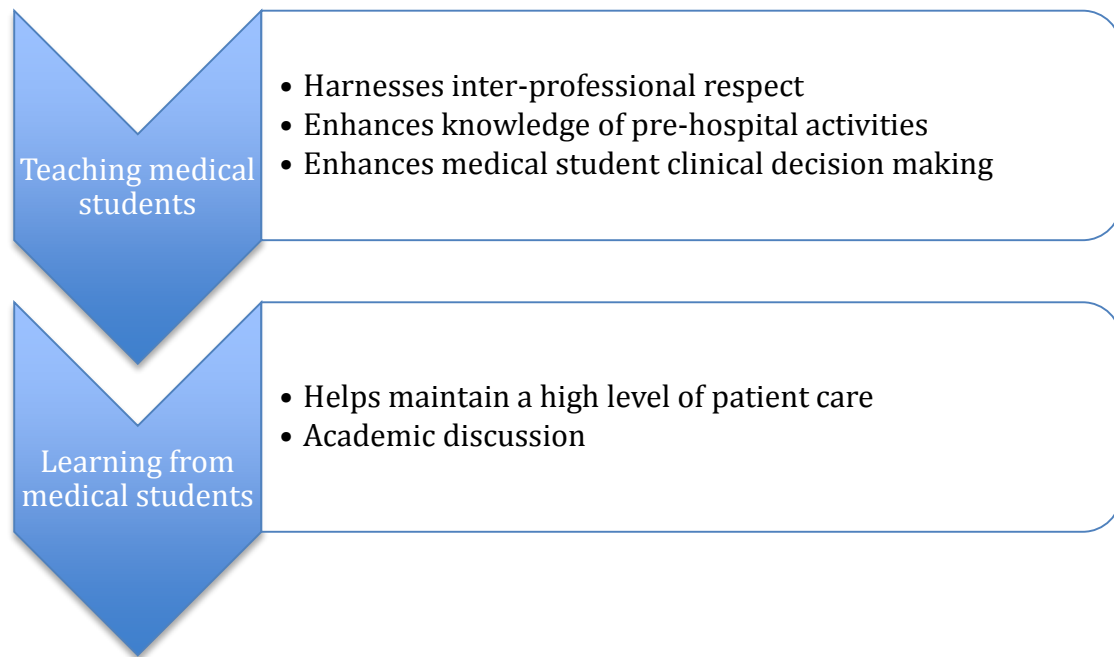


Figure 12: Paramedic feedback

Improvements

Part of our evaluation strategy also involved talking to our students and stakeholders around how we can improve our programme (figure 13).

One area identified was our communication strategy. Whilst it is clear that individual phase gmail addresses was a reasonable concept, the practicalities of two phase leads using the same account proved slightly troublesome; it was sometimes unclear whether received e-mails had been replied to, and indeed whether e-mails had been sent to phase students. The student and Consultant lead found it particularly difficult, sometimes, to know whether communications had been received and acted upon by the recipient. From next academic year, we hope to operate our communications using 'Moodle', an online platform used by UCL to share timetables, lecture notes and communications between UCL staff and students. This should eliminate the problems described above.

As with our inaugural year, there were teething problems with securing Paramedic mentors. When Paramedics were initially approached by our Paramedic lead, the response was universally enthusiastic. However, student and Paramedic mentor rotas were often not compatible, and indeed Paramedics sometimes changed their base ambulance station meaning it would be impractical to remain as a mentor for UCL-based students. This said, we were able to find mentors for all our students and once a relationship was established, it proved very fruitful. In future years, we hope to further offer mentors official recognition from UCL in the form of a letter or certificate. We hope Paramedics may find this useful for their portfolio and career progression, and thus further engage a clearly interested cohort of clinicians.

Students commented that they would like more practical sessions beyond the optional monthly clinical skills evenings. Equally, they would like these sessions to be longer and with more use of the simulator. We have secured an agreement with our local simulation centre which means we are guaranteed access to the centre during academic year 2015-2016, and so we hope we can act on the suggestions made this year.

Students also commented that they would like to know the dates of the monthly forums in advance, as sometimes only knowing three weeks in advance meant they had to change other plans. We find this suggestion to be fair however difficult to act upon due to the lack of bookable room space on campus, and also the availability of external speakers. Our forum lead for academic year 2015-2016 has been made aware of these comments, though, and hope to offer as long a notice as possible before each forum.

Finally, students commented that they would like more guidance on their longer academic piece of writing. The committee feels this is fair feedback and will be putting together a document detailing the piece's requirements before the commencement of next academic year.



Figure 13: Improvements

Conclusion

During academic year 2014-2015, UCL ran its first extended pre-hospital care programme. Consisting of three rolling SSCs over a four year period, the first two ran this academic year with a complement of 12 students in total. The third SSC will run for the first time in academic year 2016-2017. We believe we have proved that pre-hospital care has a place within medical school curricular. We believe that our programme confers educational value whilst adopting a structure and characteristics which bestow longevity and sustainability. We believe we have improvements to be made, and we hope to better our offering into future years. Equally, in the future we hope to offer more SSCs with a more research-focused perspective. We hope to offer these from academic year 2015-2016. We also hope to broaden our provider network so as to offer our students different pre-hospital perspectives.



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Appendix

1 – Ambulance UK student article

Appendix 1 - Tom Durham- first year medical student at UCL

Out-of-hospital paediatric cardiac arrest a reflective article

As a first year medical student from UCL I am very privileged to be part of our prehospital care programme. It gives six others and I the chance to experience the frontline of healthcare and to be involved with many prehospital opportunities. On the 22nd December 2014 I had an experience that many others will not have for many years.

Two hours into my second observing shift with the London ambulance service the call to a 2-month year old in cardiac arrest came through. I was onboard the fast response unit and we arrived in four minutes to the scene where another ambulance crew had arrived one minute previous. The 2-month year old was on the floor in the top room of the house and had been to hospital twice that week with bronchiolitis. I was struck by the calm of the paramedics as I entered the room and they began resuscitation. We left the house minutes after arriving and all boarded the ambulance. On the way to Whipps Cross hospital intraosseus drug access was obtained and we arrived at Whipps cross 12 minutes after the call had originally come through. The accident and emergency team took over and for the next 40 minutes resuscitation was attempted however at 12:32 resuscitation was ended with no return of spontaneous circulation being achieved.

Throughout the case it became apparent to me that although the primary focus should be on the child as the main patient, the family must also be considered during what must be a horrific experience. In the initial moments the communication with the family was minimal as the paramedics focused entirely on the child. The mother of the child travelled with us on the ambulance and little could be done to comfort her. In a prehospital arrest it is very hard to devote any time to family members, as the attention must be focused on the patient. On arrival at A/E a dedicated member of staff came and sat with the mother. I feel that the role of this member of staff was to ensure that the mother did not feel alone during the resuscitation attempt.

Seeing the whole process unfold it made me question if it is beneficial for a family member of the patient to be present during the resuscitation. There are two sides to the argument. For some individuals seeing that the medical team is trying everything they can to save the patient may help them to find closure in an unsuccessful outcome. However for others seeing the process could make it harder for them in the future and potentially have detrimental psychological effects. I feel that families should not be forced to witness resuscitation but think that it is overall beneficial for them to be there. Healthcare workers must be sensitive to each family's needs and the dedicated staff member helps to achieve this.

After the treatment was ended the ambulance crews and I sat down for a debrief session to discuss if anything could have been performed better alongside

discussing the emotional aspects of the case. I discovered that the emotional drain on any individual involved in a case such as this is great and the debrief sessions helped to lessen the lasting negative emotional impact. I found it difficult after finishing the shift that day seeing other families with young children and reconciling what I had just seen. However, by having had the opportunity to talk helped me to move on and learn from the case. I feel that without the debrief it may have taken me longer to come to terms with the day. It made me question the coping mechanisms of healthcare professionals who see traumatic cases on a regular basis. The difficulties were particularly shown when the resuscitation was ended and the mother became increasingly emotional towards the medical team. This may be hard to handle for any medical professional.

I also realized that the prehospital setting presents a unique set of emotional factors compared to an arrest in hospital. Having seen a cardiac arrest once before in an A/E department I felt that the prehospital arrest was in some way 'more real'. In a hospital the environment is far more sanitised and devoid of the personal life of the individual. In the prehospital setting it is clear to see the patient in the context of their family and personal life. In my opinion this makes it harder to move on from a case. Seeing the child, as a member of a family with siblings and parents is very different compared to the more medicalised A/E resus experience.

This case also highlighted to me the importance of first aid training. When we arrived no CPR had been started for at least 4 minutes. CPR is so often taught from the perspective of an adult patient however I feel that the introduction of CPR training in pre-natal/post-natal appointments and classes may be a beneficial step. The teaching may raise emotional obstacles of trying to teach parents a skill for the worst-case scenario when they have a young child. This may be a difficult thing for them to think about. However, I feel parents would want to learn these skills to help their child if they ever needed it. I certainly would have felt more confident in delivering compressions if the patient was an adult however would have been reluctant to help with a paediatric case with my level of basic first aid training.

In conclusion, a prehospital paediatric arrest presents a unique emotional situation. The total focus of the emergency teams on the patient means that families face a very lonely time during what must be one of the hardest situations to face. The allocation of a dedicated support member of staff within the emergency department acknowledges the fact there are more than one 'patient' in these situations. Alongside the impact on the family the medical teams are presented with a challenging set of emotions to contend with. The prehospital setting puts the patient in a very personal context. I feel that the debrief session plays a vitally important role for healthcare workers to come to terms with difficult situations. The case also highlighted to me the practical need for increased CPR training for parents. On reflection I feel that this case has been an excellent learning experience for me. Helping me to realise the emotional impact on the family and the healthcare workers. As well as beginning to understand how this can relate to optimal patient care.