7. Staffing and Training

7.1 Staffing of Air Ambulances

Staffing of air ambulances varies between and within services where some services have opted for a paramedic crew and some the physician-paramedic partnership. The differences reflect patient need and the range of interventions undertaken / drugs administered, which depends on the formally approved local clinical agreements in place. This document does not promote any one particular configuration as this will depend on the role of the air ambulance service and the clinical requirements. However the clinical teams always require suitable selection, induction, training and clinical support.

Guidelines on minimum crewing of aircraft have been developed by the Joint Aviation Authority and are attached at Appendix C.

7.1.1 HEMS Crewmembers

The ability for a HEMS crew to operate effectively in stressful situations requires a lot of teamwork and confidence in both their own and each other's abilities. The HEMS organisation should strive to instigate the required ethos early on. There should be agreed selection criteria for new doctors and paramedics, and once selected they should be inducted together via a training programme that allows each to develop their skills alongside the others. A course such as the UK HEMS Helicopter Crew Course allows this type of integration, building a baseline of Crew Resource Management upon which the teams can build.

HEMS crew members are individuals assigned to a HEMS flight for the purpose of attending to any person in need of medical assistance carried in the helicopter and assisting the pilot during the mission. The HEMS Aircrew training requirements and currency quotas are laid down in JAR OPS. Areas that should be covered by training include:

- duties in the HEMS role
- navigation (map reading, navigation aid principles and use)
- operation of radio equipment
- use of onboard medical equipment
- preparing the helicopter and specialist medical equipment for subsequent HEMS departure
- instrument reading, warnings, use of normal and emergency check lists in assistance of the pilot as required
- basic understanding of the helicopter type in terms of location and design of normal and emergency systems and equipment
- crew coordination
- practice of response to HEMS call out
- conducting refuelling and rotors-running refuelling
- HEMS operating site selection and use
- techniques for handling patients, the medical consequences of air transport and some knowledge of hospital casualty reception
- marshalling signals
- underslung load operations as appropriate
- winch operations as appropriate
- the dangers to self and others of rotor-running helicopters including loading of patients

- the use of the helicopter inter-communications system
- Where a paramedic-doctor care model is adopted, the doctors should be fully trained as HEMS crew member or operate as a Medical Passenger (See Section 7.1.3).

The increased training will provide an improved level of patient care. The autonomy of the staff to undertake many of the advanced procedures must be clearly and robustly documented and agreed with the Clinical Advisory / governance arrangements of the ambulance service/charity and the Health Professions Council.

7.1.2 Clinical Advice to Crews

Each service should establish a rota of senior clinicians available for on-line medical advice. If the crew is a paramedic-only crew there may not be an automatic need for an on-call consultant as clinical governance responsibility will fall under the clinical governance lead for the service. This must provide immediate (i.e. under 5 minutes) consultant medical advice for duty crews throughout the operating hours of the service. This facility should be regularly tested and the results reported to the Clinical Governance Committee. Each patient episode will have a named consultant.

7.1.3 Medical Passengers

There are two distinct types of crew on a HEMS aircraft - aircrew and medical passengers. These fall under strict criteria with regard to the Civil Aviation Authority. The aircrew are integral to the safe running of the aircraft, navigation, using the radios, ensuring passenger safety, performing refuels and checking for in-flight and ground-based hazards. Being classed as aircrew, they will require annual 'line-checks' to ensure they remain competent. Medical passengers, however, have no role and are classed solely as passengers.

Different approaches are taken in different services. At London's Air Ambulance for instance, the organisation uses two pilots on every mission and the doctor and paramedic remain in the cabin. They are not expected to operate the doors or perform any navigation. Other models ensure at least one member of the clinical team is trained, current and line-checked. These crew members will participate in the aircrew roles to include sitting in the co-pilot's seat and assisting the pilot where required.

A medical passenger is defined as a medical person carried in a helicopter during a HEMS flight, including but not limited to doctors and paramedics. Prior to any HEMS flight, or series of flights, medical passengers shall be briefed on the following:

- familiarisation with the helicopter type(s) operated
- entry and exit under normal and emergency conditions both for self and patients
- use of the relevant onboard specialist medical equipment
- the need for the commander's approval prior to use of specialized equipment
- method of supervision of other medical staff
- the use of helicopter intercommunication systems
- location and use of onboard fire extinguishers.

If the crew configuration consists of a crewmember who provides a clinical benefit to patients and who attends on a regular basis but has not yet undertaken the full HEMS Aircrew course, then a full one-day aircraft and operational familiarisation course should be undertaken. This course should be competency based and include a manual handling section.

7.1.4 Aircraft Dispatchers

Air Ambulance Services need to work closely with their local Ambulance Service(s), to establish optimal dispatching to ensure that the most appropriate calls are identified and the cancellation rate is minimised. Systems which work well utilise dedicated HEMS dispatcher-trained personnel, Flight Paramedics/Critical Care Paramedics working within the ambulance control room. These individuals develop the ability to identify suitable calls for the helicopter through the use of immediate dispatch for certain types of call and ring-backs to question the caller and identify the need for the HEMS team. Other systems use dispatchers in the aircrew room with screens for the area served by the air ambulance.

Tasking Authority personnel should undertake additional training specifically relating to the deployment and capabilities of air ambulances. They should be encouraged to develop a close working relationship with the air ambulance operations, and where possible, participate in all aspects of Crew Resource Management. Correct tasking is directly linked to the health & safety of the aircrew, patients and the public.

Where the HEMS dispatcher is co-located within an ambulance communications centre (control room / clinical hub), they must be autonomous in their decision making process for HEMS tasking to ensure only clinical urgency is used to effect a HEMS dispatch.

It is recommended that the dispatcher:

- be a designated role and considered part of the flight team
- should have a good knowledge of flight operations and safety
- should be competent to make decisions based on clinical need.

7.1.5 Observers

Air Ambulance Services may attract observers who may or may not have a clinical background but accompany the clinical team on missions. In order to maintain patient care as the priority, observers should only be carried if medically trained to required standards or if they hold a valid HEMS qualification. The same safety standards should apply to any individual involved in air ambulance operations. No observer should fly with the aircraft if it impinges on the treatment of a patient or the safety of the aircraft.

Any observer should receive a standardised formal briefing on the safety and operational aspects of the organisation and on the limitations around their involvement before undertaking any mission. This briefing should be recorded and logged and repeated every six months as necessary.

7.2 Selection of Staff, Training and CPD

7.2.1 Clinical Competencies

All aircrew must be fully registered with, and meet the CPD requirements of, their individual governing body. Specifically:

- all Flight Paramedics must be fully registered with the Health Care Professions Council (HCPC)
- Charities employing doctors should ensure that doctors demonstrate competencies in emergency medicine and that doctors have a minimum level of competency at specialist registrar or above. Specialty requirements vary between the services but the most common are anaesthetics and/or intensive care, emergency medicine or Emergency Department.

7.2.2 Selection of Doctors

HEMS doctors should be selected on criteria agreed by the organisation. Advertising for the roles should be undertaken nationally in the British Medical Journal, but locally employed physicians will improve the interactions with receiving hospitals and should also be considered. It should be stressed that the reputation of the local Air Ambulance Service rests largely on the ability of the doctors and their relationship with the ambulance service and hospitals that HEMS is supporting. HEMS physicians may originate from a number of specialities including Emergency Medicine, Anaesthetics and General Practice. Regardless of specialist medical background, doctors should have a strong grasp of the fundamentals (and demonstrate practical ability) in the other acute specialities i.e. an anaesthetist should have completed a significant period of emergency medicine and an emergency physician should have a background in anaesthesia and critical care. To this end most HEMS operations require similar criteria:

- Post Membership / Fellowship exam holder
- Usually senior registrar – year 4+ or consultant
- Demonstrate extensive pre-hospital care experience
- Proof of interest in pre-hospital care
- Preferably has DipIMC RCSEd or equivalent
- ALS/APLS/ATLS/MIMMS current
- Adaptable
- Personable
- Clinically proficient
- Willing to undertake a full training course
- Agree to work under agreed SOPs
- Willing to subscribe to clinical oversight
- Subscribes to the vision of the HEMS organisation.

Potential HEMS doctors should undergo a period of observation on the aircraft, watching the team work. This will allow a mutual look at each other to assess whether the doctor wishes to join and the paramedics feel they can work with the doctor. Upon selection, the physician should undertake the prerequisite training courses and examinations before being allowed to operate as the sole physician.

Whilst there will be some GPs who will have the appropriate training (usually BASICS), many GPs are not able to deliver the prerequisites ascribed by NCEPOD as necessary to perform the role of pre-hospital care successfully.

BASICS doctors come from a variety of medical backgrounds with an interest in pre-hospital care. Since the development of BASICS in 1977, doctors who were perceived as keen amateurs with a 'pastime approach' [40] were responsible for providing much of the pre-hospital care in complicated cases or in remote locations. Public and political demands upon the NHS over the past few years have resulted in higher levels of scrutiny concerning the services it provides. This in turn has led to organisational and legislative changes regarding patient safety through means of clinical governance and risk management strategies. Pre-hospital care falls under the umbrella of the NHS but as yet remains outside of the clinical governance and regulatory directives the NHS adheres to.

In effect, therefore, the standard of pre-hospital care responder (whilst a full member of BASICS) can vary dramatically in their range of skills and experience. Whilst the issue is in the process of being rectified by the Faculty of Pre-hospital Care for both civilian and military doctors, this is likely to take time. Careful selection of BASICS doctors is therefore required to ensure consistent standards of care.

The recent recognition of Pre-Hospital Emergency Medicine as a formal sub-speciality has led to the development of specific pre-hospital training programmes for doctors, which include training in the skills required to provide HEMS care. It is anticipated that in time this may become the standard route by which doctors become involved in air ambulance work

7.2.3 Employment of Paramedics

There are two models of recruiting paramedics into a HEMS system. The first is for the organisation to employ its own staff. This allows for the organisation to train and develop the service with a core of staff dedicated to HEMS. The second option is to obtain suitable paramedics on secondment from their parent ambulance service. Whilst the HEMS organisation does not claim exclusivity of its staff, the benefits of this include:

- a larger pool of potential paramedics
- increasing awareness of HEMS as more ambulance staff do it
- prevention of stagnation in the organization
- injection of 'new blood' and enthusiasm at regular intervals
- lower cost implications on the organisation if secondments exist
- direct links with both the Ambulance Service and the NHS.

7.2.4 Trainees

The HEMS service should actively participate in selecting and training future HEMS doctors. Where possible this should be in partnership with training Deaneries to deliver formal Pre-Hospital Emergency Medicine sub-specialist training.

7.2.5 Induction

A general induction / orientation period of one day should be obligatory for all new permanent staff who should then enter a documented training programme with an associated list of competencies to be achieved. For HEMS crew members, all staff undertaking unsupervised practice must have completed and passed either the UK HEMS Helicopter Crew Course (see Section 7.1), or a nationally approved alternative. In addition they should have received other relevant training, such as JAROPs training, extrication methods, working in confined spaces etc.

Staff must complete an operational signing-off process under the supervision of senior members of the clinical team. For medical staff this will involve a supervised review of competencies in practice, after a specified period of supervised training. For paramedics it will involve a similar review of their competencies, both clinical and non-clinical by a senior HEMS crewmember.

7.2.6 In-Service Training

Each member of staff should have a formal review undertaken every six months, covering all aspects of their clinical work, documentation and development. The records from these discussions should form part of their CPD portfolio.

Due to the specialist nature of air ambulance operations it is envisaged that most units will provide additional update / development training for their staff. If a unit has dedicated crews, it is advisable for provision to be made for the staff to spend time working with other agencies such as hospitals, road crews etc.

Annual Fire Training should be brought in to ensure the highest levels of safety for the patients, staff and the general public.