

Appendix 1

Policy Background

Discussion around the potential benefits of a HEMS/AA for Northern Ireland has taken place at the public, clinical and political level over a number of years. Several reports have been produced, whilst both local interest and global developments, particularly in the field of trauma medicine, have brought increased momentum to the issue. This section therefore aims to set the current consultation in context by providing an overview of the journey to date.

2003 Feasibility Study: All-Island HEMS

A 2003 study commissioned by the Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS) and the Republic of Ireland Department of Health and Children¹ examined the feasibility of an all-island HEMS.

It concluded that the economic and financial case for HEMS in Ireland was equivocal, particularly in a primary response role, but that there might be potential for a service providing rapid inter-hospital transfer of critically ill or severely injured patients escorted by appropriately skilled and trained medical professionals. In response, DHSSPS announced its priority was to concentrate resources on developing the existing ground ambulance service as the case for introducing a HEMS was insufficiently strong.

2012 Feasibility Study: HEMS/AA for Northern Ireland

Given the continued public interest in establishing a HEMS/AA since the 2003 study, the Minister for Health, Social Services and Public Safety asked the Health and Social Care Board, as commissioner of ambulance services, to commission a further feasibility study in 2012 examining the feasibility, need for and sustainability of a HEMS/AA, this time focusing solely on Northern Ireland.

¹ Feasibility Study on a Helicopter Medical Service (HEMS) for the Island of Ireland, 2003 (conducted by Booz Allen Hamilton)

[The final report²](#) concluded that whilst there was a level of support for the introduction of a HEMS in Northern Ireland, there was a limited amount of data to conclude with certainty how many cases might benefit from it. Given the ongoing programme of strategic change in health and social care at that time, the report recommended that investment should not be progressed at that time, but revisited in 3-5 years. The Department's policy position thus remained focused on the development of the existing ground ambulance service.

The report also provides a useful overview of how HEMS/AA services operate in other parts of the UK, including their hours of operation, staffing models, types and frequency of missions flown, capital and running costs, and funding models.

Establishment of the Northern Ireland Major Trauma Network

The Minister's Assembly Statement on 3 September 2015 announced the recurrent investment required to establish a Major Trauma Network for Northern Ireland. This had previously been proposed following a Departmental consultation in 2007, and further recommended as a key action under Transforming Your Care (TYC) in 2012, however competing priorities had prevented its implementation until now. The Health and Social Care Board (HSCB) and Public Health Agency (PHA) are leading this work and seek to formally establish the Network by April 2016.

The aim of the Trauma Network is to provide the infrastructure, in line with best practice in the UK, Europe and across other developed countries, from which commissioners, providers, public health representatives and other stakeholders can collaborate to plan, coordinate and manage the treatment of people injured as a result of Major Trauma.

The Network will support the coordination and delivery of safe, accessible and high quality trauma care, including pre-hospital care, bypass protocols, monitoring and evaluation, leading to reduction in mortality and severe disability, reduction in length

² Feasibility Study on the Provision of a Helicopter Emergency Medical Service / Air Ambulance for Northern Ireland, 2012 (conducted by Deloitte)

of stay, and improved rehabilitation leading to improved life outcomes. The Royal Victoria Hospital will be the Regional Major Trauma Centre (MTC) for Northern Ireland, supported by Major Trauma Units (MTU) located throughout Northern Ireland within a 'hub and spoke' network.

It is estimated that approximately 540 major trauma cases occur annually in Northern Ireland. These can only be confirmed as such after treatment, depending on certain clinical criteria having been met. Due to this 'over triage' the number of times a major trauma response is activated is in fact much higher, estimated at 1800 cases per year.

A trauma network provides the most appropriate infrastructure in which a HEMS would operate, as major trauma is seen as the medical specialty likely to derive most benefit from its introduction. The establishment of the Northern Ireland Major Trauma Network is not fully dependent on a HEMS, however the parallel development of a HEMS is considered to be an important means of achieving the full benefits that the Network can bring.

Appendix 2

Overview of Current Service Provision in Northern Ireland

This section provides an overview of the current ambulance service operated by the Northern Ireland Ambulance Service (NIAS) Trust, including its use of helicopters and other aircraft through agreements with other organisations.

The Northern Ireland Ambulance Service (NIAS) Trust operates a single Northern Ireland-wide ground ambulance service. Additional services are in place for the transfer of critically ill patients between hospitals (by road in Northern Ireland and by air to GB/Ireland), and helicopters are available, through partnership with other organisations, for use in search and rescue missions and major incidents. There is no regular, dedicated HEMS or AA service operating within Northern Ireland.

Current Service Provision – NIAS

The Northern Ireland Ambulance Service (NIAS) Trust operates a single Northern Ireland-wide ground ambulance service, from 59 ambulance stations and deployment points across the region.

In 2014/15, NIAS received 191,727 emergency calls, of 178,350 were responded to, of those 56,934 (31.9% of total volume) were classed as Category A emergency (an immediate threat to life); 69,555 (39.0% of total volume) were Category B emergency (serious, but not life threatening); and 51,861 (29.1.0% of total volume) were Category C emergency (neither serious nor life-threatening). Overall, 32,862 (57.7%) of Category A calls NIAS responded to across Northern Ireland were within the target time of eight minutes. The most common reason for a more than eight minute response time was distance to be travelled.

The NIAS are a paramedic led service and aim to have a paramedic on every emergency ambulance. NIAS paramedics are supported by Emergency Medical Technicians. NIAS paramedics can undertake comprehensive patient assessment and are skilled in delivering both emergency and urgent care. The paramedics can

use a range of pre hospital equipment such as traction splints; carry out invasive procedures such as intubation and administer a range of drugs including intravenous morphine and paracetamol. Although NIAS paramedics are competent and skilled clinicians, they are unable to offer the full range of therapeutic interventions as that of a HEMS doctor.

NIAS introduced Rapid Response Vehicles (RRVs) in 2003 to provide an alternative means of early clinical intervention in life-threatening situations. The RRV's staffed by paramedics are dispatched to the most serious of 999 emergencies (Category A calls) and can often respond more quickly than traditional ambulances. The RRV paramedic will undertake a comprehensive patient assessment and initiate treatment. The RRV paramedic can provide life sustaining care such as defibrillation, airway management and drug administration until the emergency ambulance arrives. In cases whereby the patient is not as ill or injured as described in the initial 999 call, the RRV is able to utilise a number of appropriate care pathways which prevent the patient needing to travel to the ED. For example, RRV paramedics can refer patients to a falls team; diabetic specialist nurse or a minor injury unit. Utilising these pathways will also ensure ambulances are available for genuine emergencies. As RRV paramedics do not transport patients to hospital, they are often available for further emergency calls when they leave the scene of an incident. An emergency ambulance will not be available for further emergency calls until the crew have handed their patient over to a nurse at the ED.

RRVs are typically dispatched simultaneously with an emergency ambulance and can often respond to emergency calls more quickly than larger emergency ambulances. The RRV paramedic will provide life sustaining care including defibrillation, airway protection and drug administration until the emergency ambulance arrives. They treat patients at the scene and normally do not transport patients. Therefore, they are usually available to attend another emergency call as soon as the emergency ambulance has arrived on scene and remain available for a much greater proportion of their working day (an emergency ambulance will not be available for use again until it has finished transporting a patient to hospital).

NIAS Inter Hospital Transfers

As well as primary response to emergency incidents, NIAS also undertakes inter-hospital transfers – a total of 13,561 emergency inter-hospital transfers occurred in 2014/15. The hospital that received the most transfers was the Royal Victoria Hospital (3,709).

A subset of the transfers recorded by NIAS is those provided by the Northern Ireland Critical Care Transfer Service (NICCaTS). This service commenced in 2000, with the aim of providing an Intensive Care Unit doctor, full monitoring and ICU support whilst transferring critically ill adult patients, requiring medical escort, from hospitals within Northern Ireland to the most appropriate available ICU. NICCaTS is based and operated out of the Regional Intensive Care Unit (RICU) at the Royal Victoria Hospital. On average, there have been 337 transfers per year from April 2004 until March 2010. The total number of transfers in this period was 2,022. The number of transfers that took place for the period April 2014 to March 2015 was 339.

All acute hospitals throughout Northern Ireland use the service. The most common reasons for transfer are – referring hospital has an ICU but no bed available (36% of transfers); referring hospital has no ICU facilities (30% of transfers); and the referring hospital does not have the service required by the patient (24% of transfers). The majority of patients transferred were not surgical or trauma cases, but medical cases, including for example, pneumonia, sepsis, COPD, drug overdoses and acute renal failure.

Use of Helicopters and other Aircraft

At present there are several means by which helicopters and aeroplanes are deployed for medical transportation in Northern Ireland, either in search and rescue (SAR) missions or planned transportation of patients. These operate under specific contracts put in place, as outlined below, to meet identified occasional needs. None provide a regular HEMS/AA service within Northern Ireland.

Transfer by Air Ambulance

A contract is in place between the HSCB and a private aviation company for the transfer of critically ill patients by private fixed wing aircraft to hospitals outside of Northern Ireland. The majority of transfers are within the UK. This is a planned service, carried out as demand dictates and initiated by the individual HSC Trusts. This tertiary service is only for transporting patients outside of Northern Ireland.

PSNI Air Support Unit

The PSNI Air Support Unit (ASU) has three helicopters, each capable of carrying one stretcher casualty and between 3-6 crew (dependant on aircraft type) in rescue situations. NIAS can request a helicopter from PSNI to attend the scene of an accident under the terms of a Memorandum of Understanding which states that PSNI ASU will provide, where possible, support to NIAS in a 'Casevac' role, i.e. evacuation of a casualty from the scene of a potentially life threatening incident. Examples would include Road Traffic Collisions (RTC), industrial/farming accidents, and medical emergencies in rural locations.

NIAS has full responsibility and authority for treating the casualty (including, if necessary, providing personnel during the flight) and secondary transportation from landing site to destination hospital. PSNI helicopters are not equipped to deal with search and rescue (SAR) missions where winching is required. In the 12 months up to 31 August 2015, PSNI provided support with 15 Casevac's, which is typical of the average number of cases per year. The police helicopters are primarily for PSNI's own operational purposes and may only be called upon in exceptional circumstances – they are not equipped to provide a regular HEMS. PSNI is not licensed to perform 'Medevac' operations, defined as transfer of a patient from one hospital to another.

Maritime & Coastguard Agency (MCA)

The MCA provides a comprehensive search and rescue service for those reported in trouble either on land, on water or in the air and for those reported missing. It does so by coordinating SAR responses, tasking emergency vehicles to respond including the Royal Air Force (RAF), Irish Air Corps, Royal Navy and, occasionally, PSNI helicopters. These provide access to any point in Northern Ireland within an hour's

flying time. MCA estimates that between 75-100 SAR incidents per year use a helicopter in response to calls raised directly with the Coastguard.

In specific circumstances, NIAS will directly seek MCA support for non-maritime incidents, e.g. casualties in inaccessible places where a winching facility is required. Similar to PSNI, a memorandum of understanding exists between NIAS and MCA that must be adhered to for the call out and coordination of helicopters. The number of cases where MCA is called to assist in a medical emergency by NIAS is typically 1- 2 per year.

Appendix 3

Overview of Service Provision in Great Britain and Republic of Ireland

This section provides a brief overview of HEMS/AA provision in Great Britain and the Republic of Ireland. Further detail can be found in the Final Report of the 2012 Feasibility Study.

UK Context

There are currently 20 HEMS/AA operating in England and Wales, which are entirely charity funded and operated. They are dispatched to attend incidents by the Ambulance Service, following tasking criteria aimed at assessing the need for specialist intervention at the scene and expedient transfer to hospital.

Most operate a daylight hours service staffed by a paramedic and doctor crew, although some are staffed by paramedics only. The populations served by each HEMS range from 500,000 in Cornwall to 10 million people in London. Collectively, statistics from the Association of Air Ambulances (AAA) UK indicate that the charities undertake over 19,000 missions in a year, equivalent on average to 852 missions per helicopter per year, or around 2.5 per day. Overall, approximately 70% of missions are primary responses (i.e. direct to the scene of an incident)³.

The air ambulance service in Scotland is fully funded by the NHS Scotland, and comprises two helicopters and two fixed wing planes staffed by paramedics. The aircraft are used 24 hours a day, seven days a week, undertaking 3,500 missions a year, both emergencies and inter-hospital transfers. The service operates in conjunction with the Emergency Medical Retrieval Service (EMRS), and with the Search and Rescue aircraft of the Ministry of Defence and HM Coastguard.

³ Source: Feasibility Study on the Provision of a Helicopter Emergency Medical Service / Air Ambulance for Northern Ireland, 2012 (conducted by Deloitte)

ROI Context

The Republic of Ireland operates an Emergency Aeromedical Support (EAS) Service, which is jointly run by the National Ambulance Service (NAS) and the Air Corps, and is backed up by the Irish Coastguard.

The EAS Service is a dedicated helicopter based at Custume Barracks, Athlone, specifically equipped for high acuity patients. It operates seven days a week in daylight hours, with crew, operational and communications facilities on site. The medical crew comprises NAS advanced paramedics, who are trained to provide advanced life support to the patient. Direct tasking of the aircraft is carried out by the National Aeromedical Coordination Centre (NACC), following a request for EAS assistance by ground ambulance personnel, and assessment and triaging of that request by the NACC.

The service operated as a pilot scheme since mid 2012, and was recently made permanent by ROI Ministers for Defence and Health, Simon Coveney and Leo Varadkar. The EAS has completed over 1,055 missions to date including 323 STEMI heart attack patients (one third of the missions), who must get to a primary PCI lab within 90 minutes for effective treatment. The service is targeted mainly at western counties.

Glossary of Abbreviations and Acronyms used in this document

AA	Air Ambulance
AAA	Association of Air Ambulances
ASU	Air Support Unit
CAA	Civil Aviation Authority
CAG	Clinical Advisory Group
CCP	Critical Care Paramedic
CRM	Crew Resource Management
DHSSPS	Department of Health, Social Services and Public Safety
EAS	Emergency Aeromedical Support Service
HCPC	Health and Care Professions Council
HEMS	Helicopter Emergency Medical Service
HSCB	Health and Social Care Board
ICU	Intensive Care Unit
JAA	Joint Aviation Authority
JRCALC	Joint Royal Colleges Ambulance Service Liaison Committee
MCA	Maritime & Coastguard Agency
MIMMS	Major Incident Medical Management and Support
MTC	Major Trauma Centre
MTU	Major Trauma Unit
NACC	National Aeromedical Coordination Centre
NAS	National Ambulance Service
NIAS	Northern Ireland Ambulance Service
NICCaTS	Northern Ireland Critical Care Ambulance Transfer Service
PGD	Patient Group Directive
PHA	Public Health Agency
PSNI	Police Service of Northern Ireland
RICU	Regional Intensive Care Unit
RRV	Rapid Response Vehicle
SAR	Search and Rescue
TYC	Transforming Your Care