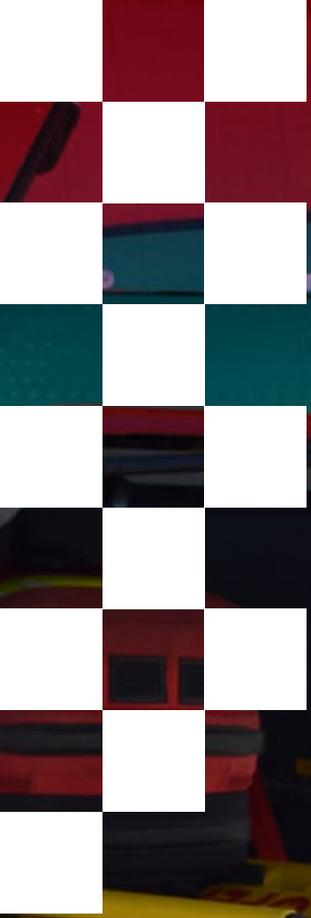


EMRTS Cymru
Emergency Medical Retrieval
& Transfer Service



EMRTS Cymru Annual Report

April 2017/March 2018

www.emrts.wales.nhs.uk



ELUSEN AMBIWLANS AWYR CYMRU
WALES AIR AMBULANCE CHARITY



Ariennir gan
Lywodraeth Cymru
Funded by
Welsh Government





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+ Director's foreword



It has been another strong year for EMRTS Cymru as the service not only goes from strength-to-strength but also grows in size and reach as we now work from four different geographical bases throughout Wales. This is in no small part to the hard work and great success of our partners, the Wales Air Ambulance (WAA) Charity, who are always proactively looking forward. This has allowed us to expand at the speed that we have clinically required, and their support allows us to be as innovative and clinically cutting-edge as possible.

EMRTS joined the pre-existing WAA base in Caernarfon in June 2017 (see page 15) with the addition of five newly appointed

CCPs and the movement of a number of our consultants from the Mid Wales Welshpool base to North West Wales, closer to their base hospitals in Ysbyty Gwynedd and Ysbyty Glan Clwyd. With this move, we have also taken over the supervision of a number of junior doctors who are working in Clinical Fellow positions at Ysbyty Gwynedd Emergency Department. During this financial year, we have also seen a big increase in the number of these kinds of posts being filled throughout departments and hospitals across Wales. It is a great pleasure for the Service to host these highly motivated trainees and also a privilege for us to be able to help junior doctor recruitment throughout

NHS Wales, especially in difficult to fill roles such as Emergency Medicine and Intensive Care Medicine.

We were also pleased to support the WAA in the opening of their fourth base at Cardiff Heliport, which accommodates a dedicated transfer aircraft and four newly trained Helicopter Transfer Practitioners (HTPs). The Charity-funded HTPs play an important role in moving Wales' paediatric and neonatal intensive care teams and their patients over the increasingly longer distances that they are required to travel, in as safe a manner as possible. The team have also performed a number of long-distance movements of adult patients, either bringing



Welsh patients back from hospitals outside of Wales to continue their hospital care nearer to their families, or repatriating patients who have fallen ill whilst in Wales back to their local hospital, thus freeing up much needed Welsh hospital beds.

The addition of WAA's fleet of new H145 aircrafts has provided much-needed space and resilience to the three HEMS bases and has future-proofed our operations as we look to fly in hours of darkness and beyond – as the service expands. This will be critical when NHS Wales begins to establish the South, West Wales and South Powys trauma network. Critically injured patients will, potentially, be further away from definitive care and more reliant on the services that we can provide to treat their life-threatening injuries. We are able to take them to the hospital that can provide the best level of care.

Last autumn, we were proud recipients of the Air Ambulance Association Special Events Award in London, for the second year running (see page 14). This is testament to the high level of

training our staff receive and to the advanced level of equipment that they carry. Undertaking heart surgery and providing a patient with a total body blood transfusion in rural Mid Wales is no mean feat, and the team involved were very proud to be part of the journey that the patient made to a full and meaningful recovery back to his family.

We continue to support Pre-Hospital Emergency Medicine (PHEM) training in Wales with two full-time PHEM trainees and have a strong track record for appointing ex-PHEM trainees as consultants; no less than five of our current consultant workforce are ex-PHEM trainees which is an achievement for such a young subspecialty as PHEM. Our ongoing commitment to providing events which support NHS colleagues' Continuing Professional Development has been proven again this year with over 120 events being run, including bespoke courses for Welsh Ambulance Service colleagues and minor injury unit staff as well as educational events for junior doctors in relevant acute specialities. We underwent a gateway review

by Welsh Government that had a very positive 'amber/green' outcome. It included a strong recommendation to develop a proposal for a 24-hour service. This will be critical not just to trauma patients but also cardiac arrest patients, and to Welsh health boards as they develop their strategic visions.

After a busy year in the driving seat of EMRTS, I now hand over the National Directorship of the service to Professor David Lockey. He will take over as the substantive National Director from April 2018. David is a highly skilled and experienced pre-hospital clinician who has a great track record for effective clinical leadership throughout the UK. As the transitional trauma lead for Wales, he has already had a good introduction to the nuances of the Welsh NHS and I know that he is relishing the opportunities that lie ahead with our service. EMRTS will move on to great places under his leadership and guidance.

Dr Ami Jones MBE
Interim National Director
(April 2017 – March 2018) ■





+ Our mission

To provide advanced decision-making and critical care for life or limb-threatening emergencies that require transfer for time-critical treatment at an appropriate facility.

Our vision

EMRTS Cymru has been developed in the belief that it will bring a series of benefits to Wales, as follows:

- EMRTS Cymru will deliver equity of access to pre-hospital critical care for the people of Wales.
- EMRTS Cymru will deliver health gains through early interventions (provided outside of normal paramedic practice by EMRTS Cymru) and direct transfer to specialist care centres. This should improve the functional outcomes of a patient and increase the number of 'unexpected survivors'.
- EMRTS Cymru will deliver downstream benefits for hospitals across Wales. More patients will be

taken directly to the most appropriate centre with fewer requirements for secondary transfers which previously would have depleted hospitals of specialist personnel (such as anaesthetists) and created additional cost for the Welsh Ambulance Service.

- EMRTS Cymru will deliver clinical and skills sustainability in Wales. EMRTS will support consultant and Critical Care Practitioner (CCP) recruitment into Wales by offering opportunities with the Service as a part of the recruitment of appropriate NHS Wales positions. EMRTS Cymru will also support educational activities across NHS Wales.

Our service

EMRTS Cymru is operational seven days a week between 08:00hrs and 20:00hrs from the Wales Air Ambulance Charity bases in Dafen, Welshpool and Caernarfon.

Services offered include:

- Pre-hospital critical care for all age groups (i.e. any intervention/decision that is carried outside standard paramedic practice).
- Undertaking time-critical, life or limb-threatening adult and paediatric transfers from peripheral centres (inc. Emergency Departments, Medical Assessment Units, Intensive Care Units, Minor Injury Units) for patients requiring specialist intervention at the receiving hospital.

In addition, the Service provides an enhancement of neonatal and maternal pre-hospital critical care - both for home deliveries and deliveries in free-standing midwifery-led units (MLUs).

This includes:

- Transferring neonatal teams to distant time-critical cases by air.
- Supporting midwife units and home deliveries by stabilising neonates and women with life-threatening problems and transferring them to a consultant-led delivery unit.

Finally, the Service provides a multitude of roles at major incident or mass-casualty events and a strategic medical advisor is available 24/7. This advisor is known as a top cover consultant.

When the Wales Air Ambulance Charity helicopters are unable to fly due to poor weather conditions, EMRTS Cymru has access to a fleet of Rapid Response Vehicles (RRVs). Five Audi Q7s have been converted into state-of-the-art emergency response vehicles designed to enable the team to reach the scene of a medical emergency, by road, as fast as possible. These vehicles are stationed throughout Wales. Medical equipment has been designed to be interchangeable between the Charity's helicopters and the RRVs.

EMRTS Cymru is coordinated and tasked centrally via the Air Support Desk (ASD) which is based at the Welsh Ambulance Service headquarters in Cwmbran. ■





+ Governance structure

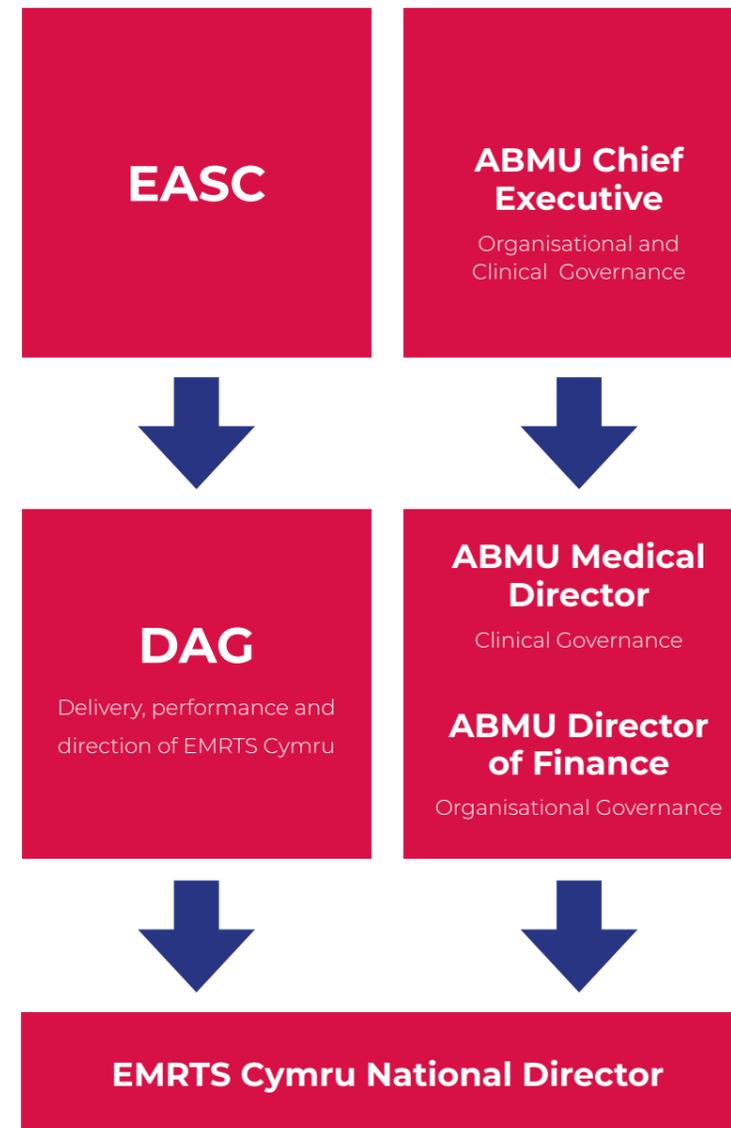
EMRTS Cymru has developed a robust system of organisational and clinical governance. The Service is hosted by Abertawe Bro Morgannwg University Health Board (ABMU HB) and is commissioned by the Emergency Ambulance Services Committee (EASC). The organisational governance structure consists of an EMRTS Delivery & Commissioning Assurance Group (DAG) which sits as a sub-committee of EASC. The DAG is responsible for the delivery, direction and performance of the Service. The EMRTS Cymru National Director is accountable to the DAG for the delivery and performance of the Service and to the ABMU HB Chief Executive for organisational and clinical governance.

Internal governance is led by the EMRTS Clinical and Operational Board, which is attended by senior EMRTS personnel and support services and manages clinical and operational issues relating to the Service. This group has met on a bi-monthly basis. Furthermore an Airway Group (who evaluate

the emergency anaesthetics provided by the Service), a Blood Group, a Transfer Group and an Equipment Group report to the Board.

The External Clinical Advisory Group (ECAG) consists of membership from Regional Trauma Networks, Anaesthesia/Critical Care, Emergency Medicine, Acute Surgery, Neonate/Paediatric and Senior Pre-hospital Critical Care and Retrieval specialists. This group reports to the EMRTS Clinical and Operational Board and provides scrutiny of the clinical performance of the Service and independent peer review of significant adverse events. The governance processes have been effectively utilised to create an environment of transparency, learning and improvement.

For more detailed information about our in-depth governance, please visit www.emrts.cymru/governance





+ Financial statement

EMRTS Cymru met its financial target in 2017/18 by delivering a modest surplus of £59k against its revenue funding allocation of £3.399m.

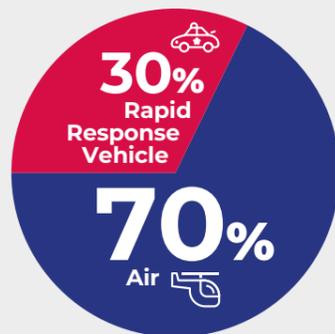
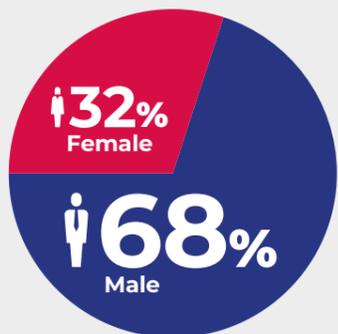
The surplus will be carried forward into 2018/19 to support the ongoing delivery of the service.



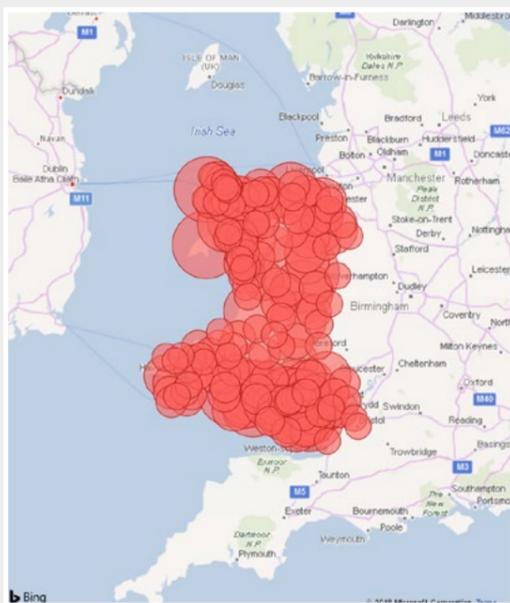


+ Preliminary annual performance data

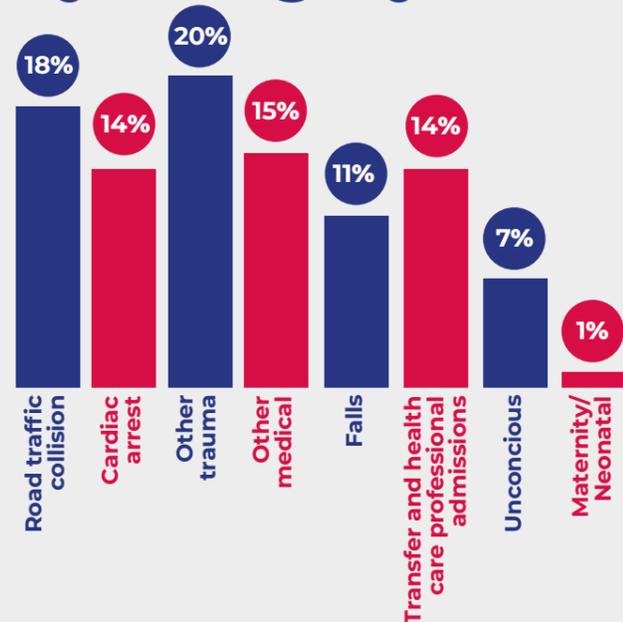
Total number of calls - **2684**



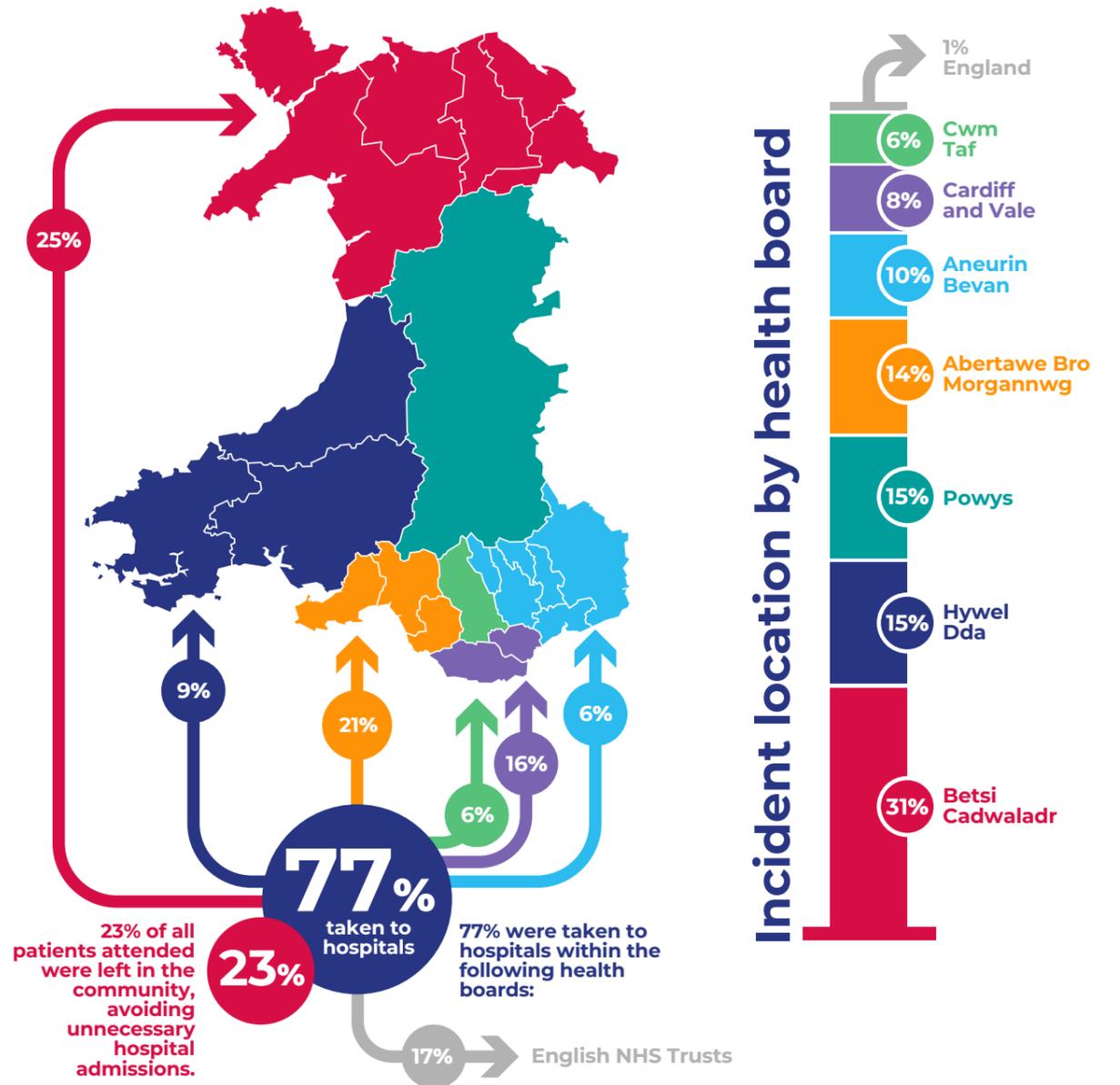
Mission Map



Cases attended by category



Patient destinations





+ Success stories

National Award for Lifesaving Medical Procedure

A rare but successful life-saving medical procedure performed at the scene of a challenging incident has seen EMRTS Cymru medics receive a national award.

The team were presented with the Special Incident Award at the national Air Ambulance Awards of Excellence in London last November. They were Dr Tim Rogerson, Dr Mark Knights, Dr Matt O'Meara, Critical Care Practitioners (CCPs) Rhyon Curtin, Kate Owen and Chris Connor, along with pilots Andy Icton and Ray Weatherall, and Air Support Desk dispatcher Lynda Sage.

The prestigious awards, which are organised by the Air Ambulance Association, are independently judged and recognise outstanding work carried out by air ambulance crews.

The patient had suffered a significant blunt trauma in rural

Wales and received a rare pre-hospital thoracotomy for blunt traumatic cardiac arrest due to left atrial appendage rupture. The treatment also included the administering of anaesthesia and a rapid sequence induction (RSI). In addition, the medics carried out a blood transfusion using warmed blood and clotting products.

During the treatment, a second EMRTS Cymru team arrived, including Dr Mark Knights and CCP Kate Owen. They had been tasked by the Air Support Desk to provide additional blood products.

The patient was airlifted in a Wales Air Ambulance Charity helicopter to the appropriate cardiothoracic centre, a flight that took 23 minutes. The road journey would have been at least 90 minutes.

On arrival, the patient was quickly transferred to theatre

and the cardiothoracic surgeons were able to repair a small laceration to the left atrial appendage. The patient was transferred to critical care and despite a stormy course, is now alert and making a good recovery at home.

The successful outcome was the result of a multi-agency effort. Also involved in the case were:

- **Jodie Wakelin** (Welsh Ambulance Service)
- **Ken Williams** (Welsh Ambulance Service)
- **Nick Richards-Ozzati** (Welsh Ambulance Service)
- **Danny Hollinger** (Welsh Ambulance Service)
- **Andy Duffield** (Welsh Ambulance Service)
- **Professor Ulrich Von Oppell** (Consultant Cardiac Surgeon)
- **Theodore Efstratiades and the cardiothoracic team at the receiving hospital**



EMRTS Lands in North Wales

In July 2017, EMRTS Cymru strengthened its service cover with the introduction of consultants and critical care practitioners on board the Wales Air Ambulance Charity helicopter in Caernarfon.

With EMRTS medics now operational at WAA bases in Caernarfon, Dafen and Welshpool, the partnership has improved equity of access to advanced pre-hospital critical care across Wales.

In addition to the WAA aircraft, a Rapid Response Vehicle (RRV) will be based in Caernarfon to support the team's work.

The Cabinet Secretary for Health, Vaughan Gething AM, officially launched the enhanced Service at Caernarfon Airport in August

2017. He said: "I welcome this initiative that will enhance the existing service from Caernarfon and bring it in line with the rest of the EMRTS cover enjoyed elsewhere.

"It will bring access to critical care and emergency medicine much closer for people living in North Wales and ensure that they can get the best care more quickly.

"The helicopter and rapid response vehicle available at the airbase will protect the existing WAA service and make the area more attractive to the very best clinicians and critical care practitioners. It will play a vital role in the provision of high-quality unscheduled care across North Wales."





+ Case studies

EMRTS Appoints National Director

In November 2017, it was announced that well-regarded clinician and leader in pre-hospital medicine, Professor David Lockey, would take charge of EMRTS Cymru from April 2018.

In his other roles, Professor Lockey is the Clinical Director for Major Trauma at the Severn Major Trauma Network. He is also a consultant in Intensive Care Medicine and Anaesthesia in Bristol and is Chairman of the Faculty of Pre-hospital Care at the Royal College of Surgeons of Edinburgh. His pre-hospital care has been mainly as a Consultant and Research Lead at London's Air Ambulance. He is also a trustee of London's Air Ambulance charity. Professor Lockey has extensive civilian and military experience of pre-hospital medicine, has published widely and collaborated internationally in the field.

As the transitional lead for the Major Trauma Network in South Wales, Professor Lockey is supporting the NHS Collaborative in Wales to establish the major trauma network.

Professor David Lockey said: "I have been very impressed by EMRTS Cymru, which already has achieved so much in the short time since it was established. This is a tribute to the team that set it up on such solid foundations and I am excited at the opportunity that my appointment gives me to work with the service and its stakeholders and to help with its continued development over the next three years."

Professor Lockey takes over from Dr Ami Jones who has led the Service on an interim basis since April 2017, as well as continuing her role as a consultant anaesthetist in Nevill Hall Hospital and a Lieutenant Colonel in the British Army. Dr Jones will remain a consultant with the 'Flying Medics'. ■

For up-to-date news about EMRTS Cymru, visit – www.emrts.cymru/news



Case 1

A middle-aged man in Mid Wales was treated by the Service following a fall from a significant height. He received a rare pre-hospital thoracotomy for blunt traumatic cardiac arrest due to left atrial appendage rupture. Besides the surgery that the team performed on his heart at scene, treatment also included the administering of an emergency anaesthetic and a blood product transfusion using warmed blood and clotting products. The patient was airlifted to the appropriate cardiothoracic centre, a flight that took 23 minutes. The road journey would have been at least 90 minutes. He is now recovering at home.

Before EMRTS/WAA

This was a very rare injury of which there have only ever been a very small number of survivors throughout the world. It is a near-certainty that this patient would have died at scene and not even made it to hospital without the EMRTS care he received.

Case 2

A young mother was being treated for acute heart failure in the Intensive Care Unit of a district general hospital (DGH) in South Wales. She was unwell and despite being placed on a ventilator and multiple vasoactive infusions, she was still deteriorating. The Service was able to fly her directly to a specialist centre in London so that she could receive extra-corporeal membrane oxygenation (ECMO) to support her heart and other vital organs. The flight took an hour and five minutes, a journey that would have taken approximately three hours by road. She made a good functional recovery.

Before EMRTS/WAA

The hospital team would have had to transfer her themselves by road, requiring an intensive care consultant and nurse from the DGH to be away from the hospital for the whole day. The patient was in such a critical condition that this delay would likely have meant that she would not have received ECMO in time to have the best effect and she would not have survived, or at least not have made such a positive recovery.

Case 3

A middle-aged woman suffered a cardiac arrest whilst at home in rural West Wales. A local ambulance crew had restarted her heart but she was still unconscious and very unstable. Our Service was able to give her an anaesthetic to help stabilise her breathing and protect her brain from further damage, as well as giving her a number of vasoactive drugs to stabilise her blood pressure. She was flown to a specialist cardiac centre where she underwent percutaneous coronary intervention (PCI) to open up the occluded vessels that had caused the cardiac arrest, and had a balloon pump inserted to support her blood pressure as her heart recovered.

Before EMRTS/WAA

The patient would have been taken to the nearest DGH where she would have been stabilised with the same interventions that our crew provided. She would then have required a secondary transfer to the cardiac centre to receive specialist care. This would have significantly delayed her treatment and meant that she either did not survive or at least did not make as good a recovery.



Case 4

A young adult male fell into a quarry in North Wales sustaining serious injuries. After being winched out by the North Wales search and rescue aircraft, he received an emergency anaesthetic, warmed blood products and chest surgery at the scene from EMRTS. He was flown to the Major Trauma Centre (MTC) in Stoke.

Before EMRTS/WAA

The patient would have been taken to the local DGH and have received the interventions at that point. He would then have undergone a CT scan and have been referred and transferred to the MTC some time later. This delay in definitive care could have resulted in a poorer outcome for the patient.

Case 5

A teenage girl with complex health needs became unwell whilst at school. She required intensive care level intervention in the form of non-invasive ventilation that EMRTS was able to provide immediately. She was then transferred to a hospital that had paediatric intensive care unit (PICU) beds for her ongoing care.

Before EMRTS/WAA

The patient would have been taken to the local DGH and received the critical care at that point. She may have needed a higher level of intervention as her potential to deteriorate en route was very high. She would then have required a transfer to the PICU hospital by the specialised paediatric retrieval team in Bristol. ■

Looking to the future

Through the ongoing development of critical care across Wales, it has been suggested that a 24-hour EMRTS/ Wales Air Ambulance service is required. We are working with our partners across NHS Wales to assess the value of an extended service.

What is the difference between EMRTS Cymru and the Wales Air Ambulance Charity?

Our services are delivered via an important partnership. Wales Air Ambulance is a charitable trust which relies entirely on the generosity and support of the Welsh public to help keep the helicopters flying. The Charity does not receive direct funding from the government and does not qualify for National Lottery funding.

EMRTS Cymru (Welsh Flying Medics), a part of NHS Wales and supported by Welsh Government, supplies a highly-trained NHS Critical Care team comprised of:

- **Consultants** - from an emergency medicine, anaesthesia and intensive care background.
- **Critical Care Practitioners** - including nurses and paramedics.

This partnership between the NHS and the Third Sector demonstrates the benefits of cross-sector models, and the important role charities can play in the provision of healthcare.



Who is the Wales Air Ambulance Charity?

Launched on St David's Day 2001, the Wales Air Ambulance Charity is the official air ambulance service for Wales. It is on standby every single day of the year, ready to help anyone in Wales during their most difficult hour.

All missions are tasked in Wales, via the Charity-funded Air Support Desk, across the devolved NHS Wales structure.

The Charity relies entirely on donations to raise £6.5 million each year. This funds the infrastructure and facilities for all four bases in Welshpool, Dafen (Llanelli), Caernarfon and Cardiff. It also covers the cost of the pilots, engineers and some medical kit. The Charity funds the helicopters and holds the aviation contract with Babcock Mission Critical Services Ltd.

Income generation ranges from community fundraising and corporate support, to a national retail and trading operation as well as a Lifesaving Lottery.

The Charity's Mission

It is the Charity's mission to aid the relief of sickness and injury, and the protection of human life, by the provision of a HEMS/air ambulance service across Wales.

The Charity's Vision

The Charity's vision is to provide a 24-hour air ambulance operation and continually strive for an outstanding air ambulance service available to everyone in Wales.

Children's Wales Air Ambulance

The Charity is also home to the Children's Wales Air Ambulance, airlifting some of Wales' youngest patients.

EMRTS Cymru/WAA medics, and NHS Wales specialists, on board the Wales Air Ambulance care for paediatric and neonatal patients on transfers to children's hospitals, as well as providing vital air cover on emergency 999 missions.

The Charity's Future

The Charity's vision is to develop a 24-hour operation and continually advance the service. The Wales Air Ambulance strategy includes plans to:

- Extend the hours of service and develop night flying capabilities.
- Enhance clinical skills and consultant-led support for the aircrews.
- Develop the Charity's dedicated Air Support Desk.

For more information about the Wales Air Ambulance Charity, visit

www.walesairambulance.com

