

EMRTS Cymru
Emergency Medical Retrieval & Transfer Service

EMRTS Annual Report

1 April 2019 – 31 March 2020

GIG CYMRU NHS WALES

ELUSEN AMBIWLANS AWYR CYMRU
WALES AIR AMBULANCE CHARITY

Ariennir gan **Lywodraeth Cymru**
Funded by **Welsh Government**

Contents

Director's Foreword 3

Service Overview 4

Governance Structure 8

Financial Statement 10

Preliminary Annual Performance Data 12

Success Stories 14

Case Studies 18

The Future 20

Wales Air Ambulance Charity 21

Director's Foreword



This report covers the period from April 2019 to March 2020 and the Service has continued to deliver high-quality care in its fifth year of operation. With our third HEMS operation in North Wales and transfer aircraft in Cardiff firmly established, we were working on plans to expand our night service. Having recruited and trained Consultants, Critical Care Practitioners and Dispatch Teams, we were ready to commence night shifts from the Cardiff Heliport base in April 2020. The COVID-19 pandemic led to us postponing the launch of the night service but we have continued our Twilight Critical Care Car (see page 6). This has significantly increased the number of missions attended by our teams. We are now on target to commence full night cover by Rapid Response Vehicle later this summer (2020) and this will be enhanced by a night-capable helicopter later in the year. We are pleased to have this service expansion in place in time for the launch of the Major Trauma Network for South and Mid Wales. 24-hour availability is an aspiration of all pre-hospital critical care services and we are finally there.

Another area of future EMRTS service expansion is the need for an all-Wales inter-hospital critical care transfer service which was identified by a nationally directed critical care improvement programme. We have now been asked to develop a funded national transfer service for critically ill adults in partnership with the Emergency Ambulance Services Committee (EASC) and the Welsh Ambulance Service NHS Trust (see page 20). When launched, this service will run in parallel with our existing critical care service.

The COVID-19 pandemic has had a major impact on the service but we have continued to attend critically ill and injured patients from all of our bases. Adaptions to our aircraft and the use of personal protective equipment have allowed us to attend patients, carry out all of the necessary on-scene interventions and transport them to the appropriate hospitals. The lockdown period led to a significant reduction in major trauma cases but we are now seeing a return to pre-COVID levels of caseload.

Our partnership with the Wales Air Ambulance Charity continues to go from strength-to-strength, as demonstrated by the recent accolade from the Institute for Collaborative Working (see page 14). We thank our Charity colleagues for their ongoing support and congratulate them on another successful year of fundraising to maintain the helicopter operation.

This report outlines the activity and geography of the EMRTS cases for the year and how we have ensured that the service is delivered to the highest standards and within budget. We are delighted to be an established part of the Welsh emergency medical services and look forward to serving the population of Wales with an expanded service in years to come.

Professor David Lockey
National Director, EMRTS Cymru



Service Overview

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 an 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

During the reporting period, EMRTS Cymru was operational seven days a week between 08:00 and 20:00 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.

Twilight Critical Care Car

Following the success of the EMRTS Cymru Twilight Critical Care Car during winter 2018/19, an extended service was reintroduced during winter 2019/20.

It was initiated to support frontline ambulance and hospital services in South Wales during the pressurised winter months. The team was based at Cardiff Heliport and covered South East and South West Wales.

EMRTS ran this additional critical care car-based service as follows:

December 2019 and January 2020 – every Friday, Saturday and Sunday between 14:00 and 02:00.

February 2020 and March 2020* – every Thursday, Friday, Saturday, Sunday and Monday between 14:00 and 02:00.

*Due to the COVID-19 pandemic, it was decided that the Twilight Car would continue beyond March 2020 to add resilience to the emergency response.

The Twilight Critical Care Car ran alongside the existing 12-hour (08:00 – 20:00) Wales Air Ambulance/RRV operation.

A critical care consultant and critical care practitioner (CCP) team predominantly staffed the car, although double CCP crews were used on occasions. The scope of practice remained the same as the existing 12-hour operation and allocation was through the Air Support Desk.

In the four months between December 2019 and March 2020, the Twilight Critical Care Car attended 128 patients. They required a range of interventions from intubation (30%), anaesthetics (22%) and blood products (4%). Cardiac arrests were the most common call reason (20%). These statistics are included in the overall service Preliminary Annual Performance Data on page 12.

This additional service was funded by Welsh Government.





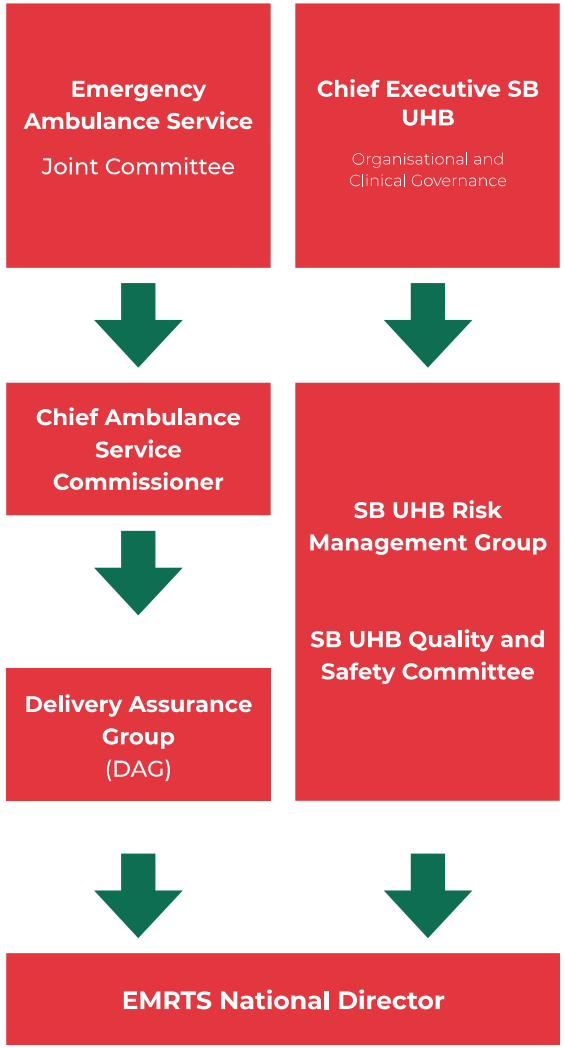
Governance Structure

EMRTS Cymru has developed a robust system of organisational and clinical governance. The Service is hosted by Swansea Bay University Health Board (SBUHB) and is commissioned by the Emergency Ambulance Services Committee (EASC). The organisational governance structure consists of an EMRTS Delivery Assurance Group (DAG) which sits as a subcommittee 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 SBUHB 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. The Board meets on a bi-monthly basis and is supported by the work of several specialist sub-groups, as highlighted in the flow chart on page 9.

There are a number of supporting documents underpinning the organisational governance of the service as follows:

- National Collaborative Commissioning Quality and Delivery Framework - namely CAREMORE.
- Terms of Reference for the EMRTS DAG.
- Collaboration Agreement between SBUHB, the Wales Air Ambulance Charitable Trust (WAACT) and the Welsh Ambulance Service Trust (WAST).
- Memorandum of Understanding between SBUHB and other Welsh health boards and trusts.
- Service-level agreement between EMRTS and SBUHB for accessing support services.
- Terms of Reference for the EMRTS Clinical and Operational Board.



An External Clinical Advisory Group (ECAG) was established at the inception of the service in 2015. The ECAG provides benchmarking of Clinical Standard Operating Procedures and independently reviews significant adverse events, reporting their findings back to the Clinical and Operational Board.

It is now proposed that a new External Clinical Advisory Panel (ECAP) is established in place of the ECAG. This will require a review of membership, with the new expert panel providing ad hoc advice on specialist issues when requested and providing input to a Clinical Governance Day when relevant issues are being presented. In addition, it is also proposed that an annual meeting or conference is held with the expert panel invited to contribute.

Financial Statement

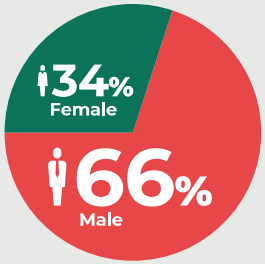
EMRTS Cymru met its financial target in 2019/20 by delivering a modest surplus of £2.6k against its revenue funding allocation of £3.9m.

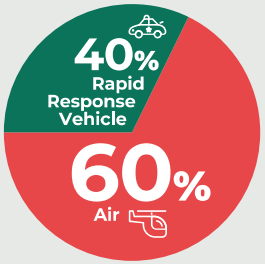
The surplus will be carried forward into 2020/21 to support the ongoing delivery of the service.

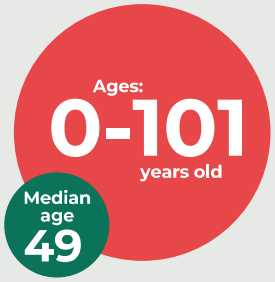


Preliminary Annual Performance Data

Total number of calls - 3008

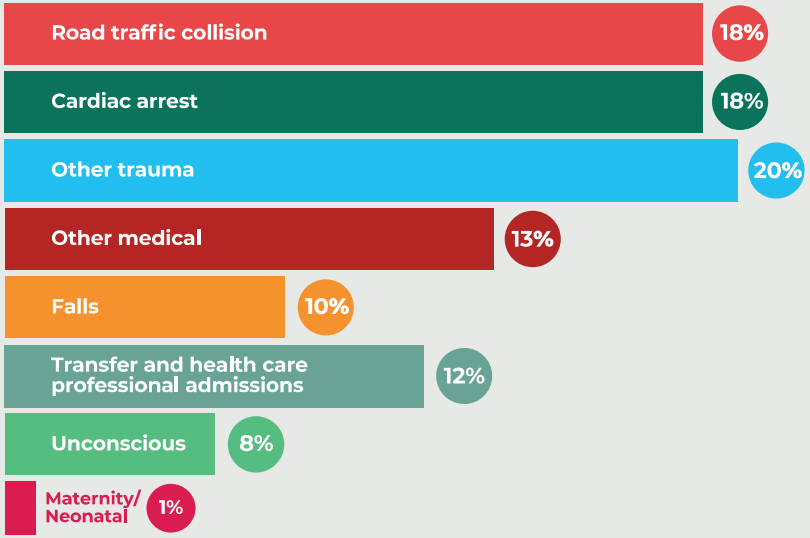




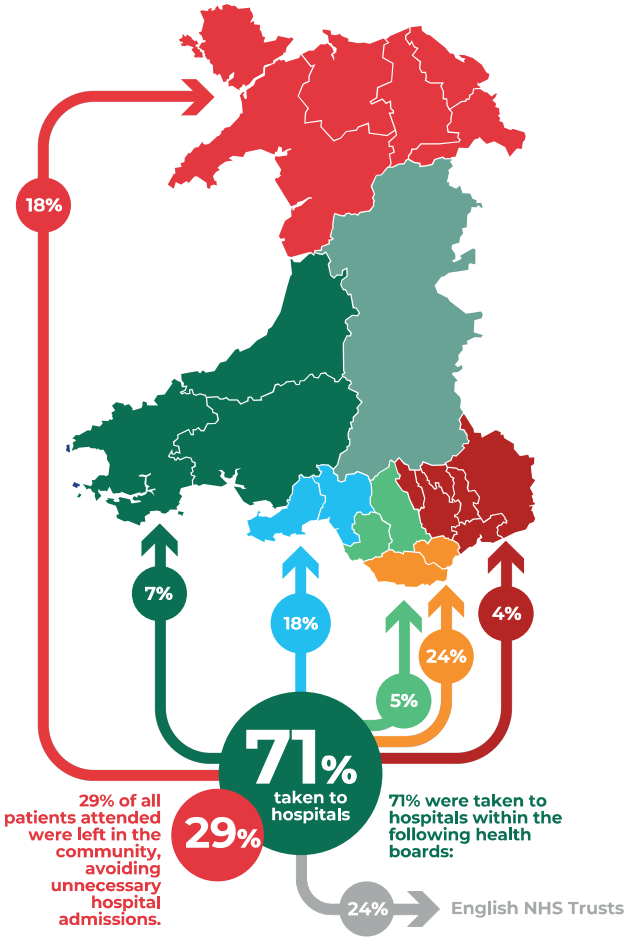


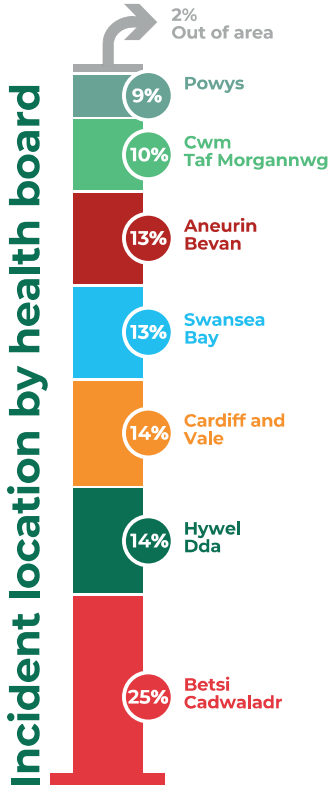
12% of the patients attended were paediatrics (under 17 years of age)

Cases attended by category



Patient destinations









Success Stories

Partnership Receives Major Award

The unique partnership between EMRTS Cymru and the Wales Air Ambulance Charity has been recognised by the UK's leaders for collaborative working.

EMRTS and the Charity were presented with the Social Impact Award by the Institute for Collaborative Working (ICW) during an event at the House of Lords in December 2019. It was awarded in recognition of how the air ambulance service in Wales has evolved as a result of effective partnership working and is pushing the boundaries for those in need.

Mark Winter, EMRTS Director of Operations, said: "Our shared goal of helping those in need has given our partnership the will and determination to plan and create a service that is now delivering the best possible care for Wales. This has been achieved thanks to the skills and dedication of our employees and colleagues from the Charity and our aviation partners Babcock. Due to our success, we have received visits and requests for support from air ambulance operations across the world.

"This is an award for everybody across our service, including those within NHS Wales and Welsh Government who have supported, and continue to support, us."

The ICW has members including some of the world's biggest multinational companies.

ICW Wales Associate Director Leigh Lawry, said: "The decision of the ICW judging panel was overwhelmingly in favour of recognising the unique approach developed by EMRTS and the Wales Air Ambulance as a demonstration of how the public sector, voluntary sector and industry can collaborate together for the greater good."

EMRTS Director Awarded Highest UK Air Ambulance Honour

The UK's air ambulance community has bestowed its highest honour, a lifetime achievement award, upon Professor David Lockey, National Director of EMRTS.

The Association of Air Ambulances (AAA) presented the prestigious accolade to Professor Lockey during an event held at the Millennium Chelsea Harbour Hotel, London, in November 2019.

The Lifetime Achievement Award recognises those who have made a lifetime contribution to the world of air ambulance operations and have demonstrated personal passion for the sector.

Both clinically and through his research, Professor Lockey has supported significant advances in the field of pre-hospital emergency medicine (PHEM).

He was the UK's first Professor of Pre-Hospital Emergency Medicine and has held several prominent national and international roles in the development of PHEM as a speciality.

In addition to his work with EMRTS, he was the transitional lead for the development of a Major Trauma Network in South Wales and South Powys.

Outside of Wales, Professor Lockey has played a major role at London's Air Ambulance, as an on-board medic, as their Consultant and Research Lead and as a Trustee of the Charity. He has also helped develop several other air ambulance services in the UK and overseas.

His other positions include Clinical Director for Major Trauma at the Severn Major Trauma Network and Intensive Care Medicine and Anaesthesia consultant in Bristol. He is also Chair of the Faculty of Pre-hospital Care at the Royal College of Surgeons of Edinburgh and was previously Chair of the Intercollegiate Board for Training in PHEM. As a long-serving army reserve officer, he has also deployed in various roles to most conflicts in the last 20 years.

Academically, Professor Lockey is an honorary professor at the University of Bristol and Queen Mary University, London. He has contributed to international guidelines on trauma and emergency care including the last three sets of European Resuscitation Council Guidelines.



First-time Driver Thanks Air Ambulance crew

In the summer of 2019, a young driver who nearly lost her life after a serious car accident visited Wales Air Ambulance to say thank you.

Penny Wheaton, from Swansea, was left in a critical condition following a serious road traffic collision near the mid-Wales town of Newtown in 2016.

Penny recalls the experience in her own words: "On the 28 February 2016, just five days after passing my driving test, I purchased my very first car. I was so excited to get out there and make the most of my newfound independence.

"Just over a week later, on 7 March, I was due to attend work in Newtown where I was employed as a live-in carer for people with traumatic brain and spinal injuries. I was keen to drive myself to work for the very first time and not have to rely on public transport.

"I remember the day well. The weather was awful and my mum had pleaded with me beforehand to let her drive me to the station on this occasion. I was determined to make the most of my new car so, against my mum's advice, I set out on the drive north.

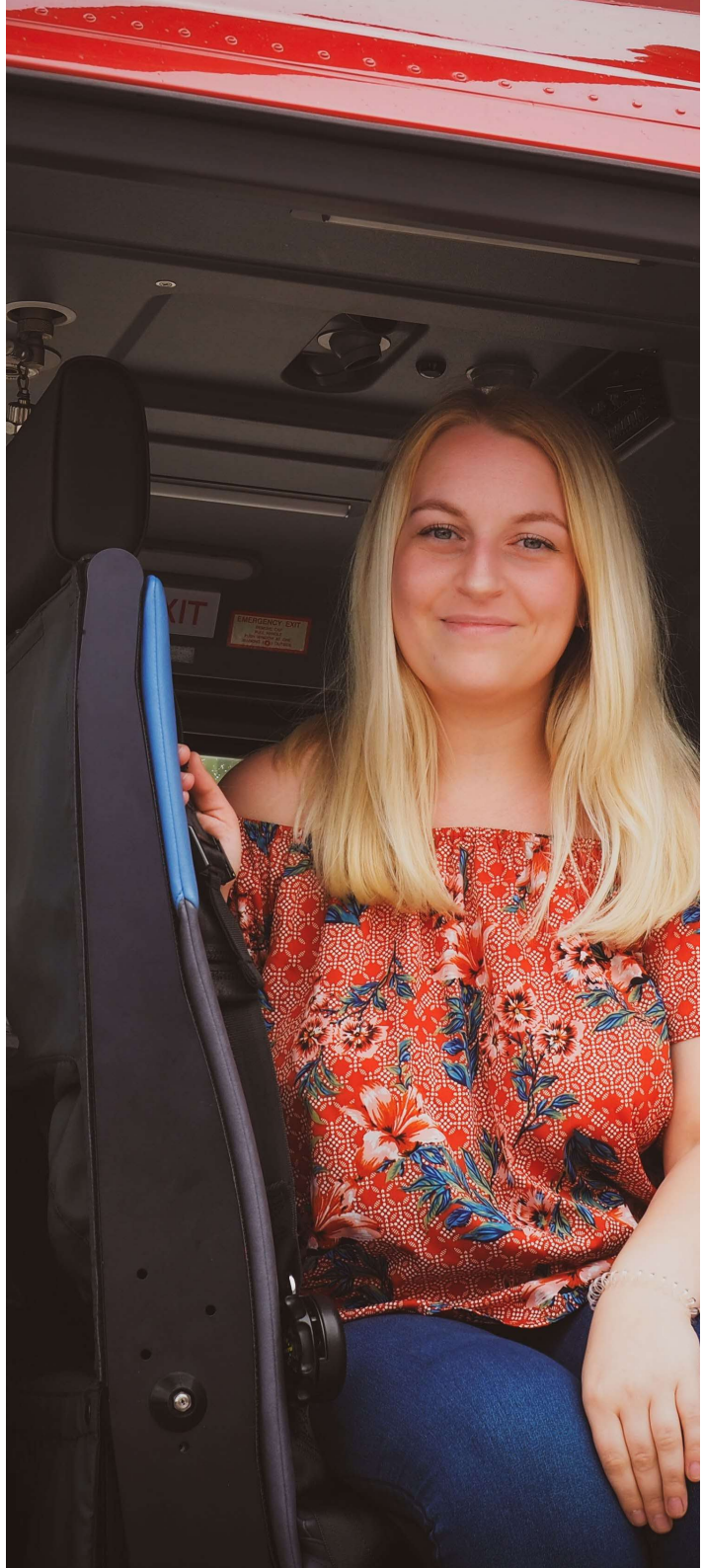
"At 11:30am, I took a left-hand bend and lost control of my vehicle. I drifted across to the opposite side of the road. I managed to steer my vehicle back to my side of the road but without enough time to avoid an oncoming lorry which struck my car at 50mph. The force of the collision sent my vehicle pin-balling across the road from side-to-side until I eventually came to a stop near an embankment. From this moment on, everything went black."

Penny was left unconscious in the battered remains of her Nissan Micra. Little did she realise the extent of her injuries and the immediate danger she was in.

Emergency services swiftly arrived on scene and it soon became apparent Penny would require specialist medical attention. Wales Air Ambulance's Welshpool-based aircraft was tasked to the area, arriving within minutes of receiving the call.

Critical Care Doctor Paddy Morgan and Critical Care Practitioner Sam Williams were the EMRTS medics on duty that day.

EMRTS' Dr David Rawlinson said: "Paddy and Sam were able to provide an emergency anaesthetic to protect her brain from any further damage, and deliver a blood product transfusion to treat internal bleeding. These treatments are not routinely available outside of a hospital environment. By taking the emergency department to the patient, the team were able to start lifesaving treatment at the scene."



After being cut from her vehicle and receiving lifesaving medical interventions at the roadside, Penny was loaded into the waiting helicopter.

The ailing twenty-year-old was airlifted from rural mid-Wales to the Major Trauma Centre at the Royal Stoke University Hospital. By road, the journey would have taken 2 hours but by air, it took just under 30 minutes.

Dr Rawlinson added: "Our consultant-led decision-making meant that we took her straight to specialist care in Stoke, bypassing the local hospitals. Previously, without EMRTS provision on the Wales Air Ambulance, she would have been taken to the local hospital which was an hour away, and then would have required a transfer by road to Stoke. This would have further delayed Penny receiving the vital specialist care she needed."

On arrival, Penny was wheeled almost instantly to the operating theatre where the extent of her injuries was realised.

She said: "From the very little I remember after impact, I do recall the surgeon telling me just how badly I was injured. I had broken my back in three places, my jaw, my left shoulder and cracked five of my ribs. On top of that, I also had a collapsed lung, a ruptured spleen, severely bruised intestines along with a break to the back of my skull and a bruised frontal lobe which has left me with brain damage."

Penny underwent major surgery to save her life and improve her chances of making a full recovery.

"I spent eleven days in hospital before being discharged where a long road to recovery lay ahead. For a further three months, I was cared for by mum at home along with intensive physiotherapy to improve my mobility."

Three and a half years on from her horrific ordeal, Penny continues to recover and says that the reason she is still here today is because of EMRTS and Wales Air Ambulance.

"I am able to do everything that a normal 25-year-old can thanks to the amazing emergency services who saved my life. I am walking, running and even back driving. The effects of the accident remain with me and I still find it very hard to think about what could have been. I can't thank the Wales Air Ambulance crew enough for what they did for me. Having that advanced level of care at the roadside is truly incredible. I know that without their skills, expertise and fast response, I simply would not be here today.

"I will forever be grateful to everyone who saved my life that day."

Anonymised Case Studies

Case 1

The Mid Wales team were called to the scene of a motorbike accident. A forty-year-old female lost control on a bend and was thrown 160 yards from her bike.

When the team arrived on the dual carriageway, the patient had an erratic breathing pattern and was not responding appropriately, becoming quite agitated. It soon became clear that they needed to take over her breathing, not only to protect her airway but also to protect her brain from any further injury. She was given an anaesthetic and put on a ventilator. She also required a blood transfusion following blood loss and medications to help with her blood pressure. She needed an urgent transfer to a Major Trauma Centre where she was found to have extensive injuries which required a total of nine operations.

She is still requiring extensive rehabilitation and although she will be in a wheelchair for the rest of her life she is eternally grateful to the lifesaving skills of the crew.

Case 2

A 12-year-old boy who had been previously fit and well, collapsed suddenly on a football pitch while he was warming up for a match. It was believed he was in cardiac arrest and bystanders were able to perform CPR and attach a defibrillator until the EMRTS crew arrived. When the crew assessed him, he was fitting and needed strong drugs to get this under control. He also needed a general anaesthetic to keep him safe until he arrived at hospital.

A couple of days later he required a transfer to specialist services in Bristol and the Children's Wales Air Ambulance was able to do this in a safe and rapid way, halving the time it would have taken by road. This demonstrates the flexibility that the service provides – a primary response to an incident followed by a time-critical transfer to a specialist hospital.

Case 3

The Dafen team responded to a two-year-old who was involved in a tragic accident involving a car. She had suffered serious head injuries and when the team arrived she was unconscious and needed help with her breathing. The EMRTS team were able to respond rapidly and give her urgent brain-protective treatment. She needed a general anaesthetic and was put onto a ventilator to take over her breathing. Once the crew had stabilised her, they were able to transfer her to a paediatric major trauma and neurosurgical centre within sixteen minutes and take her straight to the CT scanner.

She was sedated and ventilated for almost two weeks and, on admission, the chances of recovery looked slim. However, thanks to the early interventions of the critical care team and neuroprotective treatment she received, she was discharged home back to her family just six weeks after the incident.

Case 4

A man in his sixties collapsed at home after having a bleed on the brain. He was taken to his local hospital by the ambulance service where scans showed he needed an urgent transfer to a specialist neurosurgical centre for a procedure to stop the bleeding. It was after dark, so response by helicopter was not possible. A sudden drop in his conscious level and the need for him to be ventilated meant it became time-critical and only a specialist team could undertake the transfer. Fortunately, EMRTS medics were able to attend in the Twilight Critical Care Car which meant this did not deplete the hospital of a critical care doctor and nurse. The transfer was conducted swiftly and safely, getting the patient straight into theatre on arrival to the receiving hospital. He was discharged from intensive care in two weeks and went on to make a full recovery.



The Future

A 24/7 Service

Following recommendations made in the Strategic Outline Programme (2014) and the Welsh Government Gateway Review (2017), the NHS Wales Chief Executive wrote to EMRTS in early 2018 to explore the demand for an extended service. After extensive research and consultation, the EMRTS Service Expansion Review document was finalised in December 2018.

This document recommended that, in addition to the existing 12-hour service across the Llanelli, Caernarfon and Welshpool bases (0800-2000), the service is expanded in a phased approach.

Phase 1 of the proposed expansion of the service was approved by the Emergency Ambulance Services Committee in 2019.

This phase includes:

- an EMRTS Consultant and CCP, based at Cardiff Heliport, to operate between 19:00 - 07:00 daily with a Rapid Response Vehicle (July 2020)

- A double-pilot crew and aircraft based at Cardiff Heliport to support EMRTS medical teams across Wales as required. This is being progressed by the Wales Air Ambulance Charity and the aircraft operator (December 2020)

This service development was ready to be launched on 1 April 2020 but was postponed as a result of the COVID-19 pandemic. Recruitment and training have been completed so the expanded operation is ready to launch when the external operating environment allows – predicted to be 1 July 2020.

EMRTS will continually monitor demand and utilisation data to identify future service improvement opportunities.

National Transfer Service for Critically Ill Adults

In response to correspondence from the Deputy Chief Medical Officer regarding the need for further improvements across critical care services in Wales, a proposal has been developed by EMRTS and the National Collaborative Commissioning Unit. This proposal includes a road-based national critical care transfer service located in both North and South Wales. This service will run in parallel with the EMRTS critical care service, with ring-fenced funding.

The proposal includes set-up, recurrent (pay and non-pay) and capital costs. Key early appointments have been identified within the document to ensure that clinical leadership and project management are in place to undertake the important phases of stakeholder engagement, the development of patient pathways and establishing base infrastructure.

The proposal was submitted to Welsh Government in November 2019 and we are awaiting funding approval.

The Wales Air Ambulance Charity

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, 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.

The Charity relies entirely on donations to raise £6.5 million each year. This funds four helicopters across Wales, in Welshpool, Dafen (Llanelli), Caernarfon and Cardiff, through an aviation contract with Babcock Mission Critical Services Ltd. It is the largest air ambulance operation in the UK.

Income generation ranges from community fundraising, legacies 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 (known as Helicopter Transfer Practitioners), 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.

For more information about the Wales Air Ambulance Charity, visit – www.walesairambulance.com

