



EMRTS

Annual Report

1 April 2021 – 31 March 2022



**GIG
CYMRU
NHS
WALES**

Gwasanaeth Casglu a
Throsglwyddo Meddygol Brys
Emergency Medical
Retrieval & Transfer Service



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Air
Ambulance
Charity

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Director's foreword

The last year has been a combination of returning to operational normality after COVID and continued service development. We attended over 3200 incidents with our primary EMRTS service and delivered much higher than predicted secondary critical care transfers with our newly launched *Adult Critical Care Transfer Service*.

After introducing a night service based in South Wales last year, we are, with the Wales Air Ambulance Charity, examining how to increase coverage to the population of Wales with our current resources. As an air ambulance organisation, we are almost unique in accessing an experienced external provider to deliver comprehensive modelling and analysis of existing data on emergency demand in Wales. We are exploring how we might better serve the population of Wales with timely and high-quality pre-hospital care. There appears to be a number of potential ways to alter our service delivery model to get to significantly more patients and decrease response times. The next phase of this project will be to work out how we can use this information to implement changes with our operational partners and carefully fine tune our service delivery to realise patient benefits and further improve outcomes.



The Air Ambulance Charity now supply us with fast response cars as well as helicopters. A combination of cars and aircraft deliver the best responses and allow us to respond in bad weather and to patients close to and far from our bases. Our new response cars are Volvo XC 90s in the same red livery as our aircraft and equipped with a comprehensive range of medical emergency equipment.

During the past year we have run several recruitment rounds for consultants and Critical Care Practitioners (CCPs). Many high quality applications were received and after a tough selection process we have welcomed excellent new talent into our organisation. Several Consultants in shortage specialities have been recruited into the service and into Wales. Our CCPs have been formally recognised for the advanced skills that they bring to patients and continue to deliver a range of advanced skills seen in only a minority of UK air ambulances. An additional shift of CCPs and Helicopter Transfer Practitioners (HTPs) now deliver care during the daytime based from Cardiff heliport and have freed up the helicopter in South Wales to respond to emergencies further afield.

The service prioritises looking after patients and staff. We have welcomed a second follow up nurse to engage with patients and relatives after admission to hospital. We have also piloted a staff psychosocial care project delivered as part of a national initiative supported by the Royal Foundation. Since the launch of EMRTS every year has seen a significant service development. This year was no different and we look forward to next year as another opportunity to deliver equitable high quality pre-hospital critical care to the people of Wales.

Professor David Lockey, National Director EMRTS Cymru

Message from ACCTS Cymru Clinical Lead



The ACCTS Cymru team are pleased to join our EMRTS colleagues in the first published annual report since our launch in August 2021. As we pass the anniversary of our launch, we have the chance to reflect on unprecedented clinical and operational challenges faced during the pandemic and managing its aftermath.

In 2019 myself and the project team were charged with the task of developing a national critical care transfer service for the people of Wales. Just 24 months ago the transfer of the critically ill was delivered by ad hoc teams with minimal investment in system design, training, and logistics. The picture in Wales today is radically different. ACCTS Cymru provides teams of speciality trained intensive care consultants and senior doctors alongside practitioners supported by dedicated vehicles and state of the art equipment.

The mission statement of ACCTS is to provide uninterrupted provision of high-quality critical care irrespective of a patient's position on their clinical journey, allowing seamless transition between hospitals and critical care units. As those units recover from the pandemic and normal services resume, ACCTS Cymru has already become an essential and embedded part of safe and effective delivery of intensive care in Wales.

The service supports access to specialist care but also expedites care closer to home when specialist services are no longer required. It guarantees repatriation to local units ensuring flow through specialist services and maximising availability to those who need it most. ACCTS Cymru, in synergy with EMRTS supports the provision of a 24-hour service ensuring timely transfer for life-saving intervention for the people of Wales, maximising the benefit of both services.

Outside Wales ACCTS Cymru has catalysed the formation of operational and clinical partnerships with regional transfer teams and quaternary services and begun to expedite access to these expert centres such as ECMO and other forms of mechanical support. ACCTS Cymru also represents Wales in the nationwide move to professionalise transfer medicine, working with services across the country, refining and sharing clinical and operational expertise, allowing us to contribute to shaping the landscape of transfer medicine nationally and internationally.

We have far exceeded our predicted operational demand and facilitated the transfer of sicker patients, who traditionally would have been too unwell, demonstrating the clinical benefit of recruiting high-quality clinicians from inside and outside Wales alongside an evidence-based, effective and well-governed operating model.

I am immensely proud of what ACCTS Cymru has achieved during our short existence and we will continue to move forward as a vanguard of transfer medicine.

Dr Mike Slattery, ACCTS Cymru Clinical Lead



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 to provide the following services to Wales:

- EMRTS Cymru delivers equity of access to pre-hospital critical care for the people of Wales.
- EMRTS Cymru delivers health gains through early interventions (provided outside of normal paramedic practice by EMRTS Cymru) and direct transfer to specialist care centres. This aims to improve the functional outcomes of a patients and increase the number of 'unexpected survivors.'
- EMRTS Cymru delivers downstream benefits for hospitals across Wales. More patients are 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 delivers benefits to smaller and more rural hospitals across Wales. More patients are taken directly to the most appropriate centre which results in significantly fewer secondary transfers. These would previously have depleted hospitals of key specialist personal (such as anaesthetists), created additional cost

and pressures for the Welsh Ambulance Service and delayed time to definitive care in specialist centres.

- EMRTS Cymru delivers clinical and skills sustainability in Wales. EMRTS supports Consultant and Critical Care Practitioner (CCP) recruitment into Wales by offering opportunities with the service as part of the recruitment of related NHS Wales hospital position. Emrts Cymru also supports educational activities across NHS Wales.

Our Service

EMRTS offers a 24/7 medical operation across Wales. Services 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 (including Emergency Departments, Medical Assessment Units, Intensive Care Units, and 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), including the transfer of neonatal teams to distant time-critical cases by air.

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). They 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 on all of the EMRTS bases in 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 Critical Care Hub (CCH) which is based at the Welsh Ambulance Service headquarters in Cwmbran. The CCH also operates 24 hours a day.





The Adult Critical Care Transfer Service launched in August 2021 as a result of the Critical Care working group task and finish report (2018). The report recognised the requirement for safe and high quality inter-hospital transfer to be an essential part of critical care of delivery in Wales. Prior to the services formation, critical care transfers were

undertaken on an ad-hoc basis by medical and allied health care professionals from referring hospitals utilising front line ambulances. This ultimately resulted in increased pressures on the medical teams, both in hospital and prehospital, by depleting the already stretched resources.

The service is designed to be streamline and maximise the access of Welsh patients to specialist services located across the national hospital network.



The predicted workload was initially estimated that 420 transfers each year. This number was exceeded within ten months of launching the service and the first year totals are expected to exceed 500 transfers.

ACCTS maxim is that critical care is a process and not a location. The service aims to deliver seamless, uninterrupted, high-quality care while the patient is in transit and can continue the care provided in any intensive care unit. The service can provide varying levels of care from complex treatment and interventions to lower acuity critical care transfers between hospitals. It has funded three ambulances, operated by two transfer duty crews. ACCTS is able to provide this service by recruiting high calibre clinicians who have all undergone a robust selection process and have delivered Critical and Intensive Care in previous roles.

A day in the life of ACCTS



Pictured: Meryl Jenkins, ACCTS Retrieval and Transfer Practitioner who takes over as ACCTS new Service Manager in September.

The service is divided into a north and south team. The south team begin their day at 8am where they carry out check listed tests of their equipment. The service is predominantly road-based and has in part of its crew a critical care transfer assistant who is qualified to drive vehicles using blue lights - having undertaken an emergency advanced driving course. The team makes ready the specialist critical care vehicle used to transfer patients for that day.

Critical care medications are checked and booked out to use for the day and the team makes ready the specialist critical care vehicle that will be used to transfer the team and patients that day.

One of the specialist Retrieval and Transfers Practitioners act as the national critical care transfer coordinator and every day they lead the national critical care SITREP call, attended by ward managers and senior doctors of all the units across the north and south network across Wales.

The ACCTS coordinator then communicates with hospitals to establish which patients require transfer for that day and gain a global overview of capacity and triage and discuss patients with the various units who are likely to be part of facilitating the required access to specialist care that the cohort of patient may require. Or, to move that patient.

The coordinator acts as a central point of contact for all critical care transfers in NHS Wales, supporting the clinical care of the patients during transfer as well as streamlining the logistics of transfer.

The ACCTS teams are mobilised from either Cardiff or Bangor. The North team offer a 24 hour service allowing an on-site team mirroring south hours throughout the day and then an on call-service from 8pm through to 8am. Transfers could involve inter-hospital transfers, a patient being repatriated to a unit closer to their family - time critical transfers for emergency surgical procedures and interventions, or being transferred to a specialist centre for Interventions unavailable in their current hospital.

Regularly the service will be tasked to transfer or repatriate patients beyond the borders of Wales to any patients that require services outside of Wales or need to be repatriated back. ACCTS is able to work with colleagues at EMRTS and the Wales Air Ambulance and with extra training to crews around aviation operations, some RTPs are able to work on board the aircraft to facilitate transfers that will benefit their patients.

If there are no active transfers within the network these teams carry out several duties on base, including training and development, clinical research, auditing tasks and simulation training.

ACCTS has developed working relationships with a number of hospitals, and invites anaesthetics and intensive care trainees to undertake observation and clinical shifts with them to ensure trainees can develop transfer skills as part of their professional development. This in turn enhances the service and develops a pool of physicians for future recruitment and ultimately improved care for the patients of Wales.



ACCTS operational lead Gareth Evans said:

“We are a dedicated transfer service attached to an already established and widely respected emergency medical service. It is all about ensuring the right team for the right patient at the right time.

It does not necessarily matter who the team are, as long as the right skill of the clinicians is delivered to the patient.

The key focus of this service is its utility for patients of Wales. As a devolved nation we can have the scope to be doing things differently to other services and we are unique in what we do.

We are able to be more dynamic in how we develop, and the general view is that we are leading the way on several fronts.

We are very proud that other services are looking at us and what we are able to achieve. That gives us as clinicians and managers the drive to perform even better.

We are all massively proud to be a flagship service for Wales.”

The Wales Air Ambulance Charity



Our services are delivered via an important partnership with the Wales Air Ambulance Charity

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

Wales Air Ambulance is a charitable trust which relies entirely on the generosity and support of the Welsh public to help keep the helicopters in the air and rapid response vehicles on the road.

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.

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.

What 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 approximately £8 million each year. This funds four helicopters across Wales and the service's fleet of rapid response vehicles. 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 service has attended over 42,000 missions since its inception.

The Charity's Mission

To deliver lifesaving, advanced medical care to people across Wales, whenever and wherever they need it.

The Charity's Vision

To improve the lives of patients and their families by being a world leader in advanced, time-critical care.

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



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.

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 provided benchmarking of clinical standard operating procedures and independently reviewed significant adverse events, reporting their findings back to the Clinical and Operational Board.

A new External Clinical Advisory Panel (ECAP) has now been established in place of the ECAG. The new expert panel provides ad hoc advice on specialist issues when requested and input to a Clinical Governance Day when relevant issues are being presented.



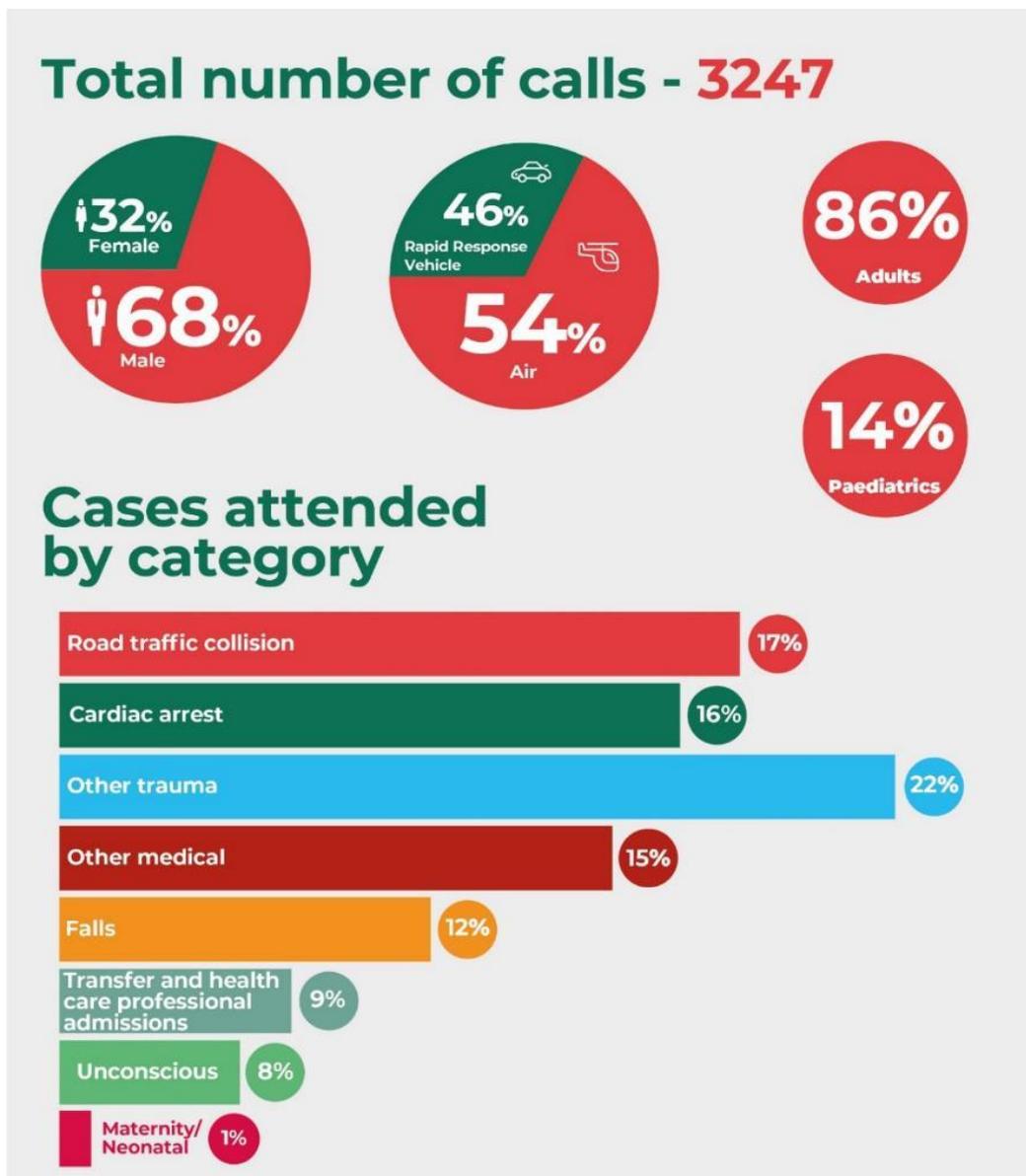
Financial Statement

EMRTS Cymru met its financial target in 2021/22 by delivering a surplus of £277k against its revenue funding allocation of £7.45 million.

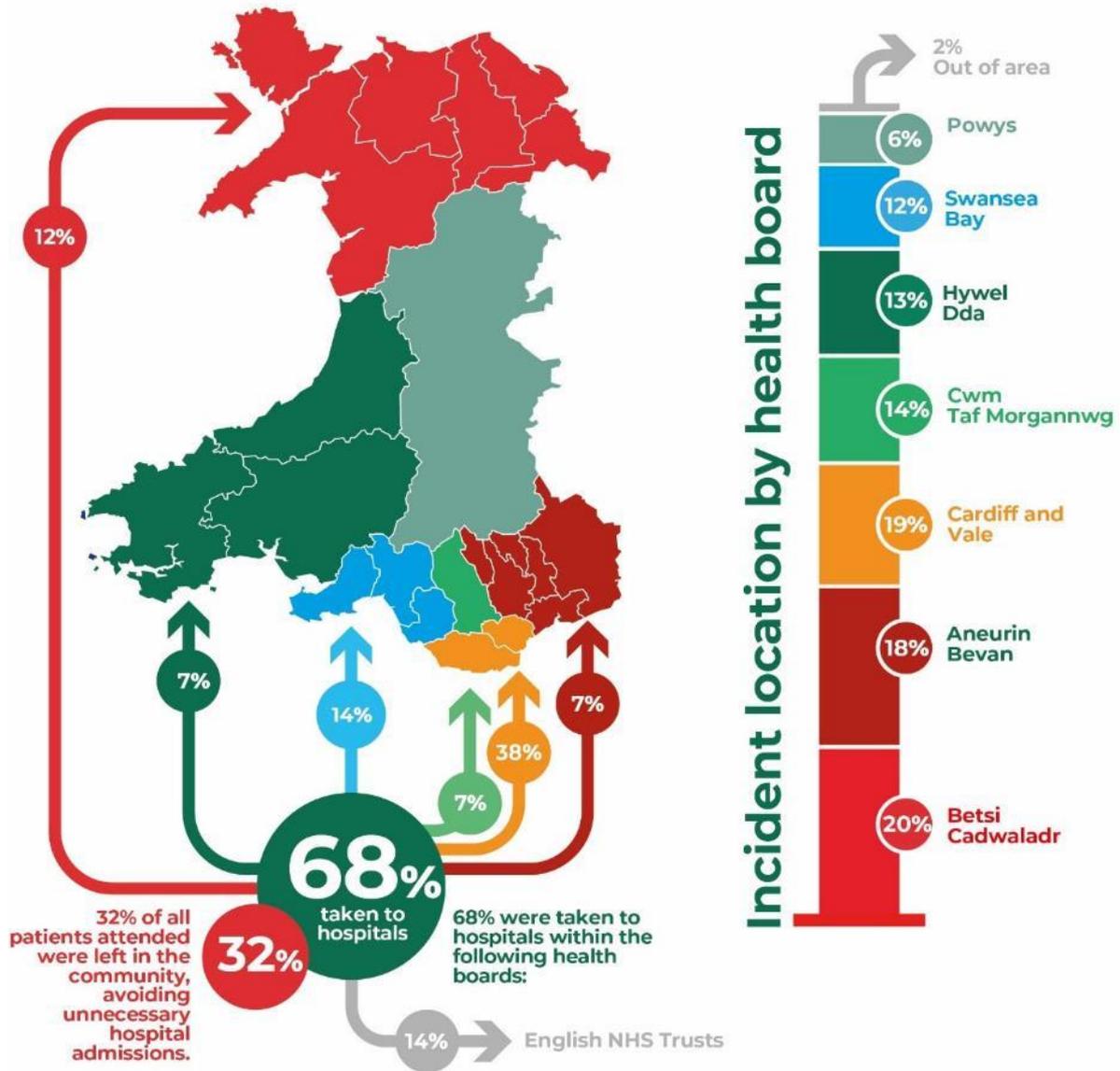
The surplus arose primarily as a result of the Covid-19 pandemic and global supply chain issues – it will be carried forward into 2022/23 to support the ongoing delivery of the service.

The Wales Air Ambulance Charitable Trust has agreed to fund future Rapid Response Vehicle purchases to increase the response capability of Critical Care Teams. EMRTS would like to thank the charity for their support as we continue to work collaboratively for the people of Wales.

Preliminary annual performance data

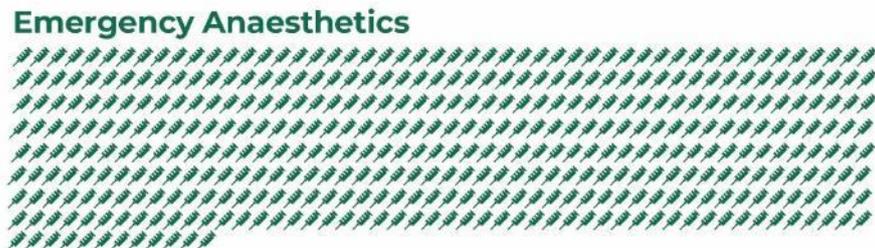


Patient Destinations



412 Emergency Anaesthetics

*Figure pending final audit.



119 Blood Product Transfusions

*Figure pending final audit.



EMRTS Service Evaluation

The EMRTS evaluation published in March 2022 covered a five-year period between 2015 and 2020 and offers significant evidence that EMRTS Cymru is achieving the aims set out in its business justification case.

It sets out the findings from the second phase of the service evaluation of EMRTS, following on from the first report which provided an early overview of year one activity.

It clearly demonstrates the increasingly important role of the service in providing an emergency response for those who need immediate treatment. It also shows the positive impacts it has had on the development and delivery of specialist emergency care practice in Wales.

The recommendations of the initial report have been realised, including expansion to North West Wales, and further evaluation of the unmet need outside of initial daytime operating hours. This culminated in the expansion of the service to a 24/7 airborne operation from December 2020.

Key findings include:

- The introduction of EMRTS was associated with a significant reduction (37%) in 30-day mortality for patients with blunt traumatic injury
- Emergency inter-hospital transfers were reduced by 41%
- Increased number of patients were delivered to the right hospital first time: 42% of patients bypassed local hospitals to be taken directly to more specialist care.
- Critical interventions were available outside hospital where necessary:
 - 63% (6,018) of patients attended received interventions that are outside standard ambulance service practice.
 - 313 patients received blood product transfusions.
 - 790 patients received pre-hospital anaesthesia.
- Significantly, twelve new consultants have been recruited into Wales due to the attraction of posts that include formal pre-hospital care sessions with EMRTS. Another thirty-two part-time consultants who also work in key specialities in NHS hospitals are employed to deliver the clinical service.
- There are also well-established programmes developing the future medical workforce including Pre-hospital Emergency Medicine (PHEM) subspecialty training, clinical fellow schemes, and the clinical attendant scheme.



A message from the Minister for Health and Social Services

"I am delighted to see how far the EMRTS Service has come since its launch in April 2015 and achieving its ambition to become a 24/7 service, in partnership with the Wales Air Ambulance Service.

The development of the EMRTS Service over the last seven years has supported rapid change within critical care to ensure we have the right services in the right place for people who are critically ill. The new dedicated Adult Critical Care Transfer Service Cymru (ACCTS) which commenced in South Wales in August 2021 and in North Wales in October 2021, is another important part of plans for improving adult critical care services.

The work of the EMRTS in partnership with the Wales Air Ambulance Service and its hardworking staff has helped Wales to lead the way in best practice, clinical excellence and innovation.

The publication of these positive findings on 1st March coincided with the 21st birthday of the Wales Air Ambulance Charity. It has been a pleasure to see the charity go from strength to strength since its launch on St David's Day in 2001. The work of the charity and its' hardworking staff and volunteers has contributed to the charity becoming the largest air ambulance operation in the UK.

The evaluation will support ongoing service improvement and expansion activities and I look forward to seeing the service continue to develop and improve patient outcomes and experience."

Eluned Morgan
Minister for Health and Social Services

EMRTS Patient Liaison

EMRTS Cymru has a provision for patients that have been treated by its critical care teams. Many of the people the service has helped will have received critical care treatment at the scene but will have little memory or understanding about what happened to them.



In addition, relatives often have many questions regarding pre-hospital care. Through the aftercare service, and EMRTS Patient Liaison Nurse Jo Yeoman, pictured, some of these gaps can be filled.

Recovery from critical illness or injury can be long and challenging as people move between different departments, hospitals and rehabilitation centres before finally returning home. Through the patient liaison service, EMRTS is able to support patients and relatives on that journey, providing consistency and support throughout, including after discharge home. This support may include follow-up visits at varying intervals during recovery and will differ from patient to patient depending on their need. It could be shortly after admission or after they have been discharged home, depending on how long their recovery is. The main purpose of these visits, and supporting correspondence, is to explain what has happened at the scene whilst giving emotional support to both patient and relatives.

Hayley Whitehead-Wright has also been employed to the new post for Patient Liaison Nurse in north Wales. A nurse for almost 15 years, she was part of Wrexham Maelor Hospital's follow-up and bereavement team, providing support for patients and relatives who had experienced time on the hospital's ICU unit. The aftercare service has further expanded to include Julie Whittaker as a patient liaison administrator, who manages all patient correspondence and bookings, providing much needed admin support to both nurses.

A close working relationship has developed with some of the major hospitals which allows a multidisciplinary team approach to patient care, improving communication for all involved. Links have been made with other third sector organisations so, for patients that have had life-changing illnesses or injuries, there is a variety of support that is made easily accessible, and EMRTS will be able to act as a point of contact.

This support also extends to all those who work for EMRTS and who are involved directly in incidents or patient visits, which is being formalised by the introduction of a peer support programme.

Sadly, some patients do not survive and it is important that their loved ones are supported during this difficult time, so a Bereavement Aftercare Service is offered to all relatives. This gives them the opportunity to ask questions, find out what treatment was given and also provides a safe space to talk about their grief.

For more information about the **Patient Liaison Service**, email emrts.patient@wales.nhs.uk or call 0300 3000 067.

Case studies

Nathan Ford

Welsh triathlete Nathan Ford was sadly paralysed from the neck down in 2021 after falling from his bike during a race in Scotland.

But now, following months of care and rehabilitation, he is beginning to take his first steps again with the help of a frame.

Nathan was flown from Dundee to Wales by the Wales Air Ambulance with both EMRTS and ACCTS clinicians on board, along with a host of high-tech critical care equipment.

Nathan, pictured here before his accident, was competing in the British Triathlon Championships in Aberfeldy last August when he came off his bike at high speed.

Fortunately, a doctor also competing in the event and stopped to perform CPR, and the 38-year-old was taken to intensive care in a Dundee hospital where he remained for four weeks.

Nathan then needed to come back to Wales for ongoing critical care and rehabilitation but moving him safely to Cardiff required precision planning.

He was flown back to Wales by Wales Air Ambulance, with one of the ACCTS clinicians on board the aircraft offering the additional specialist level of critical care expertise needed to move a patient in Nathan's condition.

Nathan said:

"I don't remember anything from the accident, and I was put into a coma when I got to hospital. The first part of my stay was a bit of a blur, because of all the medication. A few days before I was due to come home there was a lot of planning. There were high winds, and they were trying to find a suitable time with the weather. I was sedated for the journey, so I do not remember any of it at all".

Nathan was diagnosed with two life-threatening injuries; a spinal injury and a brain injury, although the latter was not as severe as initially thought. He underwent an operation to put a metal plate in his neck, which slipped necessitating a further operation to stabilise the fractures in his neck, followed by 14 weeks with wearing a 'halo'.

He began his physiotherapy in Cardiff, but after more than 200 days in hospital he discharged himself and has been undergoing a programme of rehabilitation ever since.



"When I woke up in hospital in Scotland the consultants were saying to my family it was touch or go whether I would survive or not. But I am making good progression, although it is very small steps. Initially I was told I would barely be able to move my legs, and I was told I would be on a ventilator for the rest of my life, and I would not be an independent person again".

However, Nathan had a tracheostomy which led to him being able to breathe independently, and the good news is he has now started taking steps with the aid of a frame, as his rehabilitation continues.

The 38-year-old from Killay in Swansea said:

"I was also told if I had not been as fit as I was, I would not have survived. I was in the best shape of my life - I've got the triathlon to thank for that. It has allowed me to make progress, mentally as well. And without my wife by my side there is no way I could have done what I have done. I owe her everything, she is so supportive in everything I do. The people who helped me will never truly understand just how thankful I am because they were 'just doing their job' I literally owe them my life, along with everyone else involved."

How Nathan's journey home was planned



Hannah McGarvey, ACCTS Retrieval and Transfer Practitioner, helped to plan Nathan's journey home.

She said: "Extensive planning was undertaken over the course of a few days due to the length of transfer to maintain Nathan's and the crew's safety and also provide ongoing critical care.

Logistical concerns included the weather and how many refuel stops were needed and where. These were calculated based on the weight of the additional specialist equipment and the people on board.

We also had to consider timings so that the pilots wouldn't run out of 'fly time' and the aircraft to be back in Cardiff for the night staff."

Great care was also taken over the critical care that Nathan might need on board.

Hannah explained: *"We needed to make sure we had all equipment available in case of any emergency, for example if Nathan lost his airway. There was a full airway kit ready to reinsert a breathing tube; blood pressure medication ready in case his blood pressure dropped, and emergency drugs ready in case he had a cardiac arrest, plus many more. Nathan had infusions ongoing during the transfer so we had to ensure there was enough battery on the pumps, enough battery on the ventilator which was breathing for him and also that we had enough syringes of drugs to last the length of the journey."*

The crew configuration was made up of Scott Bradburn ACCTS Consultant, Andrew Morris EMRTS HTP and the two Babcock pilots.



Jean Love

Gran-of-six Jean Love unfortunately suffered life-threatening injuries after being knocked unconscious while staying at a holiday cottage in Lampeter.

The Wales Air Ambulance responded to an emergency call for the 77-year-old, and its crew discovered Mrs Love with bleeding from her nose and right ear - signs of potential severe head injury.

To prevent further injury the patient was given general anaesthetic, with a breathing tube inserted into her airway and connected her to a breathing machine.

She was flown to the major trauma centre at Royal Stoke

University Hospital where it was revealed she had suffered extensive traumatic brain injury, multiple fractures of her skull, collar bone, ribs and two bones in her lower back.

Mrs Love was admitted to a neurological ward and over the next three days her conscious level remained low, and her family assembled around her bed to say goodbye after being warned she may not survive.

However, her condition began to improve significantly.

After 20 days she was transferred to the Royal Stoke University Hospital and then the Walsall Manor Hospital nearer her home. From there she went to the Samuel Johnson in Lichfield for rehabilitation before being discharged eight weeks after her fall. Her recovery continues and her family said *"nobody would ever think she's had such a serious accident."*

Son Phil added: *"I don't think the importance of the Wales Air Ambulance service can be underestimated. Without it, it's unlikely that Jean would have survived, and even if she did, I'm not sure she would have recovered as well as she has done."*

Anonymised case studies



EMRTS

Our Helimed 57 team from Dafen attended a 13-year-old girl who had collapsed suddenly.

The crew arrived on scene in Morriston, Swansea, within 20 minutes of the emergency 999 call and carried out a rapid assessment.

The young teen had four seizures in total, which had stopped on their arrival, but she remained very drowsy and confused.

The patient was connected to some monitoring and a line inserted into her hand to give her medication intravenously. As they were transferring her to the road ambulance, she began to have another seizure, so they had to administer some strong sedation.

Concerned that a possible bleed to the brain was causing the seizure, the crew decided to give her a general anaesthetic and put her on a ventilator. This not only helped protect the brain and reduce the seizures but also ensured her airway was protected to enable a safe transfer.

Once stabilised, the Helimed team travelled with her to the specialist neurosurgical centre, bypassing her local hospital, to get her to the time-critical specialist services she needed.

When she arrived at hospital, she underwent urgent surgery on her brain to reduce the pressure and was then admitted to the paediatric intensive care unit where she spent just over a week before being discharged to the children's ward.

Just under 2 months after her initial collapse she was discharged home with her family and has continued to make a good recovery.

ACCTS



A patient on intensive care underwent an emergency re-intubation (siting a breathing tube into the airway to allow safe ventilation of the lungs and allow her to be placed on a ventilator.) Due to a previous tube, her airway was dangerously swollen and the tube could not be passed.

The specialist ENT (ears/nose/throat) team performed an emergency tracheostomy tube on the ICU. Due to ongoing difficulties the patient required complex surgical interventions and a unique ventilation strategy.

The patient, from the Newport Gwent area, required transfer from South Wales to London to a centre with specialist airway surgical expertise and ECMO capability. ECMO is a machine which pumps blood out of a patient's body to be oxygenised, allowing their lungs to rest.

Careful planning and preparation was made given the complexity of her critical care and ventilation needs. The specialist intensive care and transfer consultant-led team prepared and drilled for managing a patient on two ventilators, including the necessary equipment and procedural adaptations to manage any patient deterioration. The ACCTS standard transfer trolley configuration was modified by mounting two ventilator brackets plus necessary additional physiological monitoring devices to monitor the patient's vital signs.

Following a bedside discussion with the referring intensivists and ENT surgeons, the patient was moved onto the ACCTS trolley, ventilators, infusion pumps and monitoring equipment. Following standard safety checklists, the patient was moved to the ACCTS vehicle and then conveyed to London without complication.

She required constant monitoring of her breathing tubes and ventilation, while maintaining infusions of sedation, analgesia, and paralysis. Her care was successfully handed over to the London team. Two weeks later her condition was stable with only one breathing tube and ACCTS conveyed her back home to South Wales.

We are delighted to report that she made a full recovery to hospital discharge.