

# EMRTS Cymru

Emergency Medical Retrieval &  
Transfer Service



ELUSEN AMBIWLANS AWYR CYMRU  
WALES AIR AMBULANCE CHARITY



April 27 2015

April 26 2016

## EMRTS Cymru Annual Report



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## Section 1

# INTRODUCTION



## Director's Foreword

By way of a recap the Strategic Outline Programme for the creation of the Emergency Medical Retrieval and Transfer Service (EMRTS) Cymru was approved in September 2014. This seminal document defined the preferred clinical, workforce and operational model taken forward, as well as the medium and long-term vision of the Service. Following approval of two Business Justification Cases in December 2014, EMRTS Cymru went live on the 27th April 2015, meeting the projected timescale for delivery. The Service celebrated its one year birthday at "Retrieval 2016," receiving positive feedback at this international conference hosted by our colleagues in Scotland.

As described in this Annual Report, EMRTS Cymru has met the agreed service specification including the full clinical service model from its Swansea and Welshpool bases, operating twelve hours a day and seven days a week. When establishing a new clinical service, it is necessary to develop processes of governance and accountability between partner organisations, which in our first year we have had the opportunity to thoroughly test and demonstrate robustness. Operational data for year one is also presented, with a selection of hallmark patient stories, where the Service demonstrated a significant change in the patient's pathway. Finally the current report provides an update on our financial position (at the end of year one) and what developments are planned in the near future.

Outcome data against our key investment objectives of equity, health gain and clinical and skills sustainability will be provided in the independent evaluation of the Service. This is being undertaken by Swansea University and will be available later this year. The evaluation work will be key to consolidate what has been achieved and reflect on any lessons that can be learnt from year one. Moreover it will inform any future developments and how these will allow EMRTS Cymru to become an 'essential' service in the unscheduled care landscape of NHS Wales.

I would like to take the opportunity to thank our partner organisation, the Wales Air Ambulance Charity, who continue to be entirely dependent upon public donations to keep the Wales Air Ambulance helicopters flying. I look forward to continuing to strengthen our relationship in year two of the service. My thanks also go to our host (Abertawe Bro Morgannwg University Health Board), the Welsh Health Specialised Services Committee and of course our operational teams, without whom none of this would be possible. I look forward to progressing EMRTS Cymru with our new commissioners – the Emergency Ambulance Service Committee.

It has been a successful first year and the Service has enjoyed excellent support from Welsh Government and NHS Wales.



Dr Dindi Gill

Interim National Director, EMRTS Cymru

Consultant in Emergency Medicine,  
Morrison Hospital

## 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 Swansea (Dafen from June 2016) and Welshpool.





## 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, for the first time in Wales, 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.

The Service ensures that 95% of the Welsh population will be able to access doctor-led care within 30 minutes by air and 46% of the Welsh population within 30 minutes by road.

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



## Section 2

# GOVERNANCE

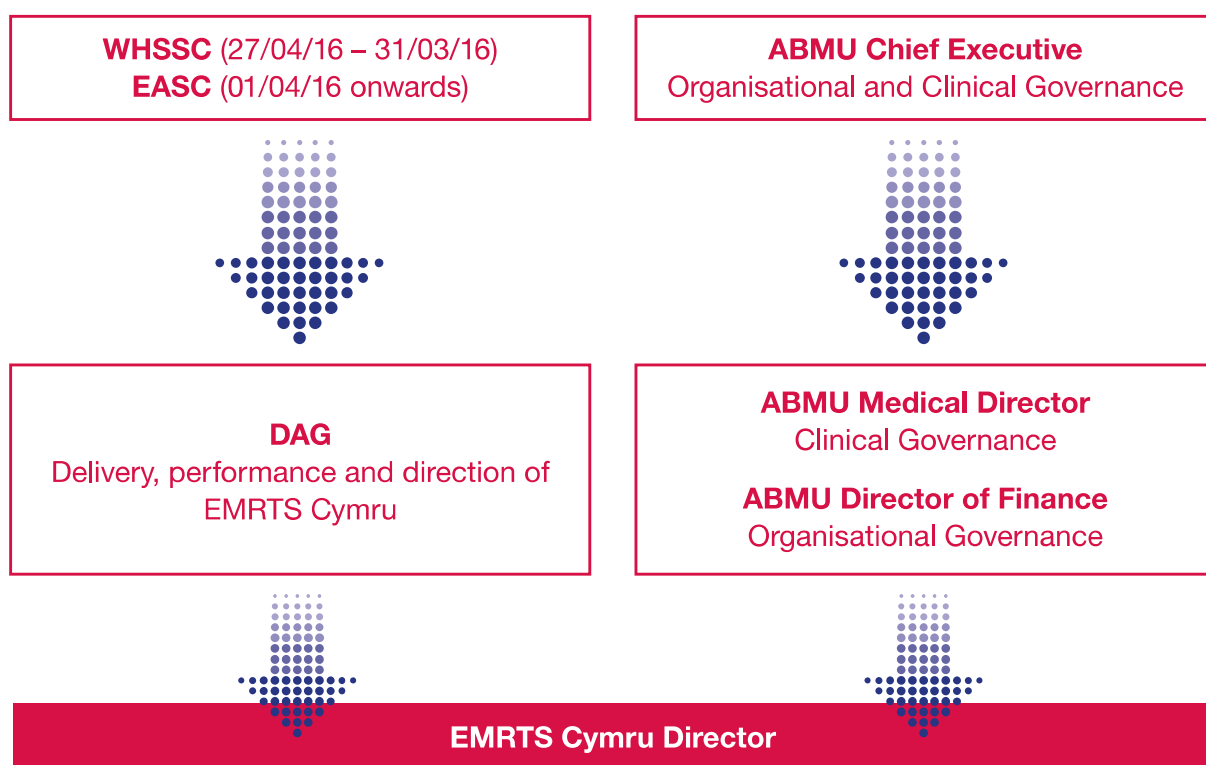
### Governance Structure

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 was originally commissioned by the Welsh Health Specialised Services Committee (WHSSC). The organisational governance structure consists of an EMRTS Delivery Assurance Group (DAG) which sits as a sub-committee of WHSSC. 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.

This report covers the period April 27th 2015 – April 26th 2016. As of 1st April 2016 the commissioning responsibilities transferred to the Emergency Ambulance Services Committee (EASC). The DAG will now sit as a sub-committee of EASC.

The organisational structure is illustrated below:



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 monthly basis. Furthermore an Airway Group (who evaluate the emergency anesthetics provided by the Service) and 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. In the first year the governance processes have been effectively utilised to create an environment of transparency, learning and improvement.



## Section 3

# OUR FINANCES

### EMRTS Cymru Financial Statement

EMRTS Cymru met its financial target in 2015/16 by delivering a modest surplus of £0.169m against its revenue funding allocation from WHSSC of £2.868m.

The surplus will be carried forward into 2016/17 to support the ongoing delivery of the Service.

The capital allocation for setup and implementation has been fully committed.



## Section 4

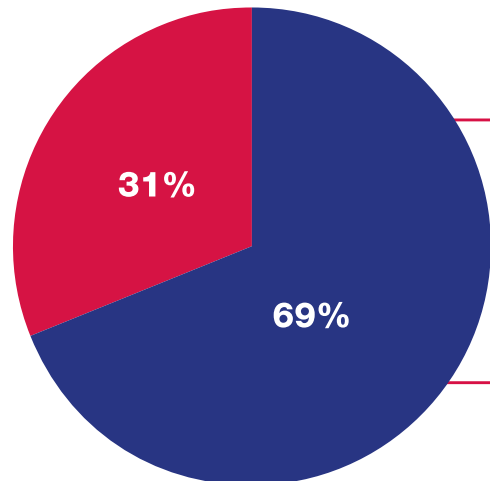
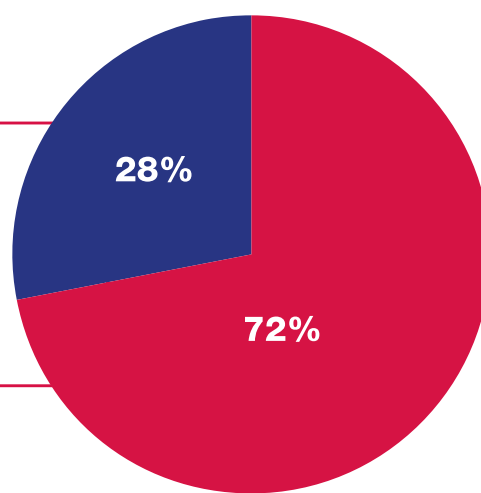
# ADDITIONAL INFORMATION

### Preliminary First Year Performance Data (27/04/15 – 26/04/16)

(Source – Welsh Ambulance Service Trust operational reporting and EMRTS Cymru dataset)

Total Patient Attendances - 1285

Air  
Rapid Response Vehicle



Gender

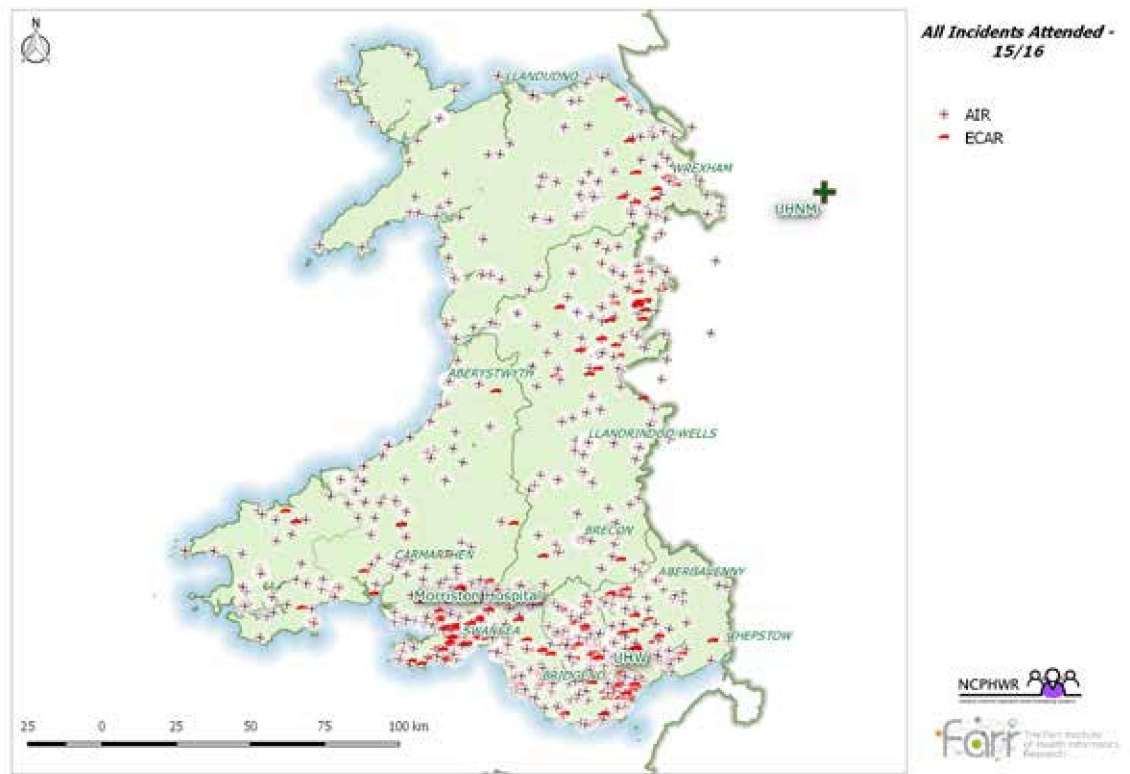
Female  
Male

Age Range  
**0-97**



**16%**  
of the patients attended  
were paediatrics  
(under 17 years of age)

# Mission Map



## Incident Location By Health Board

Abertawe Bro Morgannwg	<b>23%</b>
Aneurin Bevan	<b>10%</b>
Betsi Cadwaladr	<b>14%</b>
Cardiff and Vale	<b>7%</b>
Cwm Taf	<b>7%</b>
Hywel Dda	<b>18%</b>
England	<b>2%</b>
Powys	<b>19%</b>

## Cases Attended by Category

Category	
Road Traffic Collision	<b>29%</b>
Cardiac Arrest	<b>16%</b>
Other Trauma	<b>14%</b>
Other Medical	<b>14%</b>
Falls	<b>12%</b>
Transfer and Health Care Professional Admissions	<b>8%</b>
Chest Pain	<b>6%</b>
Maternity/Neonatal	<b>1%</b>



## Patient Destinations

19% of all patients attended were left in the community. The remaining 81% were taken to hospitals within the following health boards:

Abertawe Bro Morgannwg	<b>26%</b>
English NHS Trusts	<b>24%</b>
Cardiff and Vale	<b>21%</b>
Hywel Dda	<b>9%</b>
Betsi Cadwaladr	<b>8%</b>
Aneurin Bevan	<b>6%</b>
Cwm Taf	<b>5%</b>
Powys	<b>1%</b>

A full report, including a detailed statistical analysis, will be presented in the EMRTS Cymru Service Evaluation paper to be published Autumn 2016.





# First Year Success Stories

## New Advanced Aircraft Announced

In March 2016 the Wales Air Ambulance Charity announced that it will introduce a brand new fleet of custom-made aircraft which will significantly enhance operations. The three new Airbus H145 helicopters will be launched in January 2017, supplied by helicopter operator Babcock International Group.

The Wales Air Ambulance Charity and EMRTS Cymru will become only the third HEMS (helicopter emergency medical service) operation in the UK to use the new H145 aircraft.

Equipped for night flights, the upgrade will move the operation a step closer to its goal of providing a 24-hour air ambulance service. The new aircraft will offer enhanced transfer capabilities and a larger cabin will mean extra room for in-flight treatments and increased training capacity. More powerful engines will result in quicker travelling speeds and longer flight time without refueling.

Also, for the first time, EMRTS Cymru medics will be able to send critical information about patients to medics waiting at hospitals via an on-board high-speed internet connection.



## Service Innovations

During its first twelve months in operation, EMRTS Cymru has introduced a number of innovations into the HEMS environment. This includes:

- The first service in the UK to carry a range of blood products including clotting factors (four units of blood, freeze-dried plasma, fibrinogen and prothrombin complex concentrates).
- The Service carries the latest point-of-care testing devices including portable blood gas analysers and an ultrasound scanner. These ensure patients receive the highest level of care outside of the hospital environment.
- The Service will be contributing data to the Swansea University Anonymised Data Linkage (SAIL) databank. This world-class anonymous data linkage system securely brings together the widest possible array of routinely collected data for research, development and evaluation. It will facilitate continuous quality improvement of this Service, and similar services around the world.
- The Service has introduced secure resilient communication equipment which includes an intelligent mobile phone application, giving EMRTS Cymru medics intelligence about hospital services and offering guidance on a range of medical procedures.
- The Service has use of new advanced technology ventilators which are designed to work on people of all ages, from infants through to elderly patients.

## International Interest

There has been international interest in EMRTS Cymru with colleagues from across the world exploring the feasibility of introducing a similar service. It has received visits from medics based in Northern Ireland and the Republic of Ireland while further interest has been shown from colleagues in New Zealand and North America. In March 2016 it was announced that medics in Northern Ireland had been granted funds to set up their service and that it would adopt the 'Welsh model'.

EMRTS medics have also been invited to attend numerous high-profile local, national and international events and conferences to talk about the development of the Service and the clinical advances that have been made.

## Anonymised Case Studies

### CASE STUDY 1

EMRTS Cymru attended a ten year old child involved in a North Wales road accident as the occupant of a family car. He had a significant head injury and received an emergency anaesthetic before being transferred directly to specialist care at Alder Hay Hospital, Liverpool. He has since been discharged with a favourable neurological outcome.

#### Before EMRTS:

Had EMRTS Cymru not been in attendance there would have been a significant delay prior to an emergency anaesthetic being administered and a transfer to definitive neurocritical care, potentially compromising outcome.

### CASE STUDY 2

One of the unexpected survivors treated by the Service in Mid-Wales was a gentleman in his sixties involved in a serious industrial accident. He lost a significant amount of blood and suffered a cardiac arrest. This required the full range of critical care interventions including tourniquets (a mechanical device used for the temporary control of the circulation of blood), blood and plasma transfusions, surgery to his chest, anaesthesia and advanced drugs. He was stabilised and flown to specialist care at the Royal Stoke Hospital. He is now doing well.

#### Before EMRTS:

This kind of resuscitation for patients and survival from traumatic cardiac arrest was unheard of in Wales before the introduction of EMRTS Cymru. It is highly likely that this patient would have died at scene without the care received above.

### CASE STUDY 3

EMRTS Cymru was called to a South Wales District General Hospital to reports of an unconscious male who had presented to the minor injury unit. The critical care team were taken to the hospital by air and, following a rapid assessment, a decision to anaesthetise and secure the airway was made, along with point-of-care blood tests and monitoring. The patient was then transferred, by road, to a specialist centre for further tests and intensive care. This case illustrates the role of the Service providing an emergency response to health care facilities without resident anaesthetic and intensive care.

#### Before EMRTS:

Staff in the healthcare facility would not have been able to manage the patient's airways adequately and there would have been a delay to definitive airway control.

### CASE STUDY 4

A neonate was born pre-term in a residential address in South East Wales. Identification of the case by a Critical Care Practitioner on the Air Support Desk allowed the team to attend the scene by air, carrying specialist equipment, within 30 minutes. On arrival the neonate had been delivered and advanced interventions were instigated in liaison with CHANTS (Cymru Inter Hospital Acute Neonatal Transfer Service). A decision was made to bypass the nearest maternity unit and take the neonate to the appropriate Neonatal Intensive Care Unit. This prevented a secondary transfer and the consequent delay to definitive care. There has been a favourable clinical outcome in this case.

#### Before EMRTS:

The neonate would have been in a worse clinical condition without the above interventions, which would have impacted on hospital length of stay and outcome.

### CASE STUDY 5

EMRTS Cymru is able to provide additional support to health boards in order to facilitate complex time-critical transfers. Amongst the transfers undertaken was a young lady who, following a heart attack, was in profound cardiogenic shock (where the heart has been damaged to the point where it is unable to supply enough blood to the organs of the body). She had an aortic balloon pump in situ, in a South Wales hospital, and required urgent transfer for further surgery in a specialist centre in England. The transfer was carried out by road in a Welsh Ambulance Service vehicle with an EMRTS Cymru consultant and a perfusionist (a specialised healthcare professional who uses a heart-lung machine during cardiac surgery) from the hospital. This patient's family have since raised funds for the Wales Air Ambulance Charity.

#### Before EMRTS:

The in-hospital team would have had to undertake this transfer, which would have depleted the hospital of anaesthetic staff for several hours and therefore significantly impacted on emergency theatre work.

**All of the above cases demonstrate the equity and health gain that EMRTS is striving to provide**

# Looking to the Future

## New South Wales Base

In June 2016, the Swansea operation will move from the base at Fairwood Airport to the Wales Air Ambulance Charity's new purpose-built airbase and hanger at Dafen in Llanelli, adjacent to the Charity's new headquarters. This new facility will provide a number of benefits including:

- specialised training rooms allowing for real-life simulations and video conferencing facilities for working with our other bases.
- room in the hanger for two aircraft; purpose-built storage areas for medicines, clinical equipment and aviation kit for engineers.
- better transport links with the M4 for the Rapid Response Vehicles.
- staff welfare – with a crew brief/debrief room, sleeping accommodation (future proofing for 24/7 operations) and a quiet room.

## Fourth Aircraft

The Wales Air Ambulance Charity has invested in a fourth aircraft. It will become operational later in 2016 when details of its purpose will be announced by the Charity.

## Service Evaluation

Work has begun on an independently authored EMRTS Cymru Service Evaluation which will offer a rich source of information relating to the first twelve months of the Service, and its outcomes. This will be published in Autumn 2016.

## Service Expansion

The current service provides pre-hospital critical care and retrieval from its Swansea (Dafen from June 2016) and Welshpool bases, 12 hours per day, 7 days a week. EMRTS Cymru has the potential to expand its operations if the demand is evident. This would include a 24/7 operation and the introduction of EMRTS at the Wales Air Ambulance base in Caernarfon. If any case for expansion exists it would be expected to be evident as a result of the Service Evaluation.





# OUR PARTNER

# 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 (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 million each year. This funds the infrastructure and facilities for all three bases in Welshpool, Llanelli and Caernarfon. 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.

## National Children's Air Ambulance

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

EMRTS Cymru medics, and NHS Wales specialists, on board the Wales Air Ambulance care for paediatric and neonate 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](http://www.walesairambulance.com)**





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WALES AIR AMBULANCE CHARITY



[ambiwylansawyriblant.cymru](http://ambiwylansawyriblant.cymru)  
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