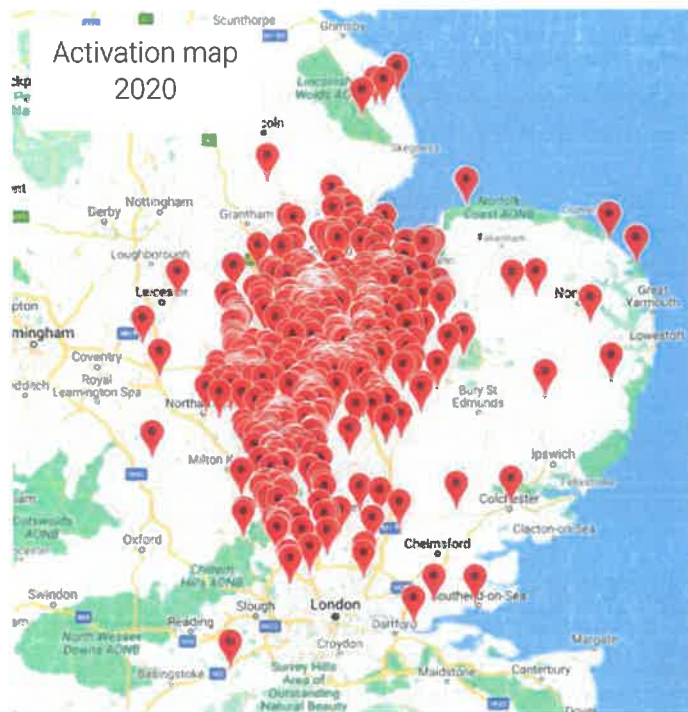




Magpas Air Ambulance Charity Report – April 2021

As one of the region's vital emergency services, Magpas Air Ambulance had to quickly adapt to the challenges of COVID-19. Our doctors and paramedics rapidly had to introduce changes to the amount of PPE they were wearing, how they stored and used equipment, and their training.



We were fortunate to receive donations of PPE during April and May which allowed us to train using the new equipment and to continue to provide our service 24/7 to patients in life-threatening emergencies, in the safest way possible.

In 2020 you helped us respond to 1,125 activations, of which 49% were to critically ill and injured patients across Cambridgeshire. Sadly, we witnessed a 12.5% increase in activations to self-harm patients and our team provided 60% more anaesthetics than in 2019.

As well as providing lifesaving care in our day-to-day operations, we also helped hospitals with severely ill COVID-19 patients, by using our specialist equipment and skills to transfer them to COVID-19 wards at different hospitals.

Your support last year ensured that the Magpas advanced medical team could work on the frontline 24 hours a day, every day, throughout the pandemic. It has been a gruelling challenge but we are proud of our clinicians who have gone above and beyond whilst wearing hot and cumbersome PPE for up to 6 hours a day.

Director of Operations Natalie Church said: *"I've worked with the charity for 20 years now and I can say, hand on heart, the past year has been the toughest we have ever faced. On top of the financial and operational challenges our Operations Base flooded just before Christmas! Although there is still a difficult road ahead we have been inspired by you, our amazing supporters. Every single thing we are able to do and every patient we save is because of you. We really do mean it when we say, with you we save lives. Thank you."*

Patient Story - David Walston

"11 days after I spent 15 minutes dead on my bedroom floor, I was back at work."



Last year, farmer, husband and father of two David went into cardiac arrest whilst he was in bed sleeping. David's wife Sabrina immediately called 999 and started performing vital CPR.

She didn't stop until an EEA paramedic crew arrived 15 minutes later, alongside the Magpas Air Ambulance advanced medical team.

Magpas Doctor Rupert and **Critical Care Paramedic Sally** provided David with treatments and procedures usually only available in a hospital emergency department, on his bedroom floor, before accompanying him to hospital.

David continues *"Not many people can say that they've saved a life, but Sabrina and Magpas Air Ambulance can. I am more grateful than I can begin to express. And perhaps one day I might even forgive Sabrina for the broken ribs she gave me as a result of her compressions!"*

Thanks to the care David (pictured above with his family) received that day, he's still here to be with his family, and his daughters. His wife Sabrina said: *"Thank you for caring for David but also for taking care of me. You were all so kind, caring and professional. Thank you....you kept our world from shattering"*.

Critical COVID-19 Transfers

During the Pandemic, Magpas Air Ambulance has been supporting the NHS in new ways. This includes the transfer of COVID-19 patients between hospitals so that they can receive the very best care and Magpas Air Ambulance were one of only three services able to transfer ventilated patients nationally by air.



As part of our normal service our medics regularly anaesthetise and ventilate patients and then care for them throughout their journey to hospital, so they are used to transferring very sick people.

Last year the Magpas medical team were dispatched to undertake the transfer of a COVID-19 positive patient from Kings Lynn to Norwich who had been in ITU for over two weeks. Transfers are complex and can take a long time so the team used the Magpas Air Ambulance helicopter in order to reach the patient quickly.

Ahead of coming into contact with the patient the team quickly donned full PPE including hoods (pictured above), respirators and full bodysuits in order to prevent cross infection. The process of safely and carefully moving the patient from their bed took about an hour, as they have to be transferred from the hospital monitors and ventilator over to Magpas equipment. Everything had to be done gently and methodically to ensure nothing was snagged or pulled out in the process.

At the receiving hospital the team were escorted door to door through the hospital.

As the patient was COVID-19 positive the corridors were cleared and people made sure they stayed well back. Once in ITU, the Magpas Air Ambulance team were met by the nursing staff and an ITU registrar, who took over the care of the patient. The Magpas equipment was then thoroughly cleaned down.

In total the transfer took over 5 hours and towards the end of the journey the patient required stabilising. The ventilator had to be disconnected to clear their breathing tube which had become blocked. This process meant droplets carrying COVID-19 could have been released into the air with a real danger of clothing and equipment becoming contaminated.

When removing their PPE, the team had to take extra caution to avoid any cross contamination. **Steve Chambers, Magpas Critical Care Paramedic**, explains: *"The PPE and additional equipment we now use is vital but the risks of cross contamination are very real and we have to be mindful of it constantly. We have had to learn how to adapt and evolve but we have faced the challenge head on".*

Investing in cutting edge equipment to ensure patient safety



Magpas Air Ambulance have commissioned innovative hydrogen peroxide vapour (HPV) decontamination technology in the fight against COVID-19. For the last 10 months we have been using a hydrogen peroxide decontamination robot, called ProXcide, to decontaminate flight suits, uniforms, kit bags and even reusable PPE.

Used in a purpose-built chamber known as ProXpod, the device fills the chamber of PPE, flight suits and uniforms with low dosage HPV to break down pathogenic micro-organisms – including SARS-CoV-2. The ProXpod technology was developed during the pandemic to address PPE shortages by decontaminating healthcare worker masks, gowns, scrubs and uniforms for safe reuse.

Hydrogen peroxide vapour technology by Inivos is also already in use at hundreds of hospitals across UK, including more than 40% of NHS Trusts.

It is most commonly used to decontaminate wards, operating theatres and patient equipment. However, a trial at University Hospital Southampton also found that ProXcide successfully decontaminates sterile gowns for reuse without damaging garment integrity.

Daryl Brown, CEO of Magpas Air Ambulance commented: *"This decontamination technology has allowed us to deliver a first-class service for the sickest patients in the region, with confidence in the safety of our team and our patients."*

Saving lives day and night

There's an enormous difference between flying during the day and at night. The main issue is the lack of visibility; it is hard to see wires or obstacles on the ground and a lot more work has to go into finding a landing site before take-off.

During the day visibility is usually good and the team Pilot and Technical Crew Member can choose a landing site when they are overhead, and see where the patient is.



They also have sight of obstacles – both in the air, such as wires, or on the ground like large ditches or tall fences that need to be avoided to make it easier for the medical team to reach our patient. In darkness it is so much harder to see and more time is required pre take-off to identify a primary and secondary landing site. This is important in case on arrival at scene the first site is unsuitable, for example, if there is a fair in town that day.”

Magpas Air Ambulance Pilot Capt. Chris Sherriff explains: *“We have many procedures and rules in place to mitigate the challenges of night time flying to keep everyone safe. This includes rigorous night flying training with yearly reviews and learning how to use and fly in night vision goggles. The goggles are amazing and use really advanced technology to make everything become clear as day (pictured left).*



When you wear them however, the goggles with their battery pack alone weigh around 1kg, and they attach to our helmets, so when we do fly with them it’s like strapping two bags of sugar to your head!”

Each set of night vision goggles cost up to £20,000 but with the capability they give us it’s so worth it to ensure we can take our life-saving care to patients wherever and whenever they need us.

Thank You from everyone at Magpas Air Ambulance

Your support has played a crucial role in enabling us to remain operational throughout what has been a tumultuous 12 months. Further details on any area of our work are available on request. With you we have saved precious lives and kept families together across Cambridgeshire and beyond. Thank you sincerely for your loyal support.

