

A photograph of a white ambulance with yellow and red reflective stripes parked under a glass and metal canopy at a hospital entrance. The word 'AMBULANCE' is written in green on the side of the vehicle. A sign above the entrance reads 'Emergency Ambulance'. The ambulance has a license plate that partially shows '54 HV'.

AMBULANCE

AMBUL

Emergency Ambulance

What we think about:

Ambulance response to stroke

Rebuilding lives after stroke

Stroke
Association

Background

As first responders, the ambulance service play an important role in identifying a suspected stroke and getting patients to the right hospital as quickly as possible.

National guidelines state that the role of ambulance staff (paramedics) is to identify those patients who show signs of stroke and transport them to a hyper-acute stroke unit as soon as possible.¹ Paramedics should also alert the hospital that they are taking the stroke patient to, in order to ensure speedy access to specialist assessment and treatment for the patient upon arrival.

What we think

Stroke is a medical emergency. To ensure that all stroke patients have the best possible chance of surviving and making a good recovery, it's vital that they are taken to a specialist stroke unit where they can access the treatment they need as quickly as possible. To do this they need an appropriate vehicle such as an ambulance. With stroke, the focus is on getting the patient to the right hospital – one with a stroke unit - rather than just the closest. In some cases, it's more beneficial for the stroke patient to travel further in order to receive the best treatment.

However, increased demand for ambulance services coupled with lost time due to delayed turnaround times at emergency departments has put significant pressure on ambulance service resources across the UK. This has led to processes that may be inefficient and which means many patients had to wait longer for an appropriate vehicle to arrive to take them to hospital. This can negatively affect patient care and outcomes.

Recent changes to the way the ambulance service works in England have shown positive outcomes, including for stroke survivors who are receiving faster emergency responses.

The new way of working for the ambulance service in England is a good way of making the best use of the ambulance services' resources which are under increasing demand. We support the new English model and are pleased that similar changes have already happened or are in progress in Scotland, Wales and Northern Ireland. It's vital that stroke patients across the whole of the UK receive the most appropriate response the first time. This means they can be transported to a specialist stroke unit to receive the best possible treatment and care.

Why do we think this?

Stroke is a medical emergency

It is important that stroke is treated as a medical emergency. Research estimates that a typical stroke patient will lose 1.9 million neurons or brain cells each minute a stroke goes untreated.² The faster a person receives a brain scan to diagnose their stroke, the quicker they will receive appropriate treatment and the more likely they are to survive and make a better recovery.³

This is why it's vital that a stroke patient is quickly transported to and treated at a specialist stroke unit, ideally a hyper-acute stroke unit. These stroke units are better staffed, have the latest equipment, are open 24 hours a day and patients are more likely to get the treatment they need as a result.⁴

Ambulance services are under increasing pressure

Demand for ambulance services has increased across the UK over the past decade. The number of calls to services in both England

and Northern Ireland increased by about 5% each year.^{5 6} The Welsh Ambulance Service received over half a million emergency calls in 2017/18, which is up 11% on the previous year.⁷ The Scottish Ambulance Service received over 1.4 million emergency calls in 2016/17.⁸

Delayed turnaround times at emergency departments also continue to be a challenge for ambulance services across the UK. The agreed standard across most parts of the UK is no longer than 15 minutes to transfer a patient from the care of the ambulance crew to an accident and emergency department. There is then a further 15 minutes for ambulance crews to make their vehicle ready for the next patient.⁹ In January 2017, the Welsh Ambulance Service lost 7,137 hours as a result of handover delays.¹⁰ In Northern Ireland, around 60% of all ambulance arrivals at acute hospitals in 2017/18 had a turnaround time of more than 30 minutes.¹¹ Each failure to meet this standard results in a poor experience for the patient and a delay in the ambulance crew being available for a new call.

This has led to some inefficient practices

Time-based targets are often used as a way to evaluate the performance of ambulance services. Targets have been effective in driving improvements and maintaining response times to the most critically ill and injured patients. However, the efforts to meet these standards in the face of rising demand have led to processes that may be inefficient, and which may affect patient care and outcomes.¹² In the past, 'stop the clock' practices – where the clock is stopped by the arrival of the first vehicle rather than the vehicle that the patient actually needs - have resulted in some patients who need urgent hospital treatment, like stroke patients, actually having to wait longer for an appropriate vehicle to arrive.¹³

Changes to the ambulance service in England have improved response times for stroke patients

The Ambulance Response Programme, which ran for 18 months between 2015 and 2017, tested new ways of working for the ambulance service in England. These included giving staff more

time to identify a patient's needs. Previously ambulance services were only allowed 60 seconds from receiving a call to sending out a vehicle¹⁴. The response programme also changed rules around what 'stops the clock'.¹⁵ The results of this trial were really impressive. They showed that giving ambulance staff more time to identify a patient's condition and needs actually improved response times for the most seriously ill patients.¹⁶ There was also no evidence to suggest that patients with time-critical conditions such as stroke were disadvantaged by the changes.¹⁷ The results actually showed a one minute improvement on stroke responses in the West Midlands.¹⁸

The results also showed that if these changes were introduced across the country, early recognition of life-changing conditions would increase and the differences in response time between rural and urban areas would significantly decrease.¹⁹

As a result of these positive findings, the NHS in England decided to introduce new ambulance standards across the country in July 2017. These standards focus on improving patient outcomes rather than time-based targets. It's hoped that this new way of working will save

lives, reduce waiting times for an ambulance, and in the case of stroke patients, make sure that they get to the right hospital quicker as the most appropriate vehicle will be sent first time.

To ensure the changes improve care for conditions such as stroke and cardiac arrest, from April 2019 the new system will track the time from 999 call to hospital treatment, instead of just measuring how long it takes an ambulance to respond to an emergency call. This will be recorded on the Sentinel Stroke National Audit Programme (SSNAP), which measures the quality and organisation of stroke care in England, Wales and Northern Ireland.²⁰ By 2022, NHS England want 90% of stroke patients to receive appropriate treatment – such as thrombolysis – within 180 minutes of making a 999 call. Currently, this happens for less than 75% of stroke patients.²¹

Similar changes are also happening across the rest of the UK

A review into the amber emergency response category (which includes stroke) was undertaken between May and October 2018 in Wales. This was in response to winter pressures

which impacted on ambulance waiting times. The findings of the review recommended that the Welsh Ambulance Service take a similar approach to the English model. This would mean measuring the whole emergency response pathway for stroke rather than simply the initial ambulance response time.²² However, unlike the English model, which has a target response time of around 18 minutes for Category 2 calls (which include stroke patients)²³ and a target of 180 minutes from 999 call to treatment in hospital, the review in Wales did not recommend a target response time for calls that fall into the amber category.

The ambulance service launched a public consultation on a new clinical response model in September 2018 in Northern Ireland. The proposed new model reflects the successful changes already made in England.²⁴

In 2016, a new model of working similar to England was introduced by the Scottish Ambulance Service.²⁵ However, like Wales, there is no target response time for amber category calls in Scotland.

What do we want to see happen?

We support the new way of working for the ambulance service in England, which is shown to improve response times for stroke survivors. Stroke patients across all of the UK deserve an ambulance service that can provide the right first response and that can take them to the most appropriate care for their needs

We welcome the news that, in Wales and Northern Ireland, plans are already underway to improve ambulance responses based on learning from the England model.

In Wales, while we welcome the move towards a whole pathway measurement for stroke, for this to work effectively, there must be a target time for responding to amber calls. Adding a target time will be a driver for improvement and will focus the ambulance service on getting as many individuals to treatment as quickly as possible in order to get the best possible outcomes.

In Northern Ireland, we want to see the proposed new response model put into practice as quickly as possible and for it to also focus on measuring the whole emergency response pathway for stroke.

What are we doing?

- We will monitor the new model of working for the ambulance service in England to ensure that it continues to benefit stroke patients. The ambulance service have also been part of the development of the new national stroke plan in England.
- In Wales, we are calling for the ambulance service to introduce a target response time for amber category calls. We will also be working with the Welsh Ambulance Service on how to best measure the whole pathway of patient care for stroke patients.
- In Northern Ireland, we submitted a response to the consultation on a proposed new clinical response model for the ambulance service highlighting the specific needs of stroke patients. The Northern Ireland Ambulance Service have also been involved in plans to reconfigure stroke services in the region.

Q&A

Q. Who provides ambulance services in each nation?

A. There are ten individual ambulance trusts in England. In the other nations, ambulance services are provided by the Welsh Ambulance Services NHS Trust, the Scottish Ambulance Service, and the Northern Ireland Ambulance Service Health and Social Care Trust.

Q. What is the recommended ambulance response time for stroke?

A. Across the four nations, ambulance services categorise their emergency calls in a similar way. Life –threatening conditions such as cardiac arrest or where the person has no pulse or is not breathing are usually referred to as Category A, Category 1 or Red calls. For these calls, ambulance services are supposed to respond in eight minutes or less.

Stroke usually falls into Category B, Category 2 or amber calls which are serious, but not immediately life-threatening and therefore have a slightly longer or no response time target. In England, the ambulance service is supposed to respond to these calls in an average of 18 minutes, while in Northern Ireland, the ambulance should arrive in 21 minutes or less. However, in Wales and Scotland there is no time-based target for these types of calls.

Q. Why are we not calling for stroke to fall into Category A, Category 1 or red calls?

A. While stroke is undoubtedly a medical emergency and stroke patients should be taken to a hospital as quickly as possible, it is also important that they receive the most appropriate emergency response that can take them to the right hospital where they can receive the best care.

It is better for stroke patients to get the most appropriate response vehicle – a two crew ambulance – than simply the first one that is available. In most cases, this is a paramedic on a motorbike incapable of taking them anywhere. This means stroke patients often have to wait longer for an appropriate vehicle to then arrive.

With stroke, the focus is also on getting the patient to the right hospital – one with a stroke unit - rather than just the closest. In some cases, it is more beneficial for the stroke patient to travel further in order to receive the best treatment. Stroke survivors and their friends and family also feel that getting the very best care is more important than being treated at their local hospital.²⁶

Q. Should paramedics be trained to deliver the clot-busting drug, thrombolysis to stroke patients, especially if they live far away from a stroke unit?

A. No. National guidelines for the treatment of stroke advises that all stroke patients should receive a brain scan within one hour of being admitted to hospital and before any treatment is administered.²⁷ This is because thrombolysis is not suitable for everyone – for example, you are not suitable for this treatment if you have had a haemorrhagic stroke (a bleed on the brain) and this needs to be confirmed via a scan before any treatment can begin. Brain scanning equipment is not currently available in ambulances. Therefore stroke patients must be taken to their local stroke unit for a brain scan before they can receive appropriate treatment.²⁸

To date, there is very little research exploring the effectiveness of pre-hospital brain scanning by ambulance staff in the UK. Therefore, this isn't currently recommended by the national clinical guidelines for stroke.

Q. What is this new model of working for ambulance services in England?

A. Following the largest clinical ambulance trials in the world, NHS England rolled-out new ambulance standards across the country in July 2017. The changes focus on making sure the best, high quality, most appropriate response is provided for each patient first time.

Historically, ambulance services were allowed up to 60 seconds from receiving a call to sending a vehicle. However, this often wasn't long enough to identify the issue and the most appropriate response. From now on call handlers in England will be given more time to assess 999 calls that are not immediately life-threatening, which will enable them to identify patients' needs better and send the most appropriate response. This will benefit

stroke patients who should no longer be sent a paramedic on a motorcycle incapable of taking them to hospital.

The new standards also introduced four new categories of call so that all patients will receive the most appropriate response for their needs as quickly as possible.

More information on the new standards can be found on the NHS England website.

Q. Will the reorganisation of acute stroke services have any impact on ambulance response and travel times?

A. The reorganisation of acute stroke services, which is taking place across parts of the UK, could mean that patients have to travel slightly further to get to their local stroke acute unit. However, once there, they are much more likely to get the treatment they need. In order for reorganisation to work effectively, delays in emergency responses to stroke must be minimised to offset possible longer travel times.

Q. Will the roll-out of thrombectomy impact on the ambulance service?

A. As the clot removal procedure thrombectomy continues to be rolled out across the UK, ambulance services have a crucial role to play in ensuring that patients are taken to their closest regional centre that provides the procedure. Unfortunately, access to thrombectomy is not evenly spread out across the UK. This can mean that some patients will first have to travel to their local stroke unit to be assessed and receive the clot-busting medicine thrombolysis, if appropriate, and then be transferred by ambulance to a regional centre for thrombectomy.

Q. Does this policy apply to the whole of the UK?

A. Yes.

Q. When will this policy be updated?

A. This policy will be updated in June 2020.

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When stroke strikes, part of your brain shuts down. And so does a part of you. Life changes instantly and recovery is tough. But the brain can adapt. Our specialist support, research and campaigning are only possible with the courage and determination of the stroke community. With more donations and support from you, we can rebuild even more lives.

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Contact us

We're here for you. Contact us for expert information and support by phone, email and online.

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