Proposed Enhancements to Acute Stroke Care and Rehabilitation Services for Lancashire and South Cumbria

The need for enhancements to acute stroke care and rehabilitation services

Stroke is the fourth single leading cause of death in the UK and remains the leading cause of adult disability. A third of stroke survivors are no longer able to live independently. Across Lancashire and South Cumbria there are now over 3,500 strokes a year. A collaborative, detailed review of how, where and by whom acute stroke care is delivered has been undertaken and this has identified that enhancements and changes to how acute stroke care is provided are necessary if the quality of care and the reduction of lives lost and severe disabilities experienced is to be enhanced and maintained.

As the current arrangements for stroke care in Lancashire and South Cumbria will not provide the highest quality and level of care required, the local health and care system has worked with patients, carers and national experts to co-produce new proposed arrangements for stroke care. It is believed that these will deliver the enhancements needed to ensure the population of Lancashire and South Cumbria receives the best possible stroke care, wherever they live, all day, every day.

For this to be done significant investment in facilities, equipment and the dedicated stroke workforce needs to take place. This will allow stroke units to be appropriately staffed and the technological and medical advancements in stroke care to be maximised to the benefit of the region's population.

This is a challenge and when the proposed new arrangements for stroke care are agreed and implemented, these developments and enhancements will not happen overnight but will take a period of three years to realise. This will cost the local NHS an extra £13.8 million a year, with an additional £5.7 million in capital expenditure. The proposals, therefore, represent a high level of investment and reflect the priority now being given to stroke on a local, regional and national level that is long overdue.

The current arrangements for acute stroke care and rehabilitation services

There are currently five stroke centres/units across the four hospital trusts in Lancashire and South Cumbria. These are:

- Royal Preston Hospital,
- Royal Blackburn Hospital,
- Blackpool Victoria Hospital,
- Royal Lancaster Infirmary and
- Furness General Hospital.

These stroke centres provide the same service currently, with patients taken to their local hospitals and assessed for stroke. If appropriate they may receive thrombolysis or be transferred to Royal Preston Hospital by ambulance for Thrombectomy.

All stroke units across the country are rated A-E, A being the highest performing. The higher the rating/performance, the better the outcome for patients. Both the Royal Preston and Royal Blackburn Hospitals are rated as A, although currently due to Covid their scores have dropped. Blackpool as D and Royal Lancaster Infirmary and Furness General Hospital as D.

A key aspect of providing effective stroke care is the availability of qualified and experienced doctors, nurses and therapists when the patient most needs them, in the initial hyper acute and acute phases of care and recovery (the first 72 hours/3 days of care), together with timely access to the latest medical advancements such as thrombectomy or thrombolysis. The national shortage of suitably qualified and experienced stroke specialists means that it is not possible to fully staff all five stroke units and maintain this going forward.

When developing the new arrangements for acute stroke centres consideration had to be given therefore, to:

- which of the current stroke units could become fully resourced hyper acute and acute stroke centres?
- how many of these were needed to adequately serve the population and maintain a consistent, high level of care? and
- did this represent the best value for money for the NHS?

Based on arrangements in other parts of the country and the size of the population in Lancashire and South Cumbria it could be argued that two acute stroke centres would be needed. However, given the geography of the area, the number of strokes in the region and the clinical pressures that would result if there were only two centres, it was determined that three acute stroke centres (one of which would be a comprehensive stroke centre) would be more appropriate, and this would require a significantly high level of investment, as indicated above.

The new arrangements for acute stroke care and rehabilitation services

A modelling exercise and evaluation process was undertaken, which, as before, included stroke survivor, carer, Stroke Association, and stroke professional input, and this resulted in the new model of care proposals identified below. The proposals to achieve this are as follows:

- No existing stroke centre would close – all remain in operation as Stroke Recovery Units, which offer full stroke rehabilitation services before transfer to integrated community stroke teams.
- Stroke Ambulatory care services are introduced at all five stroke centres for the more efficient treatment of mild or older mini-stroke (TIA) patients and stroke mimics (people with stroke like symptoms but which are not strokes).
- Royal Preston Hospital, already a specialist stroke care centre and only one of three hospitals in the North West to offer thrombectomy and neurosurgery, becomes the Comprehensive Stroke Centre. Its current resources and more central location make it the sensible and cost-effective choice for offering the full range of specialist hyper acute and acute stroke services.

- Two new Specialist Acute Stroke Centres being established at Blackburn Royal Hospital and Blackpool Victoria Hospital. These centres will be enhanced with the qualified stroke staff and facilities needed. Originally, Royal Lancaster Infirmary was one of the options to become a specialist acute stroke centre, but the other sites scored higher in the evaluation process.
- Mini-stroke (TIA) patients given immediate medication and assessment by stroke specialists through either an acute stroke unit, neurovascular clinic or ambulatory clinic, depending upon their symptoms and the time elapsed since the mini-stroke/TIA.
- Introduction of an enhanced Triage, Treat and Transfer model of care at Furness General Hospital (FGH). This means patients with suspected stroke will go to FGH; on arrival stroke specialist staff in the Emergency Department will triage the patient, ruling out a number of stroke mimics (stroke like symptoms that are not strokes), the patients will go for immediate CT scan and then receive initial immediate treatment as required. Initial immediate treatment includes thrombolysis, which, if to be effective, needs to be administered within four and half hours of the onset of the patients' stroke symptoms (F.A.S.T. means fast). The patients will then be transferred to Royal Preston Hospital for the first 72hrs of hyper acute and acute care via urgent ambulance transfer.
- In keeping with the best clinical model, patients normally bound for Royal Lancaster Infirmary would be taken directly to the Comprehensive Stroke Centre at Royal Preston Hospital, due to its closer proximity to Preston than Furness.* Upon arrival at Royal Preston the triage and treat model is applied, and stroke patients will already be on site to access their first 72 hours of hyper acute and acute stroke care. Non-stroke patients are triaged and returned to Royal Lancaster for relevant treatment.
- Any patients transferred to another acute or comprehensive stroke centre for urgent hyper acute and acute treatment will either be returned to their local stroke centre for ongoing stroke rehabilitation or referred to their integrated community stroke teams for rehabilitation at home or other community setting, such as nursing or residential home.
- Single stroke service across Lancashire and South Cumbria, with high quality elements in each area and a common workforce strategy for the staffing, education and training of all staff across all stroke centres

* It was originally envisaged that the enhanced Triage, Treat and Transfer model would also apply to Royal Lancaster Infirmary (RLI) patients. Learning from other areas of the country now indicates that the best clinical model for patients from this area of Lancashire is for them to be directed immediately to Royal Preston Hospital and be admitted as per their stroke pathway (see the patient journey summary for Lancaster patients below).

Patient Journey Summaries

Blackpool, Preston and Pennine Lancashire patients

Blackpool, Preston and Pennine Lancashire stroke patients attend stroke units in Blackpool, Preston and Blackburn respectively for immediate stroke care and will continue to be cared for at these hospitals under the new arrangements. Those patients eligible for a thrombectomy will need to be transferred from either Blackpool or Blackburn to Royal Preston Hospital, as is the case now.

Patients will be triaged by stroke specialists upon arrival at the emergency department. This means they will be assessed immediately and given timely access to the necessary tests and scans to confirm whether they have had a stroke.

If they have had a stroke they will, depending upon their symptoms and severity of stroke:

- Be admitted to the stroke unit for immediate hyper acute and acute care services, and after 72 hours transfer to the Stroke Recovery Unit at the same hospital
- Be given initial treatment, discharged same day with referral to the Integrated Community Stroke Team or discharged with stroke clinic follow up
- If a mini-stroke (TIA), be given immediate medication and assessment by a stroke specialist in a neurovascular clinic, stroke unit or via the ambulatory clinic, depending upon severity of the mini-stroke and time since the symptoms occurred and discharged home or to the Integrated Community Stroke Team or admitted to the stroke unit if required

Patients with stroke like symptoms who, upon assessment at the stroke ambulatory clinic, have not had a stroke or mini stroke, will be referred to the relevant medical team at the hospital or discharged home, as appropriate. Such patients may have had a seizure, migraine, trapped nerve, back injury, a psychotic disorder or other medical problem but will no longer occupy stroke unit beds, as can be the case now.

South Lakes patients

Patients will be taken to Furness General Hospital, where they will be triaged by stroke specialists upon arrival at the emergency department. This means they will be assessed immediately and given timely access to the necessary tests and scans to confirm whether they have had a stroke.

If they have had a stroke they will, depending upon their symptoms and severity of stroke:

- Be given urgent treatment (thrombolysis) and transferred to Preston Stroke Unit for immediate hyper acute and acute care services, and after 72 hours transfer back to the Stroke Recovery Unit at Furness General Hospital for ongoing rehabilitation
- In cases where this is applicable, be transferred to Preston Stroke Unit for immediate thrombectomy and hyper acute and acute care services, and after 72 hours transfer back to the Stroke Recovery Unit at Furness General Hospital for ongoing rehabilitation

- For patients who have had their stroke more that 48hrs ago who require admission, they will be admitted to the stroke unit at FGH for ongoing rehabilitation and treatment.
- Be given initial treatment and transferred to the Integrated Community Stroke Team
- If a mini-stroke (TIA), be given immediate medication and assessment by a stroke specialist in a neurovascular clinic, stroke unit or via the ambulatory clinic, depending upon severity of the mini-stroke and time since the symptoms occurred, and discharged home or to the Integrated Community Stroke Team or transferred to Blackpool Stroke Unit if required

Patients with stroke like symptoms who, upon assessment at the stroke ambulatory clinic, have not had a stroke or mini stroke, will be referred to the relevant medical team at the hospital or discharged home, as appropriate.

At Furness General Hospital (**FGH**) there are around 220 confirmed strokes per annum out of a suspected 468. With the additional triage, treat and transfer measures it is expected that around 200 patients will require transfer to the more specialist acute stroke centres.

Lancaster Patients

Lancaster Patients with a suspected stroke will be taken directly to Royal Preston Hospital where they will be triaged by stroke specialists upon arrival at the emergency department, as applies to Preston patients.

If they have had a stroke they will, depending upon their symptoms and severity of stroke:

- Be admitted to the Comprehensive Stroke Unit at Preston for immediate hyper acute and acute care services, and after 72 hours transfer to the Stroke Recovery Unit at Royal Lancaster Infirmary
- Be given initial treatment and transferred to the Stroke Recovery Unit at Royal Lancaster Infirmary
- If a mini-stroke (TIA), be given immediate treatment and assessment at Royal Preston by a stroke specialist in a neurovascular clinic, stroke unit or via the ambulatory clinic, depending upon severity of the mini-stroke and time since the symptoms occurred, and transferred to the Stroke Recovery Unit at Royal Lancaster Infirmary or discharged home or to the Integrated Community Stroke Team in Lancaster or admitted to the stroke unit at Royal Preston as required

Patients with stroke like symptoms who, upon assessment at the ambulatory clinic at Royal Preston, have not had a stroke or mini-stroke will be referred to the relevant medical team at Royal Lancaster Infirmary or discharged home, as appropriate.

The Royal Lancaster Infirmary (**RLI**) currently cares for around 765 suspected stroke patients a year. Under these new arrangements all of these patients would go direct to Royal Preston for assessment, treatment and care (for the first 72 hours), and the

remaining patients, as stroke mimics, will be assessed at Royal Preston and returned immediately to RLI for treatment if their condition is stable.

Through continued discussion with stroke survivors and carers, it is acknowledged that there will be concern from those people living in more rural locations or furthest away from the new proposed Stroke centres, that they will have further travel. This new way of providing stroke care is being recommended after listening and talking to existing local stroke patients and carers who have told us about their own experiences and the need to improve. They have steadfastly supported the idea that the best place for treatment is not always the closest.

For them, this was about providing consistent, good quality treatment, improved treatment times and a better patient experience, with healthier outcomes for stroke survivors and their carers/families. They have given the new arrangements an extremely positive thumbs-up. This way of working will save lives and reduce lifelong disability, preventing families from being separated from their loved ones.

Explanations:

Thrombolysis: Some people with ischaemic stroke are eligible for a clot-busting drug. The drug aims to disperse the clot and return the blood supply to your brain. The medicine itself is called alteplase, or recombinant tissue plasminogen activator (rt-PA). The process of giving this medicine is known as thrombolysis.

Thrombolysis can break down and disperse a clot that is preventing blood from reaching your brain.

For most people thrombolysis needs to be given within four and a half hours of your stroke symptoms starting. In some circumstances, your doctor may decide that it could still be of benefit within six hours. However, the more time that passes, the less effective thrombolysis will be. This is why it's important to get to hospital as quickly as possible when your symptoms start.

Thrombectomy is a treatment that physically removes a clot from the brain. It usually involves inserting a mesh device into an artery in your groin, moving it up to the brain, and pulling the clot out. It only works with people where the blood clot is in a large artery. Like thrombolysis, it has to be carried out within hours of a stroke starting. Only a small proportion of stroke cases are eligible for thrombectomy but it can have a big impact on those people by reducing disability.