NHS
Lancashire and South Cumbria
Integrated Care Board

Integrated Care Board

Date of meeting	27 July 2022
Title of paper	Proposal for a Comprehensive Stroke Centre for North Mersey and West Lancashire
Presented by	David Levy, Medical Director
Author	Carole Hill, Associate Director, Strategy, Integration and Partnerships, Cheshire and Merseyside ICB – Liverpool
Agenda item	6
Confidential	No

Purpose of the paper

The purpose of this paper is to present the proposal for a Comprehensive Stroke Centre to be established to serve the populations of Knowsley, Liverpool, Sefton and West Lancashire.
Responsibility for commissioner decision-making will be with the Cheshire and Merseyside Integrated Care Board (ICB) and with the Lancashire and South Cumbria ICB due to the proposal impacting on hyper acute stroke services for the population of West Lancashire.

Executive summary

Currently, hyper-acute stroke services in North Mersey and West Lancashire are delivered at the Royal Liverpool University Hospital, Aintree University Hospital and Southport and Ormskirk Hospital Trusts. North Mersey hyper-acute stroke services are mostly used by people living in Knowsley, Liverpool, Sefton and West Lancashire.

Clinicians developed a case for change, setting out the vision for a Comprehensive Stroke Centre, bringing together teams providing hyper-acute services alongside those able to offer thrombectomy at the Walton Centre. This would see an increase in the number of patients receiving high-quality specialist care, meeting seven-day standards for stroke care which meet national clinical guidelines.

The proposed new model of care would mean that suspected acute stroke patients would be taken by ambulance or referred by a GP directly to a new single comprehensive stroke centre, which would be co-located with acute neurosurgical and stroke thrombectomy services. Patients self-presenting at other local A&E sites would be reviewed, with an on-site stroke specialist nurse, before being transferred to the stroke centre, if required.

The model of care would require the establishment of an Acute Stroke Admission Unit, co-located with A&E which would receive patients directly at the front door.

After the initial 72 hours of stroke care, patients would continue to be managed at an acute stroke unit for further care at a hospital closest to home, if not suitable for discharge.

The preferred clinical model that emerged from an options appraisal process was for a centralised Comprehensive Stroke Centre on the Aintree Hospital site, co-located with specialist services provided by the Walton Centre and with post 72 hours care provided closer to home at either Aintree, Broadgreen or Southport hospitals. This clinical model would bring together stroke clinicians across the system into one networked team, providing a single comprehensive stroke service for the populations of Liverpool Sefton, Knowsley and West Lancashire.

Recommendations

The Board is asked to:

- Note the update on the proposal and the major service reconfiguration process followed;
- Note the impact of this proposal on residents of West Lancashire and the negligible impact on hyper acute stroke services in Lancashire;
- Approve the proposal for the establishment of a North Mersey comprehensive stroke centre for hyper-acute services for the population of North Mersey and West Lancashire with the proviso that further dialogue is undertaken to agree any financial implications for LSC ICB

Meeting	Date	Outcomes

Conflicts of interest identified

Not applicable

Implications

If yes, please provide a brief risk description and reference number	**Yes**	**No**	**N/A**	**Comments**
Quality impact assessment completed	Yes			
Equality impact assessment completed	Yes			
Privacy impact assessment completed			N/A	
Financial impact assessment completed	Yes			
Associated risks	Yes			Fragility of current services, particularly at Southport & Ormskirk NHS Trust
Are associated risks detailed on the ICS Risk Register?	Yes			Cheshire and Mersey ICB Risk Register

Report authorised by:	Sarah O'Brien

Proposal for a Comprehensive Stroke Centre for North Mersey and West Lancashire

1. Introduction

1.1 Currently, hyper-acute stroke services in North Mersey are delivered at the Royal Liverpool University Hospital, Aintree University Hospital and Southport Hospital. The Walton Centre, on the Aintree site, provides a thrombectomy service, a specialist clot-removing procedure which delivers improved outcomes for eligible patients. North Mersey hyper-acute stroke services are used by people living in Knowsley, Liverpool, Sefton and West Lancashire.

1.2 These stroke services do not currently meet best practice guidelines for providing the very highest quality care or make the most of the specialist stroke workforce, and expertise is currently spread across three different sites. This makes it very difficult to ensure that patients have access to the care that they need all of the time, especially during the critical period immediately after a stroke.

1.3 Local clinicians developed a case for change setting out the vision for a Comprehensive Stroke Centre, bringing together teams providing hyper-acute services alongside those able to offer thrombectomy. This would see an increase in the number of patients receiving high-quality specialist care, meeting seven-day national standards for stroke care. Both thrombectomy and thrombolysis can significantly reduce the severity of disability caused by a stroke; bringing stroke services into a specialist centre would increase the use of these two treatments. This approach has already delivered significant benefits for patients in other parts of the country.

1.4 In 2019, to better understand how and where a Comprehensive Stroke Centre might be delivered for North Mersey, a series of workshops were held with people working in stroke services and other key stakeholders (including stroke survivors) and the Stroke Association, to help work through and refine potential solutions. Also in 2019, targeted engagement was undertaken with stroke survivors and their families, as part of preparation for a pre-consultation business case (PCBC). Due to the Covid-19 pandemic the stroke proposal development process was paused. Work restarted to progress this proposal in 2020/21.

2 Strategic Context

2.1 A stroke is a serious life-threatening medical condition that occurs when the blood supply to part of the brain is cut off by a blood clot or bleeding from a blood vessel. Strokes are a medical emergency and urgent treatment is essential. The sooner a person receives treatment for a stroke, the better the chance of recovery. It is one of the most significant public health issues of our time, with a profound and growing impact on society, our economy, individuals and families:

- Stroke is the leading cause of disability and the fourth largest cause of death in the UK;
- Stroke costs the UK economy £26 billion per year, including £3.2bn cost to NHS, £5.2bn to social care and £15.8bn in informal care. This is forecast to rise to between £61bn and £91bn by 2035. The cost of someone having a stroke over a year is over £45,000;
- There are 80,000 stroke admissions in England each year and over 1 million stroke survivors, half of whom have a disability resulting from their stroke;
- By 2035, the number of strokes will increase by almost half and the number of stroke survivors by a third;
- Half of stroke survivors are living with four or more other health conditions.

2.2 Transforming stroke care is a priority within the NHS Long Term Plan, which points to strong evidence that hyper acute interventions such as brain scanning and treatments such as thrombolysis are best delivered as a centralised hyper-acute stroke service delivered by a smaller number of well-equipped and staffed hospitals. This would see an increase in the number of patients receiving high-quality specialist care, meeting seven-day standards for stroke care which comply with national clinical guidelines. In addition, mechanical thrombectomy[1] and thrombolysis[2] can significantly reduce the severity of disability caused by a stroke. Reconfiguring stroke services into specialist centres would increase the use of both treatments.

[1] **Thrombectomy**, also known as mechanical clot retrieval, is the surgical removal of a blood clot in an artery. It is used to treat some strokes caused by a blood clot (ischaemic stroke) and it aims to restore blood flow to the brain.

[2] **Thrombolysis** is the breakdown of blood clots formed in blood vessels, using medication.

3 Proposed Model of Care

3.1 The current providers of inpatient stroke services within scope of this proposal are Liverpool University Hospitals (at both the Royal Liverpool and Aintree sites) and Southport & Ormskirk Hospitals NHS Trust. Tertiary neuroscience services are provided by The Walton Centre NHS Foundation Trust, which delivers regional thrombectomy services across most of the Cheshire & Merseyside footprint. The Walton Centre receives transfers of eligible patients for thrombectomy. The most recent data on the number of confirmed strokes for each of the Hospital trusts providing hyper acute stroke services is as follows:

Strokes admitted - 19/20				
	Aintree	**Royal**	**Southport**	**Total**
2019/20 reported stroke numbers	524	556	397	1477

3.2 The proposal for a Comprehensive Stroke Service should meet the following clinical standards:

- 90% of patients should be directly admitted to a specialist stroke unit;
- Patients should have access to specialist stroke care 24 hours a day, 7 days a week. This standard is not met in all sites;
- People with stroke should be treated on a specialist stroke unit for at least 90% of their hospital stay. For North Mersey this is only 62%;
- A specialist stroke unit should have at least 500-600 confirmed stroke admissions per year to provide the scale required to deliver effective and efficient 7-day services. Not all sites currently achieve the minimum recommended number of strokes per annum;
- None of the 3 current North Mersey Hyper Acute Stroke Units (HASUs) at the Royal, Aintree and Southport hospital sites admit patients to the clinical standard of 90% of patients treated within 4 hours;
- Patients should be assessed by a specialist stroke consultant, stroke trained nurse and therapist within 24 hours. Currently there are insufficient numbers of stroke consultants and other specialist staff to meet this standard on all sites;
- Following a brain scan, suitable patients should have thrombolysis within 1 hour of arriving at hospital. In North Mersey thrombolysis was provided to 7.2% of patients in 2018/19, the target in the NHS Long Term Plan is 20% by 2025;
- Patients requiring medical thrombectomy should receive it as soon as possible and within 5 hours of arriving at hospital. In North Mersey 1.4% of

patients received this in 2019/20, the NHS Long Term Plan target is 10% by 2022;

- After the first 72 hours, or once they are stable, patients should continue to be cared for on a stroke unit until they can be discharged with a comprehensive plan for ongoing rehabilitation, either to home or inpatient rehabilitation. In North Mersey, there is variation between CCG populations in the scope of the early supported discharge pathway.

3.3 The proposed new model of care would mean that suspected acute stroke patients would be taken by ambulance or referred by GP directly to a new single comprehensive stroke centre, which would be co-located with acute neurosurgical and stroke thrombectomy services. Patients self-presenting at other local A&E sites would be reviewed, with an on-site stroke specialist nurse, before being transferred to the stroke centre, if appropriate.

3.4 The model of care would require the establishment of an Acute Stroke Admission Unit, co-located with A&E which would receive patients directly at the front door. The service would have direct access to specialist scanners in order to maximise the number of patients who are able to receive thrombectomy and thrombolysis. Co-location with the Walton Centre thrombectomy service would significantly increase the number of patients that are able to access thrombectomy within the appropriate time window, which is crucial as outcomes are better the sooner this treatment is delivered.

3.5 After the initial 72 hours of stroke care, patients would continue to be managed at an acute stroke unit for further care at a hospital closest to home, if not suitable for discharge. It is expected that up to 50% of patients would be discharged from hospital with support from the ESD (Early Supported Discharge) team, supporting patients to recover in their own homes.

3.6 The preferred clinical model that emerged from an options appraisal process was for a **centralised Comprehensive Stroke Centre on the Aintree Hospital site, co-located with specialist services provided by the Walton Centre and with post 72 hours care provided closer to home at either Aintree, Broadgreen or Southport hospitals.** This clinical model would bring together stroke clinicians across the system into one networked team, providing a single comprehensive stroke service for the populations of Liverpool Sefton, Knowsley and West Lancashire.

4 Final Business Case

4.1 A final business case has been approved by the Trust Boards within scope of this proposal. **The Final and Full Business Case is available on request.**

5 Impact on Stroke Activity in Lancashire

5.1 Lancashire and South Cumbria ICS will require assurance that this proposed change will not have a significant impact on hyper-acute stroke activity into Preston Hospital from patients who would have previously presented at Southport and Ormskirk Hospital (S&O). Data on hyper-acute patient activity at Southport and Ormskirk Hospital shows that 715 patients received some form of stroke-related care in 2020/21, as follows:

426 strokes
189 TIAs
100 stroke mimics

_____

715[3]

- Stroke patients are those who received hyper-acute stroke in-patient care at S&O.
- Transient ischaemic attack (TIA) is a mini stroke that may require hospital admission but not hyper-acute intervention. These patients would continue to be treated at S&O.
- A stroke mimic is another medical condition that present similar symptoms of a stroke that are a non-vascular condition. These patients would continue to be treated at S&O or be transferred to other services within the North Mersey system.

5.2 76% of S&O stroke-related patients (543) were conveyed by ambulance to S&O in 2020/21. The remaining 24% (172) of these patients were walk-ins into A&E. [4] All future walk-ins to A&E at S&O requiring hyper acute stroke care would automatically be transferred to Aintree.

5.3 Figure 1 shows a map of rush hour travel times taken from Shape Atlas open-source mapping tool. The colours represent travel times to both Aintree Hospital and Royal Preston Hospital and vary from 5minutes (dark green) to 30 minutes (cream). The area in white is very rural and the population density low. The numbers for this area are looked at below.

[3] Southport and Ormskirk Trust data – Appendix 6 of the Business Case
[4] NWAS Optima modelling

5.4 Based upon current NWAS conveyance patterns and ambulance travel times to a hyper acute stroke centre, the two main areas where patients may transfer directly from home by ambulance to Preston Hospital are Tarleton and Hesketh Bank (both in the white area).

5.5 Population data covering this area suggests that Tarleton and Hesketh Bank represent approx. 6.5% of the population.

Southport	92,000
Ormskirk	24,000
Formby	22,400
Tarleton	5,600
Hesketh Bank	4,000
Total	**148,000**[5]

5.6 The following scenarios demonstrate the potential numbers of patients presenting by ambulance to Preston with a *possible* stroke:

Scenario 1 – 5% of NWAS conveyances (543) to Preston :

27 patients per annum = 0.5 patients per week to Preston

Scenario 2 – 8% of conveyances (543) to Preston :

43 patients per annum = 0.8 patients per week to Preston

Scenario 3 – 10% NWAS conveyances (543) to Preston :

54 patients per annum = 1 patient per week to Preston

These scenarios demonstrate that this proposal will not increase activity to a level that impacts on the delivery of safe hyper acute stroke services in Lancashire.

5.7 The North Mersey system and NWAS have committed to ongoing evaluation of hyper-acute stroke patient flows to test these assumptions after the service goes live. If the impact on Lancashire hyper acute services is greater than predicted, we will work with South Cumbria and Lancashire colleagues to ensure adjustments would be made to mitigate and ensure safe services are maintained.

[5] 2011 Census


HEYSHAM
FLEETWOOD
GARSTANG
CLEVELEYS
POULTON-LE-FYLDE
LONGRIDGE
BLACKPOOL
Hawes Side
RP
Royal Preston
FULWOOD
KIRKHAM
PRESTON
LYTHAM ST ANNE'S
Saltcotes
FRECKLETON
BLACKBURN
BAMBER BRIDGE
LEYLAND
DARWEN
Churchtown
Knowley
CHORLEY
SOUTHPORT
Hillside
ADLINGTON
Woodvale
HORWICH
STANDISH
ORMSKIRK
Stanley
FORMBY
SKELMERSDALE
WIGAN
Redwood
INCE-IN-MAKERFIELD
MAGHULL
RAINFORD
BILLINGE
LEIGH
ASHTON-IN-MAKERFIELD
LITHERLAND
Ain
Haresfinch
BOOTLE
ST HELENS
NEWTON-LE-WILLOWS
Clubmoor
PRESCOT
Clock Face
WALLASEY
LIVERPOOL
Windy Arbor
Dallam
Grange
BIRKENHEAD
Mossley Hill
Upton Rocks
WARRINGTON
Halewood
WIDNES
RUNCORN
Norton
BEBINGTON

Fig 1

6 Finances

6.1 The Final Business Case detailed the revenue costs for the hyper acute stroke service, at £7.05M per year, detailed below:

	FBC WTE	FBC £000
Direct staffing	97.87	4,594
Pharmacy	3.24	201
Radiology	14.05	857
NWAS		763
Estates & Other		638
Total		**7,053**

6.2 This cost is significantly higher than the costs in the pre-consultation business case, which were £2.8M per year. This is the budget that has been incorporated into Cheshire and Merseyside financial plans. Lancashire and South Cumbria ICS has included £250k revenue costs in its plans, which represents the services to be provided to the population of West Lancashire.

6.3 Senior clinicians and Directors of Finance, both within Trusts and the ICBs, have done further work to review revenue costs and have validated the in-year FBC costs for 2022/23, and re-confirmed that this is the budget required to deliver phase 1 of the model of care for this proposal.

6.4 However, the first phase of this single service will be for all hyper-acute stroke care to come together on the Aintree Hospital site from 19th September. The part-year revenue costs for 2022/23 will be £2.55M and £285k capital (NWAS), as detailed in the table below.

6.5 Revenue costs associated with the establishment of a hyper-acute assessment centre, which are predominantly workforce costs to resource the 'front door' assessment service, will not be incurred until at least April 2023, as part of phase 2 of the proposal.

6.6 On this basis, the costs of this new service are budgeted for in 2022/23.

	2022/23 costs				
	Revenue				**Capital**
	£000	£000	£000		£000
Clinical cost	4,594				
- Assessment centre	-1,938				
	2,656	50%	1,328		

NWAS	822	50%	411		
- non-recurrent			91		285
Radiology	937	50%	469		
Pharmacy	201	50%	101		
Estates	600	25%	150		
			2,549		**285**
Total costs including capital					**2,834**

6.7 Clinical, finance and operational representatives from the North Mersey and West Lancashire system, including providers and ICBs, have confirmed their recommendation to ICBs to proceed with go live of phase one in September 2022, based on these revised in-year costs, which are within existing financial plans for 2022/23.

6.8 The group has collectively agreed to review the revenue and capital costs for phase two of the proposal, both which are associated with the stroke assessment centre component of the proposal.

6.9 Recognising that solutions for funding of recurrent costs from 2023/24 have to be agreed as a matter of urgency, it has been agreed that work will be start immediately to:

- benchmark revenue costs with other hyper acute stroke services that have already been established, including those in mid-Mersey, Salford, Wirral and beyond. This will provide further assurance that revenue costs are reasonable and represent value for money.
- adopt an open book principle to reviewing costs across all partners.
- propose a future funding solution within a defined timescale, to enable this to be incorporated into financial plans for Trusts and the ICB from 2023/24.
- Undertake a lessons-learned review to support improved planning for future ICS service change programmes.

7 Governance, Scrutiny and Assurance

7.1 The proposal has been reviewed by an independent NHS Clinical Senate, at the request of NHS England, to ensure there is a sound clinical evidence base and compliance with clinical best practice and standards. The Clinical Senate review endorsed the new clinical model of care and the proposal for the reconfiguration of local hyper acute stroke services.

7.2 The proposal has been reviewed by NHS England through a two-stage process, to seek assurance that commissioning CCGs are complying with their statutory duties and other responsibilities under the NHSE/I Assurance Framework.[6] Following the stage two assurance checkpoint, NHSE/I confirmed its support for the proposal, which is a requirement in advance of public consultation.

7.3 NHS bodies have a legal duty to consult with local authority Health Overview and Scrutiny Committees (OSC) when considering any proposal for a substantial development or variation in the way services are delivered, including in the context of access or location. The five CCGs which represent the majority of patients that use services provided by LUHFT, presented the case for change for these proposals to Knowsley, Liverpool, Sefton and West Lancashire OSCs in January 2022. All the OSCs considered this proposal to be a substantial variation in the way services are currently delivered and agreed to convene a joint OSC.

7.4 The joint OSC scrutinised the PCBC and the engagement/consultation plans prior to the launch of the formal public consultation and have received the findings from the consultation. The Joint OSC will undertake a final review of the process after a decision is made by ICBs. The Cheshire and Merseyside Integrated Care Board (ICB) will consider the proposal on 4th August 2022. As this proposal also impacts on the population of West Lancashire, the proposal will also go to the Lancashire and South Cumbria ICB for consideration at its meeting on 27th July 2022.

[6] https://www.england.nhs.uk/wp-content/uploads/2018/03/planning-assuring-delivering-service-change-v6-1.pdf

8 Engagement and Public Consultation

8.1 Patients, public and key stakeholders have been involved throughout every stage of this process. Stroke survivors were involved in co-design workshops, alongside clinical teams from the Royal, Aintree and Southport hospitals, and the Walton Centre.

8.2 Pre-consultation engagement was also undertaken to obtain valuable insights from people who have experience of hospital stroke services, also involving the Stroke Association which gave access to their network of support groups in every part of the catchment area.

8.3 Commissioners launched a formal public consultation, from 22nd November 2021 to 14th February 2022, which provided a range of opportunities for people to give their feedback on the proposal, to suggest other options and additional improvements. The report from the Public Consultation is at **Appendix 20 of the Full Business Case.**

8.4 A pre-consultation equality impact assessment was completed to inform the development of the proposal and following the public consultation, a final EIA was produced which took account of the findings from the feedback from patients, public and stakeholders, along with any mitigations to improve equality and address inequalities. The Equality Impact Assessment is at **Appendix 12 of the Full Business Case.**

9 Timescales

9.1 The first phase of the move of hyper acute stroke services from Southport and Ormskirk Trust and from the Royal Liverpool hospital is planned to take place on 19th September 2022, subject to support for the proposal from both ICBs. This timescale has been agreed by providers in response to the fragility of this service, particularly with regard to Southport and Ormskirk which only has one specialist stroke consultant.

9.2 The second phase of implementation involves the capital works to establish a dedicated front door for stroke patients with a stroke assessment unit to be co-located with the A&E service on the Aintree site. This phase of the proposal would commence from 2023/24.

10 Conclusion

10.1 This paper sets out the proposal for a Comprehensive Stroke Centre to deliver a new model of care for hyper acute stroke services for the people of Knowsley, Liverpool, Sefton and West Lancashire. This proposal is designed to improve outcomes for people who experience stroke and to eliminate unwarranted variation in care and outcomes by bringing together stroke services with access to the best treatments, delivered by a networked team of specialist clinicians, providing consistently high-quality stroke care 24/7, regardless of where people live across this catchment area.

11. Recommendations for the Board

The Board is asked to:

- Note the update on the proposal and the major service reconfiguration process followed;
- Note the impact of this proposal on residents of West Lancashire and the negligible impact on hyper acute stroke services in Lancashire;
- Approve the proposal for the establishment of a North Mersey comprehensive stroke centre for hyper-acute services for the population of North Mersey and West Lancashire with the proviso that further dialogue is undertaken to agree any financial implications for LSC ICB