Meeting Date	**23 May 2023**	**Agenda Item**	**5.4**
Report Title	Report on Stroke performance		
Report Author	Nick Brain, Assistant Directorate Manager David West, Directorate Manager		
Report Sponsor	Craige Wilson, Deputy Chief Operating Officer		
Presented by	Craige Wilson, Deputy Chief Operating Officer		
Freedom of Information	Open		
Purpose of the Report	To provide the committee with an update on Stroke performance. This report includes plans and timescales for improving Stroke performance. This report includes an update on the establishment of a HASU/CRSC.		
Key Issues	Compliance against the 4 Hour access target for admission to the Acute Stroke Unit remains challenging due to system wide pressures. Infection control measures and Covid outbreaks due to COVID closed beds on the ASU reducing 4 hour compliance. High compliance of Consultant review and OT/PT/SALT assessments within 24 hours remains. High level of swallow assessment compliance. Reducing door to needle time for Thrombolysis is an area for improvement. Time to CT head will be addressed by HASU and decompression of ED as part of AMSR. AMSR driven improvements will require a period of transition to achieve desired improvements.		

Specific Action Required ***(please choose one only)***	**Information**	**Discussion**	**Assurance**	**Approval**
	☐	☐	☒	☐
Recommendations	Members are asked to: Note the content of the report and endorse actions to improve performance. <u>Items for information will not be allocated time for consideration within the Board/Committee meeting.</u>			

Report on Stroke performance and action plan for performance recovery and improvement.

1. INTRODUCTION

This report aims to provide the committee with an update on Stroke performance in SBUHB. As a result of the pandemic and the pressures on acute hospitals such as Morriston mean that access targets have been challenging to improve. This report will illustrate Morriston's performance against other Welsh centres who are also experiencing the same challenges.

Following the consolidation of Stroke rehabilitation to NPTH the current performance for that site is also highlighted.

With ongoing investment into the Stroke workforce and the culmination of the Acute Medical Services Redesign (AMSR) programme a plan for performance recovery and improvement has been developed. As AMSR becomes more established it is anticipated this will have a positive effect on performance but new pathways and models of care are need to establish further.

2. BACKGROUND

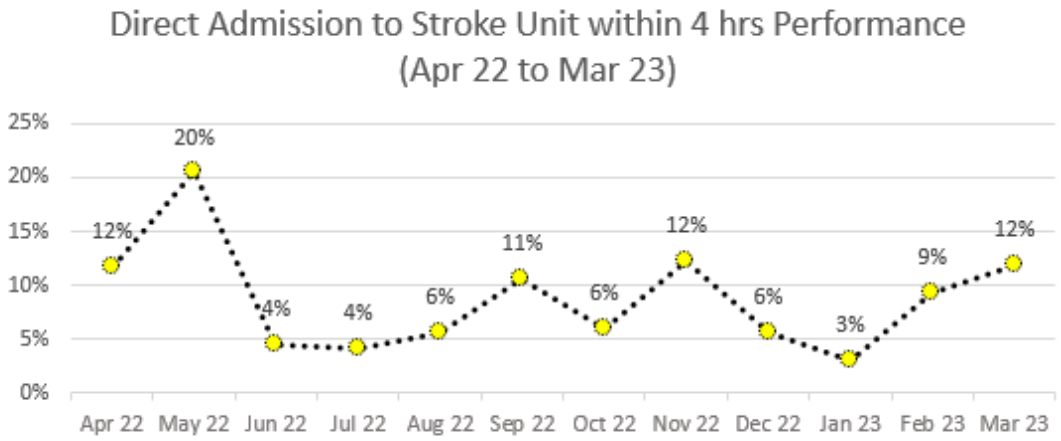
2.1 Stroke Performance

Summary of main Stroke Quality Improvement Measures for January – March 2023 illustrated below:

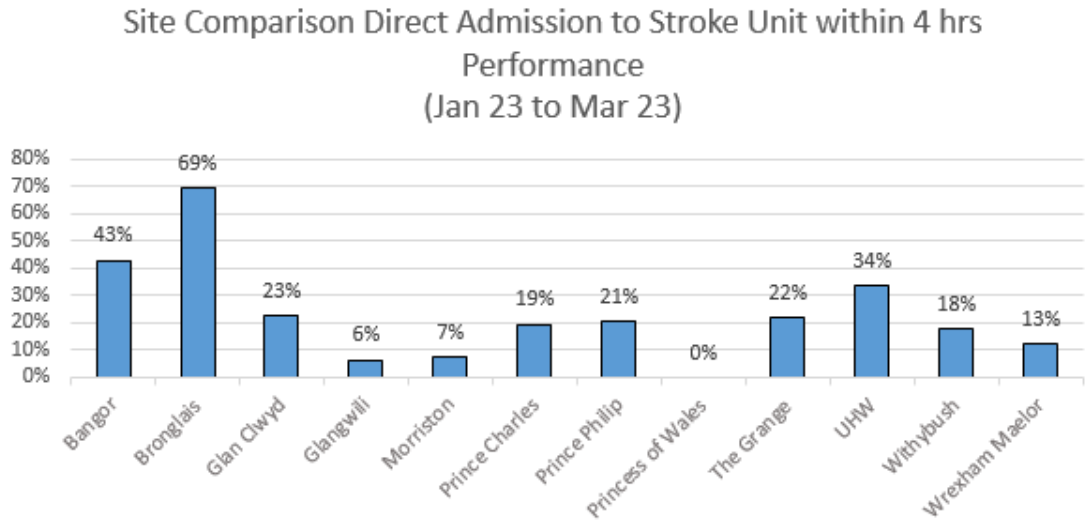
Measure	SSNAP Audit Jul - Sep 2022	Mar-23	Mar-23	Score			% Variation
		Numerator	Denominator	Jan-23	Feb-23	Mar-23	
Urgent Intervention							
Percentage of stroke patients given thrombolysis (all stroke types)	10.8%	10	42	15.4%	16.3%	23.8%	7.5%
Thrombolysed patients DTN <= 45 mins		1	10	0.0%	0.0%	10.0%	10.0%
Percentage of patients scanned within 1 hour of clock start	56.7%	19	42	33.8%	48.8%	45.2%	-3.6%
Percentage of patients directly admitted to a stroke unit within 4 hours of clock start	40.9%	5	42	3.1%	9.3%	11.9%	2.6%
Percentage of applicable patients who were given a swallow screen within 4 hour of clock start	71.7%	37	42	84.4%	81.0%	88.1%	7.1%
Percentage of Unique stroke patients given thrombectomy (all stroke types)		0	42	0.0%	0.0%	0.0%	0.0%
Urgent Assessment							
Percentage of patients assessed by stroke specialist consultant physician within 24 hours of clock start	82.8%	41	42	93.8%	90.7%	97.6%	6.9%
Assessed by one of OT, PT, SALT within 24 hours		39	42	87.7%	86.0%	92.9%	6.8%
Percentage of applicable patients who were given a formal swallow screen assessment within 72 hours of clock start	87.0%	8	9	95.5%	90.9%	88.9%	-2.0%
Inpatient Rehab							
Percentage of patients who spent at least 90% of their stay on stroke unit *	73.1%	44	149	29.5%	29.5%	29.5%	0.0%
Compliance with patients receiving the required minutes for OT (3-month rolling)	83.8%	19.04	25.7	67.6%	52.7%	74.1%	21.4%
Compliance with patients receiving the required minutes for physiotherapy (3-month rolling)	77.6%	18.27	27.3	71.2%	68.2%	66.9%	-1.2%
Compliance with patients receiving the required minutes for SALT (3-month rolling)	50.6%	10.36	16.1	44.8%	49.3%	64.3%	15.0%
Discharge Standards							
Percentage of applicable patients screened for nutrition and seen by a dietitian by discharge (exc. Palliative care pts)	78.6%	5	8	75.0%	71.4%	62.5%	-8.9%
Percentage of patients discharged with ESD/Community Therapy Multidisciplinary Team	47.8%	37	92	41.5%	43.3%	40.2%	-3.1%
Six month follow-up assessment							0.0%

4 Hour Admission to ASU

Access to dedicated Stroke beds continue to impact on performance with 11.9% of patients meeting the target of admission within 4 hours for March 2023. This is an improved position against compliance of 9.3% in February and only 3.1% compliance in January 2023. Compliance remains low around the 4-hour target having fallen during the pandemic. Performance is discussed weekly in the Stroke performance meeting held at Morriston alongside clinicians, ED staff and bed site managers. Delivery Unit colleagues have recently accepted invite and will attend monthly. System wide pressures such as overall bed pressures, Covid outbreaks and limited availability of packages of care continue to impact of overall flow.



4-hour access issues are also affecting the other major admitting sites in Wales, such as POW and Prince Charles hospitals. SBUHB 4 hour performance is in line with other sites of similar size. Sites dealing with smaller volumes of Stroke patients such as Bronglais and Bangor have much higher access rates as demonstrated below.



Thrombolysis rates

Thrombolysis rates were at 23.8% of patients receiving thrombolysis in March 2023 and 18% of patients during the January 2023 and March 23 period.

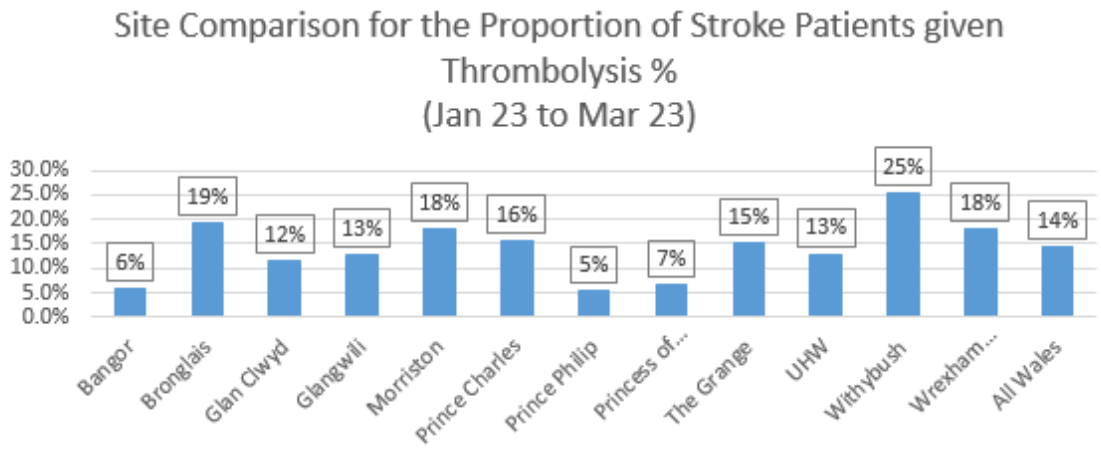
42 stroke patients were admitted in March, of which 10 received thrombolysis. 32 patients admitted did not receive Thrombolysis, with the reasons stated below:

Arrived out of the time window: 18

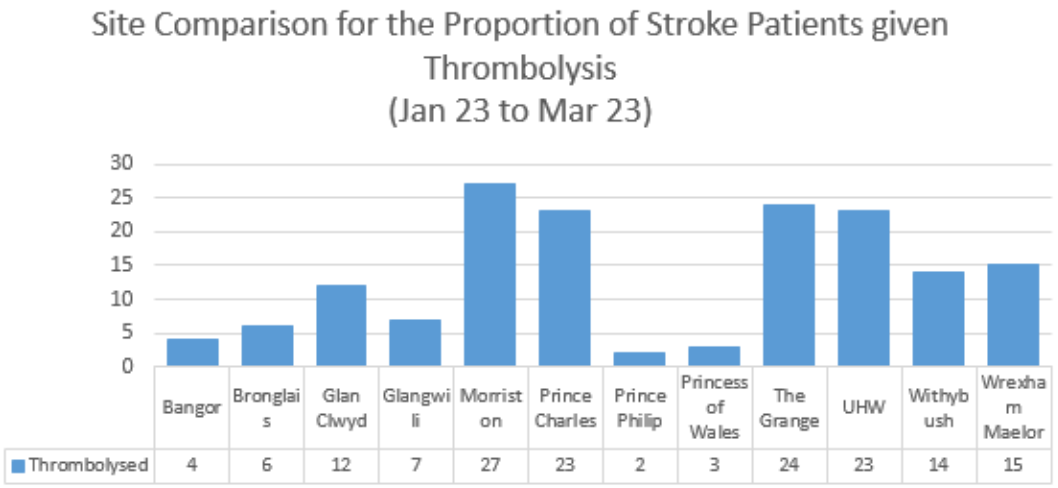
Wake up stroke/Symptoms of onset unknown: 8

Other Medical reason: 2

Haemorrhagic Stroke: 4



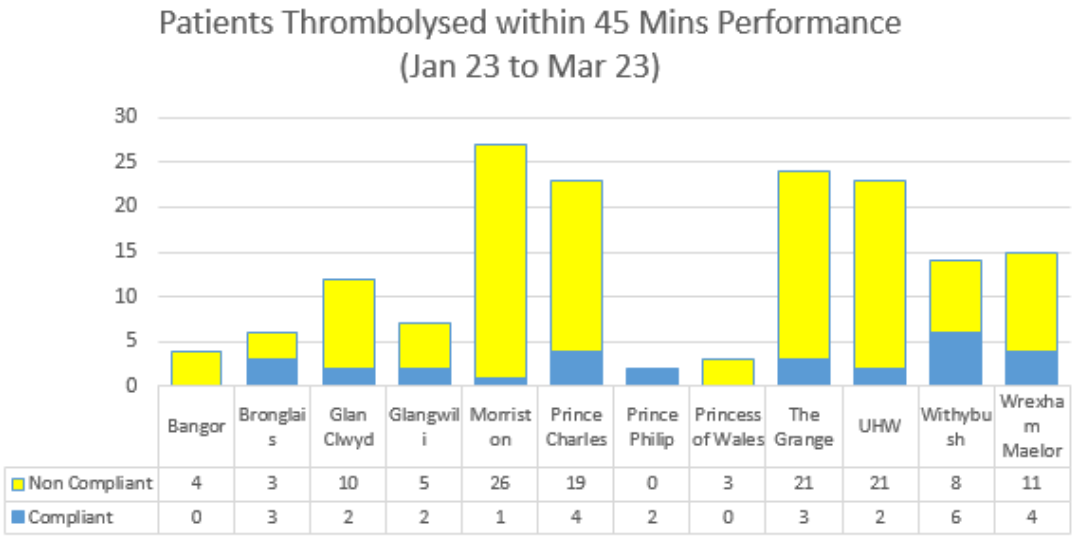
The volume of Stroke patients Morriston accepts suitable for thrombolysis between January and March 23, as illustrated by the graphs below.



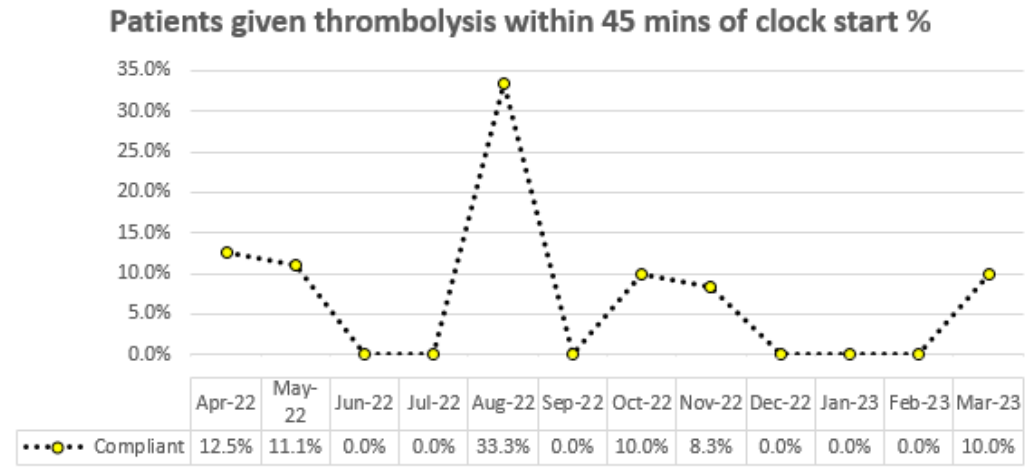
Thrombolysis door to needle time <45 minutes.

A high volume of patients suffering a Stroke receive thrombolysis at Morriston but these patients require observation when given this treatment. Clinical Nurse Specialists (CNS) and doctors are not always able to leave a patient who has received thrombolytic therapy to attend any other call or alert that goes off.

Developing an ANP workforce as per the HASU plan will allow these members of staff to attend to other patients suffering a Stroke and reduce door to needle time.



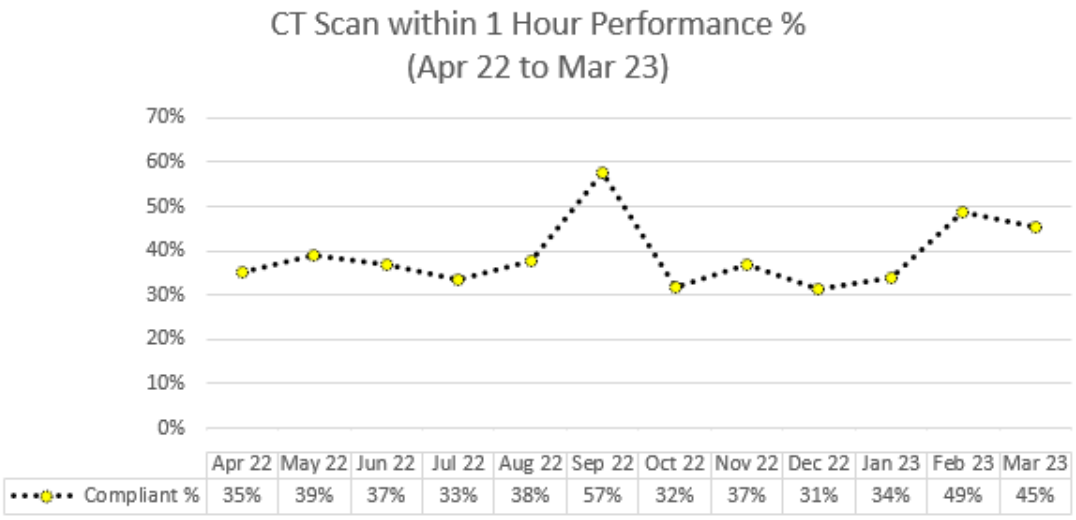
	Bangor	Bronglais	Glan Clwyd	Glangwili	Morriston	Prince Charles	Prince Philip	Princess of Wales	The Grange	UHW	Withybush	Wrexham Maelor
Non Compliant	4	3	10	5	26	19	0	3	21	21	8	11
Compliant	0	3	2	2	1	4	2	0	3	2	6	4



	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
Compliant	12.5%	11.1%	0.0%	0.0%	33.3%	0.0%	10.0%	8.3%	0.0%	0.0%	0.0%	10.0%

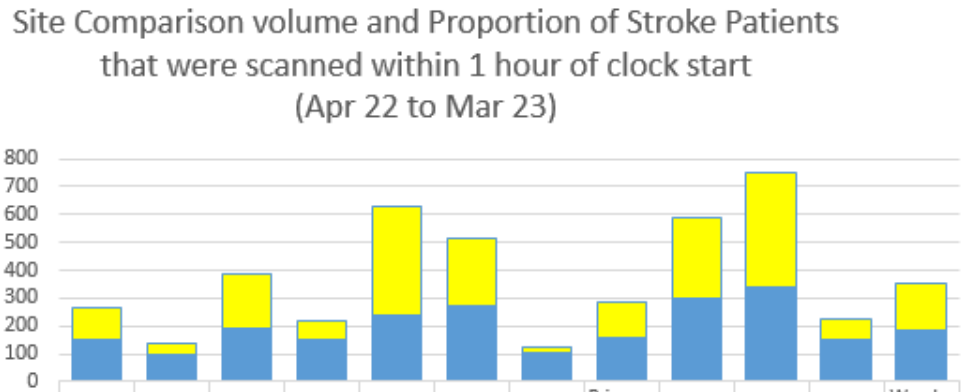
CT head within 1 hour

CT head scans <1hr were consistently improving prior to the pandemic. However, due to assessment delays and increasingly busy ED department, performance against this target has fallen back to where it was 2017-2018 but remains fairly consistent.

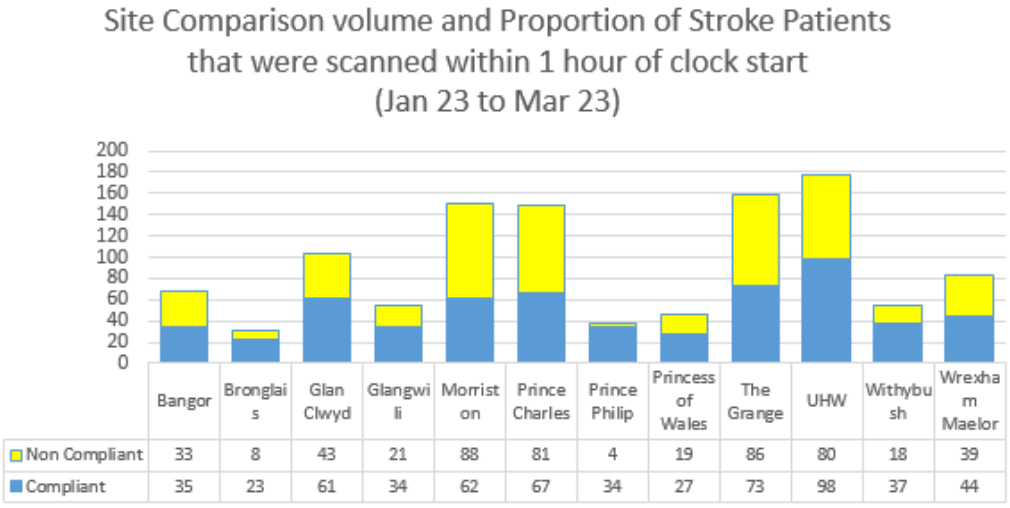


	Apr 22	May 22	Jun 22	Jul 22	Aug 22	Sep 22	Oct 22	Nov 22	Dec 22	Jan 23	Feb 23	Mar 23
Compliant %	35%	39%	37%	33%	38%	57%	32%	37%	31%	34%	49%	45%

Following the AMSR implementation in December 2022 the long term effect expectation is that it will aid in improving these measures combined with a direct CT pilot commencing in June 2023 detailed further on in this report.



	Bangor	Bronglais	Glan Clwyd	Glangwili	Morriston	Prince Charles	Prince Philip	Princess of Wales	The Grange	UHW	Withybush	Wrexham Maelor
Non Compliant	111	37	200	71	387	243	18	128	290	412	74	170
Compliant	154	99	189	149	240	272	107	156	300	337	150	182



	Bangor	Bronglais	Glan Clwyd	Glangwili	Morriston	Prince Charles	Prince Philip	Princess of Wales	The Grange	UHW	Withybush	Wrexham Maelor
Non Compliant	33	8	43	21	88	81	4	19	86	80	18	39
Compliant	35	23	61	34	62	67	34	27	73	98	37	44

Stroke Pre-Alert Direct to CT pilot

The embedded pathway was agreed at Morriston Board 31st January 2023 and will be enacted from June 2023 to reduce CT times. All stakeholders have supported and will commence once health board staff have received training from WAST colleagues on specific trolley use.

It will be run initially on a pilot basis and should in turn improve the number of patients who can receive thrombolysis and also those suitable for thrombectomy referral to Bristol. The pilot will only cover those patients pre-alerted by WAST and WAST staff will directly transfer patients to the CT scanner and remain with them until a scan is complete and the site team located a suitable exit bed. This will eliminate any delayed assessments due to busy ED and the AMU department.

WAST to CT pilot SOP 2022.docx

Morriston stroke pre-alert pathway N

Success of this pilot depends on the ability to timely access a bed on the ASU and if needed move medical outliers back to more appropriate clinical areas. All stakeholders have been consulted and accepted this pilot approach to improve patient experience and outcomes.

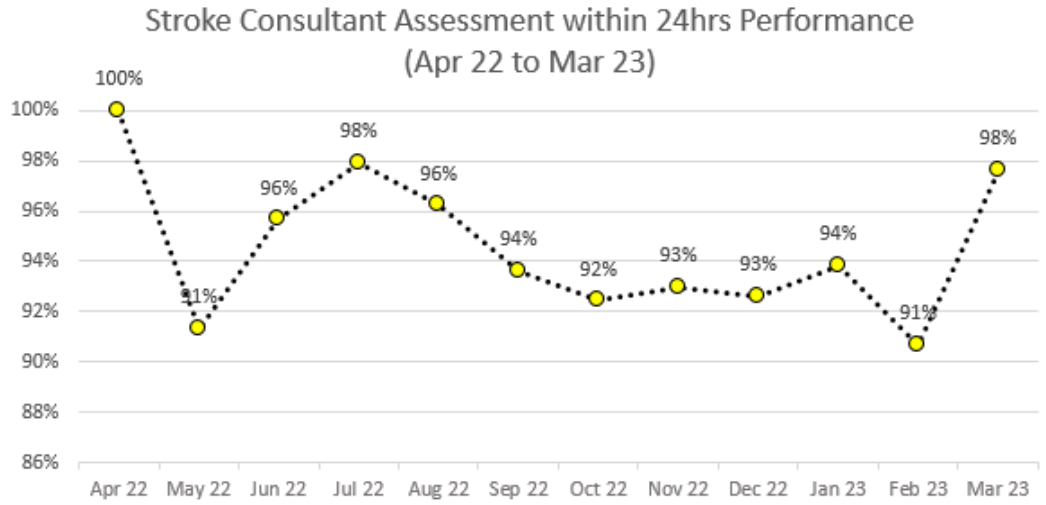
Artificial Intelligence CT analysis

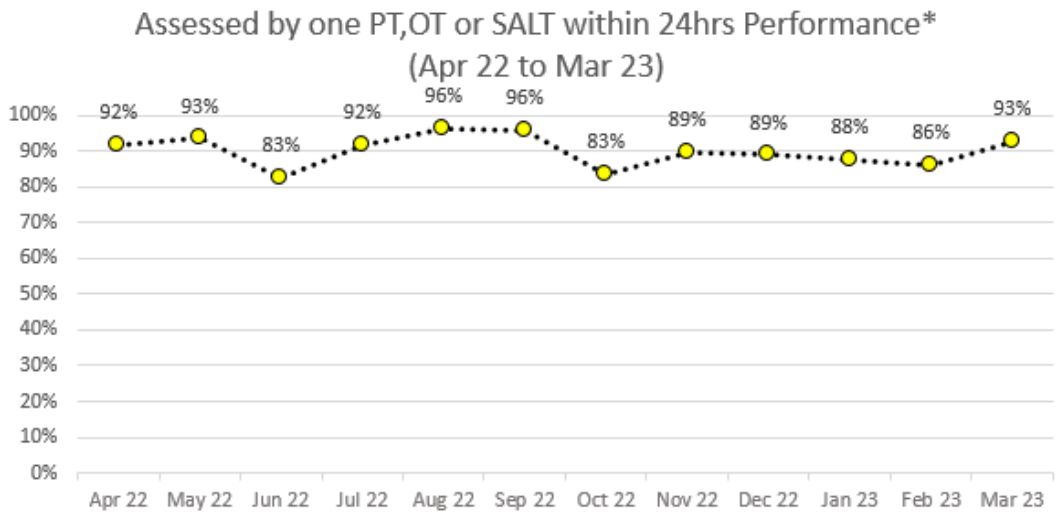
Brainomix e-Stroke suite is an artificial intelligence clinical decision making support tool with service implementation likely from 1st week of June 2023 following adoption by the cyber team and subject to the locally developed SOP approved by the Radiology Quality, Safety and Risk meeting.

Funded by WHSSC, the support tool allows for rapid diagnosis of ischaemic stroke by appropriate trained individuals. This implementation should assist with timely decision making in patients who are being considered for thrombectomy.

Other Measures

High level of compliance for consultant assessment within 24 hours as well as high levels of therapy input compared to peers. This is something we have consistently high compliance on in terms of comparison to peers.





Morriston Discharge Standards – March 2023

Discharge Standards	**Percentage of applicable patients screened for nutrition and seen by a dietitian by discharge (exc. Palliative care pts)**	**9.1**	62.5%
	Percentage of patients discharged with ESD/Community Therapy Multidisciplinary Team	**K22.3 OR K23.3**	40.2%
	Six month follow-up assessment	**B13.3**	11.0%

ESD rates are not as high as we would like and therefore an outline of requirements to expand this service has been developed and put into the GMO for planning requirements for 2023-24. The proposal would be an expanded mid-week service with a longer term aspiration to extend to weekends following a further review.

Development of an ESD team is accepted as a Tier 1 priority in the Recovery and Sustainability plan for 2023-24 and therefore a business case will be progressed in year to expand this service.

Rehabilitation Performance

Rehabilitation services for Stroke are now consolidated on 1 site, 24 beds in Neath Port Talbot.

The tables below show the rehabilitation Quality Improvement Measures for March 23. These measures focus on therapy input and the discharge process.

Inpatient Rehab	
Percentage of patients who spent at least 90% of their stay on stroke unit *	#N/A
Compliance with patients receiving the required minutes for OT (3-month rolling)	37.2%
Compliance with patients receiving the required minutes for physiotherapy (3-month rolling)	101.5%
Compliance with patients receiving the required minutes for SALT (3-month rolling)	19.1%

Discharge Standards	
Percentage of applicable patients screened for nutrition and seen by a dietitian by discharge (exc. Palliative care pts)	100.0%
Percentage of patients discharged with ESD/Community Therapy Multidisciplinary Team	52.9%
Six month follow-up assessment	#N/A

The above tables show the rehabilitation Quality Improvement Measures for March 2023. These measures focus on therapy input and the discharge process.

The Early Supported Discharge (ESD) percentage is included for the rehabilitation site, although the percentage for this is always low as this service is aimed at those with a mild/moderate Stroke so the majority of patients are referred to this service from the acute site.

Recruitment

Recruitment into Acute Stroke Services.

Stroke ANP roles.

3 x ANP's have now commenced in post.

2 x CNS's appointed due to gaps in the service (retirement, promotion).

1 x CNS for the Life after Stroke service based at NPTH has been recruited into.

1 x Physicians Associates (PA) out of contract in May 2023 has received a 12 month fixed term extension. 1 x PA also out of contract in January 24. These posts are included in longer term HASU/CRSC requirements so funding needs to be secured to keep them on until the business case is approved.

Hybrid Neurology/Stroke Consultants

Funding for a further 3 Neurology consultants has been requested and is also linked to the FND case between HDUHB and SBUHB. Ongoing recruitment to Neurology posts must support the Stroke rota and when numbers allow a dedicated 24/7 Stroke rota will be initiated. This is a long-term aspiration.

These posts are being discussed with HDUHB to simultaneously satisfy the need to increase on call Stroke cover as well as expanding Neurology services across the South West Wales Region.

Once appointed these consultants will most likely require a period of thrombolysis training although some in the labour market already possess this and have made contact with SBUHB to express their interest in a post.

Joint HDUHB / SBUHB – Meeting held on 15/2/2023 which established support from all stakeholders.

Hyper Acute Stroke Unit (HASU) / Comprehensive Regional Stroke Centre (CRSC) Development

The current Swansea Bay Stroke pathway consists of 2 sites:

- 24 Acute Stroke Unit (ASU) in Morriston. These beds are not ring-fenced and the ward always has a cohort of medical beds, approx. 5 on average.

- 24 Stroke rehabilitation beds (with 4 complex) on Ward B, Neath Port Talbot. These beds are co-located with general rehab/discharge planning beds.

The lack of ring-fenced beds and all wards having co-located beds provides a challenge to the staff working on those areas, bed capacity is limited by the pressures of unscheduled care demand.

HASU / CRSC Model

The HASU model being proposed by the clinical team in SBUHB would bypass ED and individuals with suspected stroke would be triaged in stroke specific area within the AMU footprint. This would create a specialist area for suspected strokes to be diagnosed without increase demand within ED. AMU is planned to have an appropriate ambulance bay for all medical patients

The following details the assumptions agreed to date:

- Stroke Team will meet patient on arrival to provide immediate assessment and diagnosis 24/7
- Immediate access to CT scan
- Immediate access to Thrombolysis (if appropriate)
- Immediate access to HASU bed via AMU/ED
- HASU will link with the All- Wales Thrombectomy pathway (currently Bristol)
- Max 24 hour waiting time for MRI scan, Doppler, Holter monitoring, Vascular and Cardiology review
- Robust pathways and SOPs for Stroke Mimics
- 36% of stroke mimics will require admission to a HASU bed
- All strokes and the 36% mimics will have a 3 day length of stay within HASU
- Bed occupancy rate has been set at 85%

HASU was until recently being progressed as a Swansea Bay only model. This model and the accompanying business case will be revised accordingly. Under the ARCH programme Alison Shakeshaft (HDUHB) will take the lead on developing these proposals in conjunction with SBUHB.

Meetings have already taken place between the two Health Boards and this work will progress at pace to establish the catchment for the Region and in turn revise the assumptions made to date. HD HB are revising model to now include the county of Pembrokeshire and further discussion around a single centre model.

HASU / SCSC Business Case Timeline

- 10/02/2023 BC Draft out to steering board for review
- 14/02/2023 BC Reviewed steering board

- 21/02/23 UEC Board (subject to any changes)
- 04/04/2023 Business Case Scrutiny Group
- Date awaited Business Case Assurance Group (update to case required due to recently updated minimum care stroke standards)

Stroke Improvement Plan

See Appendix 1 for actions that have been taken and are being enacted ongoing to improve performance.

3. GOVERNANCE AND RISK ISSUES

Three main areas of risk highlighted below. The inability to admit patients in a timely manner into the Acute Stroke Unit, inadequate staffing numbers of therapies and lack of a dedicated rota and on call staffing which affects assessment times as highlighted in the paper.

ID	Ref	Title	Approval status	Handler	Manager	
2901	HBR 87 pending	Inability to admit patients in a timely manner to the Acute Stroke Unit	Accepted	West, Mr David	Hughes, Mrs Fiona	
3340		Lack of Therapies for Stroke in SBUHB	New risk	West, Mr David	Hughes, Mrs Fiona	Added as per last Stroke Board action.
2147		Potential significant harm due to lack of Senior Stroke Medicine On-call rota	Accepted	West, Mr David	Hughes, Mrs Fiona	

Risk 2901 - Timely access to the ASU has now also been added to the Health Board Risk register at the request of executives.

4. FINANCIAL IMPLICATIONS

The main financial implications for Stroke over the coming months are related to the HASU case. Costings to date will need to be revised to represent the Regional model.

3 x ANP nurse funding secured and recruited to.

Consultant funding required to recruit 3 Neurologists – admin support also required here. Further conversations need to take place with HDUHB under the ARCH umbrella to discuss their contribution.

2 x Physician Associates currently at financial risk from May 2023 unless funding can be sourced, this has been escalated in order to secure staffing.

5. RECOMMENDATION

Governance and Assurance		
Link to Enabling Objectives ***(please choose)***	**Supporting better health and wellbeing by actively promoting and empowering people to live well in resilient communities**	
	Partnerships for Improving Health and Wellbeing	☒
	Co-Production and Health Literacy	☐
	Digitally Enabled Health and Wellbeing	☐
	Deliver better care through excellent health and care services achieving the outcomes that matter most to people	
	Best Value Outcomes and High Quality Care	☒
	Partnerships for Care	☒
	Excellent Staff	☒
	Digitally Enabled Care	☐
	Outstanding Research, Innovation, Education and Learning	☐
Health and Care Standards		
(please choose)	Staying Healthy	☐
	Safe Care	☒
	Effective Care	☒
	Dignified Care	☒
	Timely Care	☒
	Individual Care	☒
	Staff and Resources	☒
Quality, Safety and Patient Experience		

The paper highlights challenging areas of the Stroke pathway but also highlights areas where SBUHB is doing really very well against a difficult picture faced nationally by all Health Boards.

HASU/CRSC development and the Acute Medical Services Redesign (AMSR) programme will only improve patients experience long term and address areas where SBUHB can improve.

Financial Implications

The financial implications for Stroke services are mainly related to HASU development. Development of a HASU will require significant investment as outlined in the business case.

Development of a dedicated CT facility to improve scanning times can be part funded from a Stroke legacy fund which currently contains around £400,000. An expenditure plan will be developed for this fund to go to charitable funds committee.

Capital implications would need to be considered in developing these facilities and it has been requested that this is factored into the business case.

Legal Implications (including equality and diversity assessment)

No implications to note.

Staffing Implications

As highlighted in the paper the committee is asked to note the urgency around securing funding to continue the 2 Physician Associates. They were recruited on non-recurrent central funding and will be required in future workforce models.

Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015)

Briefly identify how the paper will have an impact of the "The Well-being of Future Generations (Wales) Act 2015, 5 ways of working.

- **Long Term** – Providing enhanced Stroke Services for the SBUHB region.
- **Prevention** – Enabling timely intervention in patient's pathways resulting in better outcomes for Stroke survivors.
- **Integration –** Integrating with other hospital sites to ensure rehabilitation pathways are utilised.
- **Collaboration -** Acting in collaboration with any other areas such as other hospital sites, tertiary organisations such as the Stroke Association and

○ **Involvement –** Stroke performance is monitored weekly by a range of staff from different backgrounds as well as being scrutinised before a regular executive board.	
Report History	V2
Appendices	