



# Appendix 9 - BNSSG Stroke Services Reconfiguration - Quality Impact Assessment (QIA)

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## 1. Introduction

The Bristol, North Somerset & South Gloucestershire (BNSSG) Stroke Programme, is reviewing the delivery of stroke care across the region to understand how changes to the stroke pathway can bring about improvements to patient outcomes.

Stroke care is typically divided into the following parts of a pathway:



There is variation in the ability of services in BNSSG to meet national clinical standards, as evidenced in the Sentinel Stroke National Audit Programme (SSNAP).

There is also significant variation in the provision of stroke services depending on where patients live and the time of the week that patients present at hospital with a stroke.

There is strong evidence from elsewhere in the country that the centralisation of hyper acute stroke services, such as brain scanning and thrombolysis, delivered as part of a 24/7 networked service, will improve outcomes for patients.

The NHS Long Term Plan sets out clear ambitions from the delivery of stroke care including increasing access to thrombolysis and thrombectomy, and improving post-hospital rehabilitation services. Changing how services are organised will make it possible to meet these ambitions that will ultimately improve patient outcomes and bring greater equity of services to the local population.

Our contribution to the national milestones of the Long Term Plan for stroke will be as follows:

Prevention is a key aspect of the pathway, it is important that BNSSG has systems in place to measure inequalities in stroke incidence and for monitoring the effectiveness of prevention interventions.

- By 2022, we will deliver thrombectomy to all the people for whom it is clinically appropriate.
- By 2022, we will have an equitable offer for improved post-hospital stroke rehabilitation care.
- By 2025, we will contribute to the aspiration of the UK having amongst the best performance in Europe for delivering thrombolysis to all individuals who could benefit from it.

Integration of health and social care services is also in the Long Term Plan.

## 2. Proposals for Consultation

A comprehensive new service model is put forward. The proposed model centralises hyper acute care for stroke patients at a single site in Southmead Hospital, which will have a “hyper acute stroke unit” (HASU) and become a “Comprehensive Stroke Centre” under the new National Stroke Service Specification. This means that ambulances would no longer convey people with suspected strokes to Weston Hospital A&E or the BRI A&E.

There are two clinically viable options to consider for acute care following on from the hyper-acute episode shown as option 1b and 2b. Further detail regarding the evaluation process can be found in the PCBC document.

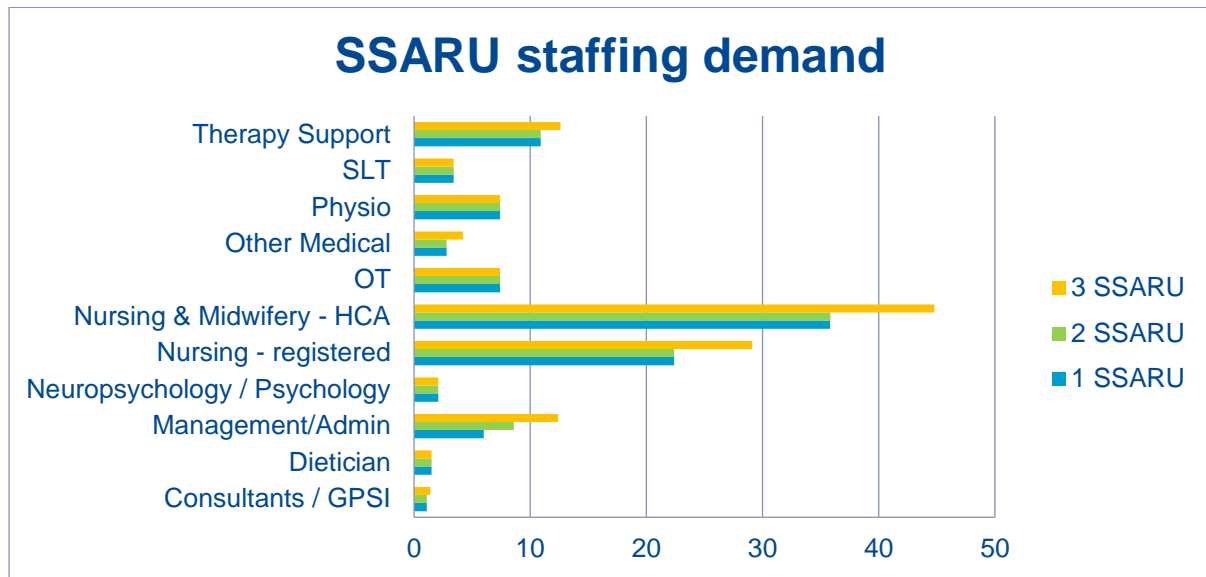
Option 1b		Option 2b	
Hyper Acute Stroke Unit at Southmead Hospital		Hyper Acute Stroke Unit at Southmead Hospital	
Acute Stroke Unit at Southmead Hospital		Acute Stroke Unit at Southmead Hospital	Acute Stroke Unit at BRI
Sub-Acute Rehab Unit	Sub-Acute Rehab Unit	Sub-Acute Rehab Unit	Sub-Acute Rehab Unit

The February 2020 clinical senate recommendation has also led to a preferred option being named by health system partners: this is Option 1b, a single HASU and ASU located at Southmead Hospital with two SSARUs.

Population health information demonstrates that the population of Weston are at high risk of stroke and Healthier Together partners have therefore confirmed that one of the SSARUs should be located in the Weston area; Weston Hospital is therefore proposed as a fixed location for a SSARU in the South of the BNSSG area. The location of the second SSARU will be determined as part of the consultation process; possible sites are South Bristol Community Hospital and Frenchay Hospital (with an interim location ahead of the completion of this new South Gloucestershire facility).

Across a number of key staff groups, workforce demand exceeds supply (shown in figure 1), meaning there will need to be a number of key enablers to deliver the proposals listed. Given the constraints associated with this supply, it will be easier to maintain quality standards in a model that needs less workforce to operate, therefore a factor in refining the options from 3 SARU to 2 SARU.

Figure 1 - SSARU Staffing Demand



Under both options, the new Integrated Community Stroke Service (ICSS) will support stroke survivors to meet their goals and continue their rehabilitation at home. This is a fundamental enabler of delivery of the proposed acute hospital changes. The improvements described have been co-designed with service users and members of the public. The ICSS will also address current inequity in provision of sub-acute stroke rehabilitation.

There are a number of further service improvements proposed as part of the pre consultation business case (PCBC), detail of which is included in the PCBC document and are included as part of the Quality Impact Assessment (QIA) review process.

### 3. QIA Purpose & Development

The quality standard for stroke specifies that services should be commissioned from and coordinated across all relevant agencies encompassing the whole stroke care pathway. A person-centred, integrated approach to providing services is fundamental to delivering high-quality care to adults who have a stroke.

The Health and Social Care Act 2012 sets out a clear expectation that the care system should consider NICE quality standards (shown in Appendix 9.2) in planning and delivering services, as part of a general duty to secure continuous improvement in quality.

This Quality Impact Assessment (QIA) document gives an overview of the current state for BNSSG stroke services and the quality impact associated with the proposed changes.

In particular, the document reviews the three key domains of:

- Patient safety (doing no harm to patients)
- Patient experience (care should be characterised by compassion, dignity and respect)
- Effectiveness of care (to be measured using survival rates, complication rates, measures of clinical improvement, patient-reported outcome measures and patient-reported experience measures)

## 4. Sentinel Stroke National Audit Programme (SSNAP)

### 4.1. SSNAP Context

SSNAP measures the quality and organisation of stroke care in the NHS and is predominant source of stroke data in England, Wales, and Northern Ireland.

SSNAP measures both the processes of care (clinical audit) provided to stroke patients, as well as the structure of stroke services (organisational audit) against evidence based standards, including the 2016 National Clinical Guideline for Stroke.

The overall aim of SSNAP is to provide timely information to clinicians, commissioners, patients, and the public on how well stroke care is being delivered so it can be used as a tool to improve the quality of care that is provided to patients.

Nationally, there are two SSNAP markers that are not improving: time from symptom onset to arrival at hospital (this is deteriorating), and time from arrival at a hospital to admission onto a stroke unit.

### 4.2. BNSSG SSNAP Performance

BNSSG SSNAP performance is shown below across the three acute sites. It demonstrates the variability in quality standards across BNSSG and emphasises the need for change.

Trust	Number of patients		Overall Performance				Patient Centred Data										
	Admit	Disch	SSNAP Level	CA	AC	Combined KI Level	D1 Scan	D2 SU	D3 Throm	D4 Spec Asst	D5 OT	D6 PT	D7 SALT	D8 MDT	D9 Std Disch	D10 Disch Proc	PC KI Level
North Bristol NHS Trust	243	228	B	A	A	B	A	C	C↓	B↑	A	B	C↓	C↑	B	A	B
University Hospitals Bristol NHS Foundation Trust	124	130	C	A	B	C	A	E↓	D	C↑	A↑	C	C	C↑	B	B↓	C
Weston Area Health NHS Trust	67	76	D	A↑↑	A	D	B↑	E	B	B↑	C	D	D↑	D	B	C	D

Figure 2 - BNSSG SSNAP Data (Oct - Dec 19)

Each domain is given a performance level A to E, and an overall SSNAP performance score is calculated based on the average of the 10 domain levels. (Headings are shortened with a key shown in appendix 9.1)

Upward pointing arrows indicate that the team has achieved a higher level this quarter than in the previous quarter; downward pointing arrows mean that the team has achieved a lower level this quarter than previously. The number of arrows represents the extent of the change.

Although SSNAP data is key in measuring the quality and organisation of stroke care, there are also further opportunities to measure and monitor effectiveness of services. These include reviewing areas such as prevention, TIA, neurosurgery, cardiac intervention (PFO closure) and vascular surgery. There should also be greater acknowledgement of integrated neurovascular services.

It is important to recognise that within domains there are individual detailed scores. These are important for monitoring and improving performance for specific aspects of treatment and care.

Outcomes and user experience are also key quality metrics which are being measured through the engagement aspect of the programme as well as linking closely through the Stroke Health Integration Team (HIT) and its Service User Group.

## 5. How the business case impacts on the quality domains

### 5.1. Patient safety

The NHS Long Term Plan states that areas that have centralised hyper-acute stroke care into a smaller number of well-equipped and staffed hospitals have seen the greatest improvements. For BNSSG this would mean a reduction in the number of stroke-receiving units, and an increase in the number of patients receiving high-quality specialist care.

The South West Clinical Senate desktop review references the benefits of a centralised HASU at NBT. Particularly in relation to access to thrombectomy services. This service is currently provided for the wider region, Monday to Friday between 8.00 and 18.00. Thrombectomy should be offered as soon as possible and within 6 hours of symptom onset, together with thrombolysis if applicable<sup>1</sup>. The clinical options identified are based on the delivery of a networked 24/7 service, which would improve outcomes for patients in BNSSG. Current guidance states that treatment is effective up to 24 hours from stroke onset (NICE 2019); this requires advanced brain imaging for patient selection.

The Clinical Senate also reference NBT's on-site neurosurgery for complications of stroke such as malignant MCA syndrome, which requires urgent neurosurgical intervention, and is usually seen in the early days post-stroke. For patients on the unit, this would provide best practice care, and would improve the overall level of stroke care currently available in the BNSSG region.

Co-ordination of 24/7 services from NBT will allow standards for thrombolysis to be met at WGH and UHB. This is an improvement in hyperacute care for patients in WGH and BRI catchment. Although thrombolysis performance at WGH is rated 'B' within SSNAP, services are only delivered Mon-Fri 9-5. If a patient has a stroke in hospital or attends WGH at another time, services are very limited.

Thrombolysis rates will be increased by enabling treatment of stroke of unknown onset time by providing access to hyperacute MRI scanning, shown in figure 2. This also has other beneficial effects, particularly for patients who may be able to receive Same-Day Emergency Care.

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<sup>1</sup> (2016 RCP Guidelines for Stroke and NICE Stroke Guidelines 2019)



IV alteplase (0.9 mg/kg, maximum dose 90 mg over 60 min with initial 10% of dose given as bolus over 1 min) administered within 4.5 h of stroke symptom recognition can be beneficial in patients with AIS who awake with stroke symptoms or have unclear time of onset >4.5 h from last known well or at baseline state and who have a DW-MRI lesion smaller than one-third of the MCA territory and no visible signal change on FLAIR. (COR IIa; LOE B-R)†

Figure 3

Established HASU services reconfigurations in London and Greater Manchester are based on a maximum travel time to a HASU of 45 minutes. The evaluation on the number and location of Hyper Acute Stroke Unit(s) considered the evidence in the Bigger Better Faster Report<sup>2</sup> on travel times.

Further analysis has been conducted on the 'blue light' travel time for patients having a stroke in the BNSSG region. This analysis considered the maximum travel time to Southmead Hospital for the registered population of BNSSG who are living within the BNSSG boundaries.

The results are as follows:

Scenario	Proportion of residents within time travel bands			
	Proportion 0 - 10 mins	Proportion 0 - 20 minutes	Proportion 0 - 30 minutes	Proportion 0 - 45 minutes
<b>Southmead HASU Blue Light Travel</b>	5%	28%	71%	100%

Hospitals providing thrombectomy need specialist equipment and personnel and to perform a certain number of procedures in order to maintain skill levels and therefore it is only possible to have one thrombectomy centre for the area. Dividing the limited and specialist stroke workforce across multiple units would reduce quality of care, when the hospital based care episode could be completed in a specialist facility.

Through the clinical evaluation process (which will be detailed within the PCBC document) an ASU on the Weston site was not recommended because it would lead to people receiving decreased quality of care, when they could continue their care at the specialist stroke centre, in line with national guidance and best practice.

Patients from Weston hospital do not typically have complex co-morbidities that require specialist care on site and could (usually) be safely transferred in order to receive specialist stroke care in line with national best practice. This is an important distinction in comparison with the BRI ASU where some patients are unable to be transferred (i.e. patients requiring specialist cardiac care).

<sup>2</sup> <http://www.swscn.org.uk/wp/wp-content/uploads/2013/12/SW-CV-SCN-Bigger-Better-Faster-Full-Report-September-2016.pdf>

Changes associated with the Healthy Weston proposal means that Weston hospital can only provide up to Level 3 critical care for people who need support for a single organ. Coupled with the restrictions of emergency surgery to the daytime only (theatres will close overnight from 8pm-8am), Weston Hospital is not recommended as a suitable facility to support the level of acuity required for an ASU. It would be inappropriate to transfer patients to a potential Weston ASU until patients are medically fit for discharge into a sub-acute rehab bed.

## **5.2. Patient experience**

Ensuring that people have a positive experience of care is vital in a high-quality service. It is important to consider these factors when planning and delivering services relevant to stroke in adults.

NICE has developed guidance and an associated quality standard on patient experience in adult NHS services. They specify that people receiving care should be treated with dignity, have opportunities to discuss their preferences, and be supported to understand their options and make fully informed decisions. They also cover the provision of information to people using services.

The proposals will involve increased travel time for patients who need emergency treatment during certain hours/days. This introduces some cost to the families of those patients taken to other hospitals, in visiting them, and also required some extra time needed to visit them. Patients who do not qualify for medical transport, or are well enough to be discharged, will also experience some cost in returning home to areas outside of Bristol after treatment, and for families who collect patients from hospital after discharge.

The stroke programme recognises the importance of local rehabilitation services and the equity of access to rehab provision across BNSSG. An objective clinical assessment process determined that sub-acute rehabilitation beds in each of the three local authorities would be the strongest clinical model. It is likely that patients will spend more time at this aspect of the pathway, therefore local provision would in part mitigate potential increased travel time for the hyper acute and acute length of stay.

South Gloucestershire and North Somerset have typically older populations. It is important to recognise the local interface with carers and families across the more rural areas. Access to rehabilitation services closer to home is an important outcome in relation to patient experience. It is also recognised that social care alignment for each local authority region will improve the ease of discharge for patients.

## **5.3. Effectiveness of care / Clinical outcomes**

National best practice guidance has been used throughout the process for developing the clinical model across BNSSG. In conducting the clinical options appraisals, clinical evidence has been considered, drawing on national clinical standards and guidelines as set out by the relevant Royal Colleges, as well as national reports and reviews.

This evidence base identifies what best practice care looks like, and has informed the BNSSG Stroke clinical model development. Appendix 9.3 lists the evidence base used at the clinical design groups to finalise two preferred clinical models which are robust in terms of patient safety and clinical outcomes.

As previously emphasised, the consultation proposals aim for increased access to specialist interventions at specialist centres. Evidence suggests that concentrating these services into fewer, larger centres of excellence, can improve outcomes and save lives. Designating a HASU at NBT where guidelines can be sustainably met will improve the effectiveness of care and clinical outcomes.

## **6. Specialist advisors that will need to be consulted or involved in the development of your plan**

The BNSSG Stroke Programme sits under the Healthier Together Sustainability Transformation Partnership, comprised of 13 commissioning organisations and health and social care delivery partners, so there is whole-system ownership of the process used to develop the proposals, and all risks relating to the proposals are shared.

The programme has been through regular engagement with NHSE/I including a review of the key tests for service change. As referenced within the document, the programme is linking closely with the South West Clinical Senate. To date, a desktop review has been completed, with a series of outputs including actions and recommendations that will inform and shape the proposals going forwards. A formal senate review panel will be arranged to clinically scrutinise the pre consultation business case proposals.

The Bristol Health Partners Stroke Health Integration Team (HIT) has developed specifically to support the stroke pathway reconfiguration and long term improvement in services, including patient and public involvement. The team comprises of a partnership with: Bristol After Stroke, The Stroke Association, Healthwatch BNSSG, UWE and University of Bristol, Public Health and Adult Social Care organisations, BNSSG CCG including Research and Evidence Team, ARC West, West of England AHSN, NBT and UHBW. The HIT Service User Group and STP Stroke Service User Community are also developing in parallel to support consultation in the region.

Support has also been sought from the Greater Manchester Stroke Network Manager, and the NHS England Clinical Senate Review Panel, whose Desktop Review early in the development of the proposals for change supported a detailed analysis of relevant national standards and workforce information.

## **7. Outcome of Quality Impact Assessment**

The quality impact assessment highlights that centralising stroke services across BNSSG will enable more patients to access high quality stroke care and receive life changing interventions. This in turn will enable an equitable service across the region and bring services in line with the national stroke guidelines. This is coupled with retaining care as close to home as possible through localised sub-acute rehabilitation.

This QIA document continues to be iterative as the programme progresses. The proposals will continue to be shaped to ensure continuous improvement of quality outcomes for BNSSG.

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## 8. Key Risks

The risks outlined in the following table are the risks that are associated with the service change. They do not consider the risks to no change at all:

Risk Area	Risk Score	Risk	Mitigation
Patient Safety	Low	An increase in transfer time to neighbouring hospitals due to centralisation of HASU care	<p>Close working with the ambulance service and integrated urgent care service to ensure that all patients, especially time critical patients, receive an appropriate and timely response.</p> <p>Review pathways to ensure that they are clear and that access to the most appropriate provision is made clear to the public and healthcare professionals.</p> <p>Ambulance response times will be kept under review by existing governance processes</p>
Patient Safety	Medium	There is a risk that Covid-19 system pressures will limit system capacity to deliver the clinical options set out. This is particularly in relation to acute bedded capacity as well as flow through emergency departments	<p>Review of direct admission pathways to stroke assessment beds and wards.</p> <p>Implementation of national and local guidance in relation to patient distancing measures.</p>
Patient Safety	Medium	There is a risk that new service models will have a destabilising effect on individual organisations within the system.	<p>The development and evaluation of the clinical models has been made with the key stakeholders, from a system perspective.</p> <p>A minimum service offer for hospitals with an acute take is being developed as part of the service model.</p>

Patient Safety	Medium	There is a risk that in developing options for service change, sustainability of existing services may be compromised as staff recruitment and retention is impacted leading to service failures/increased cost	<p>Workforce Group will develop cross system practices to support recruitment and retention of a whole system stroke workforce.</p> <p>Comms and engagement Group established in new structure will support improved staff and stakeholder communication on progress of clinical options development.</p> <p>Links made between STP Workforce programme and stroke Workforce Group.</p>
Patient Safety	Medium	Neighbouring hospitals do not have the capacity to treat additional patients.	Neighbouring hospitals have been involved in the activity modelling of the proposed changes Capacity and performance at neighbouring hospitals will be managed through the system governance groups.
Patient Safety	Low	Primary and community care will refer patients to stroke services that are not available at Weston Hospital.	Communication to local GPs and other primary and community care providers to make clear what services are available at Weston Hospital, and the alternative and most appropriate provision available at different times of the day and night.
Effectiveness of care	Medium	Patients will have a longer length of stay because of delays in transfer between hospitals and issues with handovers.	Repatriation Standard Operation Procedure is being reviewed and issues will be monitored and managed through the A&E Delivery Board.
Effectiveness of care	Low	A reduction in the volume of complex services delivered at Weston Hospital will result in a deskilling of clinicians that will in turn impact on patient outcomes.	Strengthened network working with neighbouring hospitals will ensure that clinicians and nursing staff training and experience meets national clinical standards.

Patient Experience	Medium	Additional travel to visit patients in neighbouring hospitals will reduce the support that inpatients receive from visitors.	Community Integrated Care Bureau (ICB) to enable patients to return home as quickly as clinically appropriate.  Repatriation of patients to recover in localised sub-acute rehabilitation facilities following treatment will minimise the amount of time patients stay in a centralised hospital.
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## 9. Appendix

### 9.1. SSNAP Column Headings Key

SSNAP Level	SSNAP Level
CA	Case ascertainment
AC	Audit compliance
Combined Total KI level	Combined Total Key Indicator Level
D1 Scan	Domain 1: Scanning
D2 SU	Domain 2: Stroke unit
D3 Throm	Domain 3: Thrombolysis
D4 Spec asst	Domain 4: Specialist assessments
D5 OT	Domain 5: Occupational therapy
D6 PT	Domain 6: Physiotherapy
D7 SALT	Domain 7: Speech and language therapy
D8 MDT	Domain 8: Multi-disciplinary team working
D9 Std disch	Domain 9: Standards by discharge
D10 Disch proc	Domain 10: Discharge processes
PC KI level	Patient-centred Total Key Indicator Level
TC KI level	Team-centred Total Key Indicator Level

### 9.2. NICE Quality Standards

1	Adults presenting at an accident and emergency (A&E) department with suspected stroke are admitted to a specialist acute stroke unit within 4 hours of arrival.
2	Adults having stroke rehabilitation in hospital or in the community are offered at least 45 minutes of each relevant therapy for a minimum of 5 days a week
3	Adults who have had a stroke have access to a clinical psychologist with expertise in stroke rehabilitation who is part of the core multidisciplinary stroke rehabilitation team
4	Adults who have had a stroke are offered early supported discharge if the core multidisciplinary stroke team assess that it is suitable for them
5	Adults who have had a stroke are offered active management to return to work if they wish to do so
6	Adults who have had a stroke have their rehabilitation goals reviewed at regular intervals
7	Adults who have had a stroke have a structured health and social care review at 6 months and 1 year after the stroke, and then annually

### 9.3. Clinical Model Development Evidence List

- 2016 Bigger Better Faster: An options appraisal for the reconfiguration of emergency heart attack and stroke services for the South West of England. South West Clinical Network.
- 2016 National clinical guideline for stroke. Prepared by the Intercollegiate Stroke Working Party.
- 2019 NICE Guidelines: Stroke and transient ischaemic attack in over 16s: diagnosis and initial management.
- NHS England Stroke Services: Configuration Decision Support Guide (includes draft ASU service spec from the Midlands).





## 10. Version control

Version	Date	Reviewer	Description
0.1	10/06/20	Jeremy Westwood	First draft
0.2	15/06/20	Jeremy Westwood	Further amends
0.3	17/06/20	J Westwood, R Dunn, Phil C	Amends incorporated, key risks added
0.4	17/06/20	J Westwood	Formatting amends
0.5	18/06/20	J Westwood	Review following discussion with RD
0.6	18/06/20	R Dunn	Content amends, evidence base list added as appendix
1.0	18/06/20	J Westwood	Version submitted to CCG Quality Committee
1.1	11/01/21	J Westwood	Amended version to include summary proposals for consultation
1.2	11/02/21	J Westwood	Revised proposals for consultation