

Reporting to:	Trust Board
Title	Update on Stroke Services provided by The Shrewsbury and Telford Hospital NHS Trust
Sponsoring Director	Adrian Osborne, Communications Director
Author(s)	Adrian Osborne, Communications Director
Previously considered by	Hospital Executive Committee
Executive Summary	<p>In June 2013 the Trust Board approved the temporary unification of hyper acute and acute stroke services at the Princess Royal Hospital in response to short term staffing challenges. During this unification there has been clear evidence of improved performance against key stroke indicators that provide a proxy for improved patient outcomes (e.g. admission to specialist stroke unit within four hours of arrival, 90% of time spent in acute stroke unit, access to CT).</p> <p>It was therefore agreed with commissioners that the temporary unification should be extended for a further period so that the benefits and disadvantages of a unified hyper acute and acute stroke service could be reviewed further and a recommendation made for the provision of these services for the medium term (to 2014).</p> <p>The review of stroke services for the medium term is currently under way and this paper provides an interim update pending a final recommendation to the Trust Board in November 2013.</p> <p>The longer term shape of stroke services (from 2014/15) will be agreed through the wider review of community and acute hospital services in Shropshire and Telford & Wrekin that will follow the current Call To Action.</p>
Strategic Priorities <input checked="" type="checkbox"/> Quality and Safety <input checked="" type="checkbox"/> Healthcare Standards <input type="checkbox"/> People and Innovation <input type="checkbox"/> Community and Partnership <input type="checkbox"/> Financial Strength	Operational Objectives QS1 Reduce avoidable deaths QS8 Develop a long-term clinical services site strategy and wider health strategy for the optimal configuration of acute, community and primary care services QS9 Focus on improving clinical outcomes particularly for stroke and fractured neck of femur HS3 Deliver all key performance targets
Board Assurance Framework (BAF) Risks	<input checked="" type="checkbox"/> Deliver Safe Care or patients may suffer avoidable harm and poor clinical outcomes and experience <input type="checkbox"/> Implement our falls prevention strategy to help prevent patients suffering serious injury <input checked="" type="checkbox"/> Achieve safe and efficient Patient Flow or we will fail the national quality and performance standards <input checked="" type="checkbox"/> Clear Clinical Service Vision or we may not deliver the best services to patients <input type="checkbox"/> Good levels of Staff Engagement to get a culture of continuous improvement or staff morale and patient outcomes may not improve <input type="checkbox"/> Appoint Board members in a timely way or may impact on the governance of the Trust <input type="checkbox"/> Achieve a Financial Risk Rating of 3 to be authorised as an FT

Care Quality Commission (CQC) Domains	<input checked="" type="checkbox"/> Safe <input checked="" type="checkbox"/> Effective <input checked="" type="checkbox"/> Caring <input checked="" type="checkbox"/> Responsive <input checked="" type="checkbox"/> Well led
<input type="checkbox"/> Receive <input type="checkbox"/> Review <input checked="" type="checkbox"/> Note <input type="checkbox"/> Approve	Recommendation The Trust Board is asked to NOTE the update on stroke services

Stroke Services: Ensuring the best outcomes for patients and communities in the year ahead

Progress Report - 22 October 2013



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Summary

- The most important message for anyone with a suspected stroke is
“When Stroke Strikes, Act F.A.S.T.”
 - FACE: Has their face fallen on one side? Can they smile?
 - ARMS: Can they raise both arms and keep them there?
 - SPEECH: Is their speech slurred?
 - TIME: Time to call 999 if you see any one of these signs

- The way that people access stroke services in an emergency has not changed. As now:
 - If you dial 999 you will be taken straight to the best place to provide your care.
 - If you are referred urgently by your GP then you will be referred straight to the best place to provide your care.
 - If you walk in to A&E or another urgent care service you will be assessed and they will arrange treatment or transfer to the best place to provide your care.

- Where people receive some of their stroke care has changed for a temporary period:
 - Hyper acute and acute stroke services are currently provided at the Princess Royal Hospital in Telford
 - Stroke rehabilitation in an acute setting continues to be provided at both the Royal Shrewsbury Hospital and the Princess Royal Hospital
 - A&E services continue to be provided at the Princess Royal Hospital and the Royal Shrewsbury Hospital

- Following the temporary changes to stroke services during summer 2013 (which have been extended and are currently still in place) a review is under way to propose the best configuration of stroke services for the medium term (to Autumn 2014). This review has not yet concluded and it is expected that a recommendation will be presented to the Trust Board in November 2013.

- The longer term shape of stroke services (from 2014/15) will be agreed through the wider review of community and acute hospital services in Shropshire and Telford & Wrekin that will follow the current Call To Action.

1. Current Position

Patients and communities across Shropshire, Telford & Wrekin and mid Wales expect and deserve the highest standards of stroke care that:

- increases survival rates
- improves quality by reducing disability and shortening recovery times, and
- improves patient experience.

The Shrewsbury and Telford Hospital NHS Trust strives for the highest standards of care, and working with patients and partner organisations we have already begun to develop a vision for the future of stroke services in the county.

In response to short term staffing challenges during summer 2013, the Trust acted promptly to secure safe, dignified stroke services for our patients and communities. This included the temporary unification of hyper acute and acute stroke services at the Princess Royal Hospital in Telford.

During this unification there has been clear evidence of improved performance against key stroke indicators that provide a proxy for improved patient outcomes (e.g. admission to specialist stroke unit within four hours of arrival, 90% of time spent in acute stroke unit, access to CT).

The table below compares current performance during the temporary unification (a) with local standards (b), national averages (c) and prior period performance (d).

(a) Data for period 1 July 2013 to 13 October 2013		(b) Local Standard	(c) National Average	(d) Data for period 1 December 2012 to 30 June 2013	
				PRH	RSH
Number of stroke admissions to PRH	282				
Number who would otherwise access services at RSH	125				
Number of discharges	268				
% receiving thrombolysis	13%	10%	11.8%	13%	7%
% admitted to Acute Stroke Unit within 4 hours of arrival	93%	70%	58.6%	84%	66%
% receiving CT within 1 hr of arrival	48%	50%	41.5%	41%	27%
% receiving CT within 24 hours of arrival	96%	90%	90%	90%	84%
% spending 90% of their time on Acute Stroke Unit	93%	80%	82.6%	90%	77%
DLN assessment within 4 hours	72%	70%	61%	65%	59%

The table demonstrates that:

- Performance against stroke standards has been maintained with some improvements compared with the service at PRH during the previous six months.
- Performance against stroke standards has significantly improved compared with the previous service at RSH.

Note that these are access and time-to-treatment indicators rather than reflecting the quality of care provided by doctors, nurses, therapists and wider hospital teams. A wider set of quality standards (e.g. relating to issues such as access to therapies) is also vital to the ongoing review and improvement of stroke services.

Based on these indicators and the wider experience of providing specialist stroke services from a single site, clinicians in the Trust asked for more time to review the service. Specifically, this should include reviewing whether a return to two-site services, albeit only for the medium term pending decisions on the longer term shape of stroke services, may represent a retrograde step if this reduced our ability to offer our patients improved outcomes.

It was therefore agreed with commissioners that the unification should be extended for a further temporary period so that the benefits and disadvantages could be reviewed and a recommendation made for the provision of these services for the medium term (to 2014).

Improvements in access to stroke services during the temporary unification of hyper acute and acute stroke services at the Princess Royal Hospital in summer 2013 has led to a request by hospital clinicians to review the potential benefits of continuing with a single site service for the medium term.

2. Longer Term Vision for Stroke Services

The recent review of stroke services across the Midlands and East of England recommended that hyper-acute stroke services should be provided by services seeing at least 600 stroke patient admissions each year, supported by a seven day a week specialist stroke workforce.

Locally, hyper-acute stroke services have been provided from two sites each seeing in the region of 450 stroke patient admissions each year. There is a strong view amongst our clinical staff that moving to a single centre of excellence for hyper-acute and acute stroke services will create the conditions for improved clinical outcomes for stroke patients through increased survival, and increased quality by reducing disability and shortening recovery times. It will support the local NHS to develop and maintain a specialist 7-day workforce (currently 5-day) ensuring rapid and daily access to specialist expertise for stroke patients during a critical period of their treatment and recovery.

Providing services from two smaller sites reduces the ability of the local NHS to recruit and retain sufficient specialist workforce to develop and maintain a 7-day service, including having the capacity and resilience within the workforce to cover periods of short term vacancies and other leave. The recent short-term workforce challenges that faced our stroke services are a further indication of the potential benefits from moving to a single site service in the longer term.

However, any medium term changes do not and will not pre-judge the longer term decisions that will need to be made about a move to a permanent single site service (and the location of that service). Instead, the clinically-led recommendations developed with patient and community engagement following the Midlands and East Stroke Services Review need to be debated and tested more widely, and considered alongside wider challenges and opportunities for improving clinical outcomes, patient safety and patient experience in the county's hospital services and beyond.

It is therefore recommended that vision for stroke services from 2014 and beyond should be developed through the wider review of community and acute hospital services in Shropshire and Telford & Wrekin (involving all communities served by these hospitals in Shropshire, Telford & Wrekin and mid Wales) that will follow the current Call To Action.

The agreed long term vision for stroke services is a single site for hyper acute and acute stroke services, the location of which should be decided as part of the wider review of acute and community hospital services which will follow the Call To Action debate.

3. The main features of the stroke service at the Princess Royal Hospital and the Royal Shrewsbury Hospital

The main features of the Trust's stroke service are as follows:

- **Hyper Acute Stroke Units (HASU)** – Both the Princess Royal Hospital and the Royal Shrewsbury Hospital have facilities for a Hyper Acute Stroke Unit although currently this service is only provided at the Princess Royal Hospital. These provide expert specialist clinical assessment, rapid imaging and the ability to deliver intravenous thrombolysis 24/7. Patients typically need this higher level of support for up to 72 hours after admission. During this period of their treatment, patients should typically receive an early multidisciplinary assessment, including swallow screening and, for those that continue to need it, have prompt access to high-quality stroke care.
- **Acute Stroke Units (ASU)** - Both the Princess Royal Hospital and the Royal Shrewsbury Hospital have facilities for an Acute Stroke Unit although currently this service is only provided at the Princess Royal Hospital. These provide care immediately following the hyper-acute phase, usually after the first 72 hours following admission (the hyper-acute phase) for 3 to 7 days. Acute stroke care services provide continuing specialist and multidisciplinary care, continued access to stroke trained consultant care, access to physiological monitoring and access to urgent imaging as required. In-hospital rehabilitation continues or is initiated, with rehabilitation goals identified to support planning for discharge from the acute hospital setting.
- **Stroke Rehabilitation** – Stroke rehabilitation is provided at the Princess Royal Hospital and the Royal Shrewsbury Hospital. This provides specialist rehabilitation tailored to the needs of the individual, supporting them to leave acute hospital.

Stroke services are supported by a wide range of other care professions including radiography, dietetics, speech and language therapy, occupational therapy, physiotherapy and many other specialties depending on individual needs.

A model of stroke services with two HASUs and two ASUs is not consistent with the long term vision.

Before the current temporary unification of stroke services, HASU, ASU and stroke rehabilitation have been provided at both PRH and RSH. Stroke rehabilitation continues to be provided at both sites.

4. Options for the Medium Term

The options for the medium term (to 2014) are set out below.

The medium term configuration would be in place until longer term options are developed through the wider review of acute and community hospital services (currently expected in Autumn 2014).

Option	Assessment
<p>(1) Maintain single site hyper acute and acute stroke services for the medium term. Acute-based stroke rehabilitation continuing at both PRH and RSH.</p>	<p>This is consistent with the longer term vision for stroke services, and there is a strong clinical preference for a single site HASU and ASU in order to create the conditions for improving outcomes for stroke patients through increased survival, and increased quality by reducing disability and shortening recovery times.</p> <p>There is greater scope for maintaining the improvements in key stroke indicators that have been observed during the temporary single site service during Summer 2013.</p> <p>There is greater scope for accelerating development towards 7-day consultant access which is not feasible with a two-site model.</p> <p>Feasibility should be tested for both (1a) PRH and (1b) RSH.</p>
<p>(2) Return to two site hyper acute and acute stroke service until longer term vision for stroke services is developed as part of wider strategy for acute and community hospital services.</p>	<p>Under this option the service would return to the configuration as at June 2013. This is counter to the clinical preference and the longer term vision for stroke services which is for unification of hyper acute and acute stroke services. The benefits in terms of improvement in key stroke indicators are not expected to be maintained.</p> <p>There is public voice in support of maintaining stroke services as locally as possible, and also anxiety that medium term changes will drive the long term shape of stroke services. We can provide assurance that medium term configuration does not and will not drive long term shape of stroke services. Development towards 7-day consultant-delivered service would be delayed until the longer term configuration of stroke services is implemented.</p>

There are two main options for the medium term and both options should be considered.

5. Options for the Longer Term

The preferred option for the longer term (from 2014) is set out below. This would be tested and developed further, including decisions on the location of services, through the wider review of acute and community hospital services that will follow the current Call To Action.

Option	Assessment
<p>Single site hyper acute and acute stroke services at a location to be agreed. Acute-based stroke rehabilitation continuing at both PRH and RSH.</p>	<p>The longer term vision for stroke services is for a single site HASU and ASU in order to create the conditions for improving outcomes for stroke patients through increased survival, and increased quality by reducing disability and shortening recovery times.</p> <p>This also provides greater scope to strengthen early access to senior clinical-decision makers through the development and maintenance of new models of 7-day working including 7-day consultant access.</p>

There is one option for the long term which should be developed and tested through the wider review of acute and community hospital services in the year ahead.

6. Consideration of a Medium Term Options

The following factors are being considered in the review of options for stroke service configuration in the medium term.

	Criterion	Description	Factors
1	Clinical Outcomes and Access	A fast response to stroke, from onset of symptoms to definitive treatment, reduces the risk of mortality and disability. The identification of potential stroke patients and their timely admission to an appropriate stroke centre is a critical stage of the care pathway. Reduced door to needle time for stroke thrombolysis patients increases the chances of survival, recovery and reduced disability.	Reduced in-hospital delays to ensure prompt access to diagnosis and definitive treatment Ambulance service transfer time from Shropshire, Telford & Wrekin and mid Wales to Hyper Acute Stroke Service Ability to maintain clinical outcomes at current levels if not better
2	Patient experience	Our aspiration is to provide high standards of dignified care for every patient and the people who care for them, which includes maximising opportunities for joined up care.	Accessibility for carers and relatives Satisfaction of joined up care between home, hospital, community Number of steps in the pathway (e.g. same or separate locations for HASU/ASU and rehabilitation)
3	Feasibility and deliverability	It must be feasible to deliver the service for the medium term, taking into account factors such as capacity (e.g. physical space), capability (e.g. specialist skills) and business continuity (e.g. maintaining service standards during any period of change).	Capacity to accommodate the service Effectiveness of business continuity plans Opportunity cost
4	Wider impact	The wider impact on other services inside and outside hospital must also be considered (for example, if another service would need to move to accommodate a single site stroke service then this will have additional risks and benefits)	Impact on safety and sustainability of other services

Assessment of medium term options will consider clinical outcomes & access, patient experience, feasibility & deliverability, and wider impact.

7. Assessment of Medium Term Options

Key areas of clinically-led review of patient outcomes and experience of the stroke service during the summer have included:

- Access to CT
- Missed opportunities to provide thrombolysis, and time from onset to symptoms definitive treatment including impact of additional travel time
- Access to acute stroke unit
- Impact on ambulance service deployment

Access to CT

Whilst the percentage of patients receiving CT scan within one hour (48%) is above national averages (41.5%), it is behind our local target (50%) and represents scope for review and improvement to secure the best outcomes for patients.

Receiving CT Scan within 1 hour of arrival is an important process milestone for patients eligible for thrombolysis as it provides vital diagnostics to assess the suitability of this treatment. A critical clinical question therefore is the proportion of patients eligible for thrombolysis who receive their CT Scan within 1 hour.

Based on a review of 31 patients on a thrombolysis pathway:

- 97% (30 patients) received CT scan within 1 hour of arrival to hospital
- 3% (1 patient, T&W) did not receive CT scan within 1 hour of arrival to hospital

This indicates that the significant majority of patients with the greatest clinical need for CT received this within one hour; additionally that nearly half of all patients (48%) received CT within 1 hour; and nearly all stroke patients (96%) received CT within 24 hours.

Challenges specific to PRH: There is a single CT scanner. Mitigation is provided through maintained access for urgent scans (e.g. stroke) during periods of planned maintenance, and through continued access to cross-site CT scan during unplanned maintenance.

Challenges specific to RSH: There are significant additional demands on CT scanning as the hospital is the main site for acute surgery. The presence of a second CT scanner provides some on-site resilience for planned maintenance. However, this scanner is designated for cancer services so reliance on this during unplanned maintenance can impact on other care pathways. There is also continued access to cross-site CT during unplanned maintenance.

Missed Opportunities to provide thrombolysis

Thrombolysis treatment for eligible patients is recommended up to 3 hours following onset of symptoms for individuals over 80 and up to 4.5 hours following onset of treatment for individuals under 80. Based on a review of patient notes, no missed opportunities to provide thrombolysis due to extended travel time have been identified during the temporary unification of HASU and ASU.

A review of patients where the time of onset of symptoms could be assessed (e.g. individuals waking up with stroke symptoms are not included as the time of onset cannot be identified, and patients are therefore not normally eligible for thrombolysis) has not identified any patients experiencing a pathway from onset to arrival greater than 3 hours (see overleaf).

Whilst some concerns have been expressed by members of the public about the potential impact of extended travel times on outcomes, no adverse outcomes or missed opportunities to provide thrombolysis have been identified and continued opportunities for reducing time from arrival to treatment can provide additional mitigation.

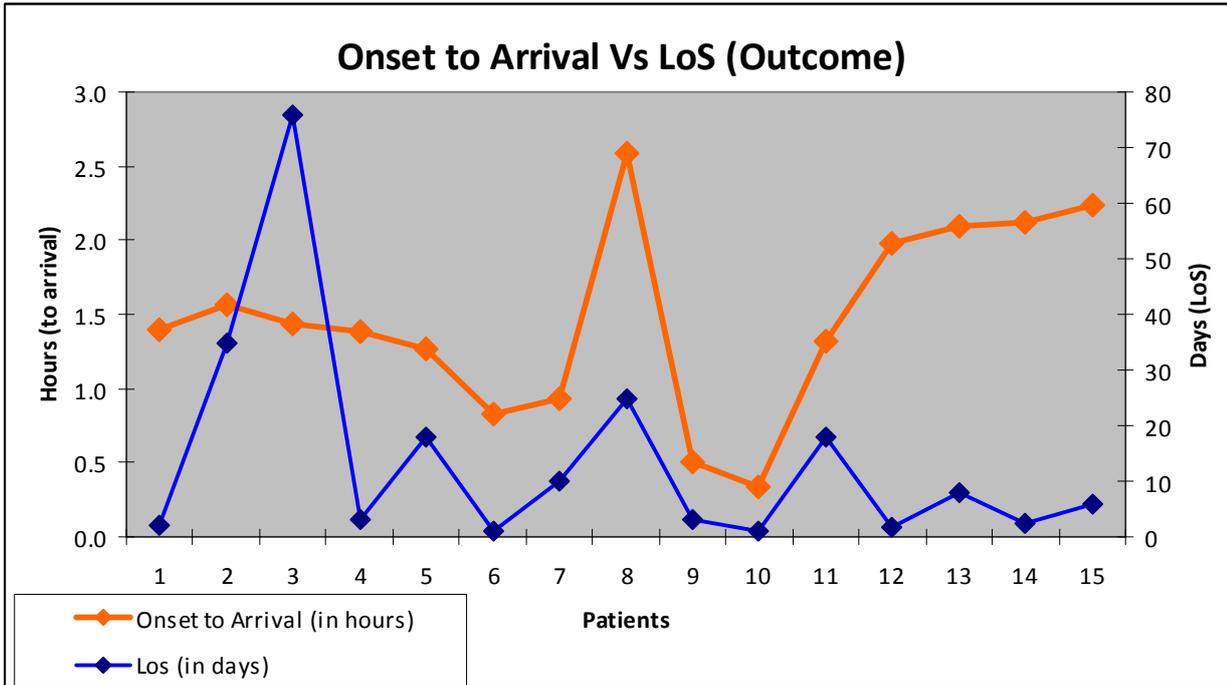


Figure 1: Onset to arrival time vs. Length of Stay (LoS) for a cohort of 15 stroke patients

Access to Acute Stroke Unit

Early access to a dedicated acute stroke unit supports continuity of specialist care which in turn contributes to improved outcomes.

Average time from arrival at hospital to admission to acute stroke unit has reduced from over 9 hours at RSH during the period April-June to around 2 hours in the period July-September in the unified service at PRH. The longer access times in April-June mainly relate to capacity challenges at the Royal Shrewsbury Hospital where some patients experienced extended periods in non-stroke wards before a specialist bed became available. During this time they will have received specialist hospital care but not with the additional benefits from accommodation in a dedicated stroke ward.

Capacity at PRH: Demand for inpatient medical services does not experience the same peaks of high intensity at the Princess Royal Hospital and consequently there have been fewer challenges in protecting the designated bed base for stroke services.

Capacity at RSH: Significant additional work would be required in order to establish protected capacity at RSH to accommodate single site HASU and ASU at the hospital in the medium term; returning to two site stroke services would also present some capacity challenges. There are also particular challenges looking ahead to the additional demands of the winter period. Further work is needed to clarify whether a single site HASU and ASU at RSH can be considered or whether it should be excluded on grounds of feasibility and wider service impact. Whilst there is scope to re-accommodate two-site HASU and ASU at RSH this will lose the current and future benefits from providing a single site service.

Capacity in the longer term: In the longer term, wider service redesign in the context of the review of acute and community hospital services would provide scope to accommodate single site HASU and ASU at either PRH or RSH.

Impact on ambulance service deployment

Alongside internal feasibility and service impact we are also working with ambulance services in Wales and West Midlands to understand impact along the emergency pathway. Information about service impact has been requested and is awaited. The next meeting between commissioning, hospital and ambulance service representatives is scheduled to take place before the end of October.

Interim summary appraisal of options

The following table summarises the current interim appraisal of options:

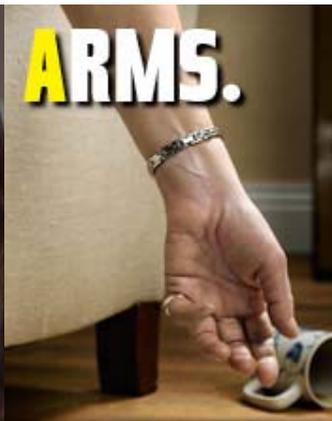
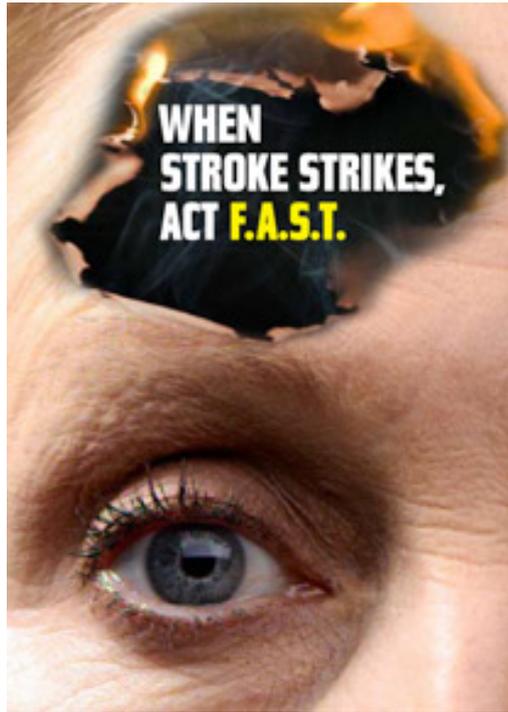
Option	Assessment
<p>(1a) Maintain single site hyper acute and acute stroke services for the medium term – service at PRH Acute-based stroke rehabilitation continuing at both PRH and RSH</p>	<ul style="list-style-type: none"> • Based on ambulance journeys for suspected stroke patients between 1 July 2011 and 30 June 2012, 92% live within 1 hour of the Princess Royal Hospital. No missed opportunities to treat have been identified during the summer period. • There is a positive track record from the summer period of improved performance, with further testing needed of sustainability during periods of more intense demand for emergency care. • There is scope to maintain single site HASU and ASU at PRH, and the service could be accommodated here with minimal impact on delivery and continuity of other clinical services. • Maintaining a single site model provides scope to continue benefits realisation and move towards greater seven-day services.
<p>(1b) Maintain single site hyper acute and acute stroke services for the medium term – service at RSH Acute-based stroke rehabilitation continuing at both PRH and RSH</p>	<ul style="list-style-type: none"> • Based on ambulance journeys for suspected stroke patients between 1 July 2011 and 30 June 2012, 99% live within 1 hour of the Royal Shrewsbury Hospital. • Stroke access performance was previously significantly lower at RSH, predominantly due to wider capacity and demand issues facing the hospital. There have been significant improvements in overall stroke access performance during the temporary single site service. • There are considerable feasibility challenges in accommodating a single site service at RSH, particularly without further clinical and/or financial impact on other services. • Maintaining a single site model provides scope to continue benefits realisation and move towards greater seven-day services.
<p>(2) Return to two site hyper acute and acute stroke service until longer term vision for stroke services is developed as part of wider strategy for acute and community hospital services</p>	<ul style="list-style-type: none"> • Under this option the service would return to the configuration as at June 2013. • This is counter to the clinical preference and the longer term vision for stroke services, which is for unification of hyper acute and acute stroke services. • The recent benefits in terms of improvement in key stroke indicators are not expected to be maintained. • There is public voice in support of maintaining stroke services as locally as possible, and anxiety that medium term changes will drive the long term shape of stroke services. We can provide assurance that medium term configuration does not and will not drive long term shape of stroke services.

The current position is therefore as follows:

- **At present, no options have been excluded for the medium term configuration of stroke services, although some options have significant feasibility challenges. Further work is needed to test feasibility.**
- **A single site HASU and ASU (options 1a or 1b) is preferred clinically.**
- **The commitment to ensuring the best outcomes for patients remains central.**
- **A recommendation on the medium term configuration of HASU and ASU (to 2014) is due to be presented to the Trust Board in November 2013 whilst the longer term configuration will be developed through the wider review of acute and community hospital services that will follow the Call To Action.**

Contact details for feedback:

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