South East Clinical Senate

South East

Clinical

senate

Addendum to the Review of the Pre-Consultation Business Case for West Sussex Stroke Services Transformation

Date: August 2022

Email: england.clinicalsenatesec@nhs.net
Web: www.secsenate.nhs.uk

Table of Contents

Background

The National Stroke Strategy and latterly the South East Coast (SEC) Stroke Services Specification[1] provides the foundation for defining stroke services and outlines what is required to create the most effective stroke services in England. It states that a whole pathway approach to the provision of stroke services is crucial in order to maximise the clinical outcome for patients, their quality of life and experience of stroke services. More recently, the National Stroke Service Model[2] is driving the formation of Integrated Stroke Delivery Networks (ISDN) with the description of ISDN composition, core functions and service specification. Integrated Care Systems (ICS) are tasked with reducing unwarranted variation in stroke prevention, treatment and care to meet the 2025 milestone of achieving the best performance in Europe.

Across the UK, transformation of stroke services have been taking place and many acute provision reconfigurations have already been implemented to deliver fully compliant Comprehensive Stroke Centres (CSC) and Acute Stroke Centres (ASC) in line with the national stroke model published in May 2021 to reduce deaths and disability. In London, CSC have reduced deaths from stroke by 96 a year, as well as the lives saved by improvements to stroke care nationally, including the introduction of early supported discharges to ensure patients are discharged in a timely manner with a plan for high quality rehabilitation.

Across the coastal area of West Sussex, there is an aspiration across partners including the former CCG, Sussex Integrated Stroke Delivery Network (ISDN) and provider trusts, to deliver stroke services that offer high quality stroke care by being fully compliant with national standards and achieving the highest levels of performance, therefore delivering improved outcomes for patients. This spans the entire pathway from prevention of strokes to optimising the care for those who have survived a stroke.

A first review of the pre-Consultation Business Case (PCBC) for transformation of West Sussex Stroke services was carried out by the South East Clinical Senate (the Senate) during March 2022. This was undertaken by a stroke services review panel drawn from patients and public, clinical experts and representative multidisciplinary stroke service provider professionals. The review comprised an evaluation of all submitted documentation and a formal half day panel review meeting where members of the former West Sussex CCG presented a summary of the proposed stroke services transformation and options and took detailed questions from the panel. The finalised report of the review by the Senate was submitted to West Sussex on the 1st April 2022.

[1] NHS England and NHS Improvement South East, Updated Stroke Service Specification 2017 https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2017/07/stroke-service-specification-2017.pdf -
[2] National Stroke Service Model: Integrated Stroke Delivery Networks May 2021. https://www.england.nhs.uk/wp-content/uploads/2021/05/national-stroke-service-model-integrated-stroke-delivery-networks-may-2021.pdf

The Second clinical review

The NHS West Sussex commissioning body welcomed the report from the Senate and agreed to address the recommendations in a revised PCBC. Prior to progressing the revised PCBC for transformation of West Sussex stroke services to the next stage of the approvals process NHS West Sussex requested a 2nd review from the Senate.

The documentation supplied for the 2nd review was made available to the Senate on the 1st July 2022 and following processing by the Senate management team was shared with the panel members on the 7th July 2022 (panel membership detailed in Annex A). All responses were received for collation by the 19th July 2022. The 562 pages of documentation supplied by West Sussex for this second review were arranged as follows:

- West Sussex Stroke Transformation Programme Pre-Consultation Business Case July 2022 (177 pages)
- PCBC Glossary July 2022 (12 pages)
- West Place Based Plan 21 22 – Summary Final (9 pages)
- LTP ambitions update & Transformation Priorities 2021 22 (6 pages)
- Stroke Case for Change Oct 21 (73 pages)
- West Sussex Prevention Programme (8 pages)
- SSNAP Introduction (2 pages)
- West Sussex Stroke Programme EHIA July 2021 (78 pages)
- Reasons for rejecting options (12 pages)
- PHU West Sussex Stroke Programme 31.02.2022 letter (003) (1 page)
- West Sussex – Acute Stroke Centre EHIA June 2022 (105 pages)
- Defining the Clinical Need for Community Beds in Sussex Proposal v3 (6 pages)
- UHSussex Green Plan (73 pages)

The Senate management team processed the received documentation to signpost the review panel to where responses to the Senate recommendations could be found within the documents. The panel were asked to consider the completeness of responses to the Senate recommendations through a process of desktop review of the supplied documentation against the recommendations in the Senate review report dated 1st April 2022. Responses were 'RAG' rated by members of the review panel to determine whether or not the recommendations had been fully met (green), partially met (amber) or not met (red). Members of the panel were asked to provide a brief rationale where recommendations were deemed to be partially met or not met. For ease of

comparison the addendum report follows the same domains included in the first review report by the Senate dated 1st April 2022.

The clinical pathways and service models for the short-list of options under consideration were:

- **Option 1 - Do Nothing-** continue with two Acute Stroke Units at Worthing and St Richard's.
- **Option 2 – Set up Acute Stroke Centres** at both Worthing and St Richard's- upgrade the units at both Worthing and St Richard's to ASCs.
- **Option 3a – Set up ASC at Worthing, acute care at St Richard's-** upgrade the unit at Worthing to an ASC and post hyper-acute care at St Richard's.
- **Option 3b – Set up ASC at Worthing, Rehabilitation only at St Richard's**- upgrade the unit at Worthing to an ASC and Rehabilitation services only for stroke patients in Chichester, whether acute, community or home-based.
- **Option 4a – Set up ASC at St Richard's, acute care at Worthing-** upgrade the unit at St Richard's to an ASC and post hyper-acute care at Worthing.
- **Option 4b – Set up ASC at St Richard's, Rehabilitation only in Worthing-** upgrade the unit at St Richard's to an ASC and Rehabilitation services only for stroke patients in Worthing, whether acute, community or home-based.

Prior to both the 1st and 2nd reviews by the Senate options one and two had been rejected following an initial option appraisal in November 2021. Options 3a, 3b, 4a and 4b had been subjected to a more detailed impact analysis to consider how well each option met the former West Sussex CCG team evaluation criteria. Following completion of this process option 4B was being recommended to be taken forward for public consultation as the preferred Acute Stroke Model for West Sussex.

Scope for the 2nd review

The areas in scope the Senate was asked to review were unchanged from the 1st review:

- The acute clinical model options which will be presented to the public for consultation.
- The supporting pathways such as prevention, early supported discharge and six-month review/ life after stroke to each of the options.

Navigating this report

Each section of this report begins with the relevant narrative recommendations in italics. These are followed by a RAG rating for the responses to the recommendations and then by comments providing a rationale behind the RAG rating where appropriate, together with any red flags. A table collating the RAG ratings against the April 2022 report recommendations is in appendix B.

1. Key Recommendations

The clinical evidence test

Recommendation narrative: The PCBC requires a compelling reason to reconfigure services for the options presented. How best to present the shortlisted options within the PCBC should be reconsidered. At present it does not contain a persuasive narrative in order to meet the NHS England and Improvement clinical evidence base for reconfiguration. Whilst the panel understood the basic principles that the transformation proposal is trying to tackle, in particular concerns over 7 day working and the numbers of patients treated on the current units at St Richard's and Worthing, this may be at the expense of compromising a strength (the Worthing unit performance) to solve a weakness. The panel were also unclear if the staffing implications had been fully worked through.

Response RAG rating: Green

The content and presentation of the PCBC

Recommendation narrative: Tables and accompanying narrative need to align to aid understanding of what is being presented.

- *There is an excess of information which detracts from the message being conveyed. For example, the methodology behind SSNAP does not need describing in full but could be referenced and/or be added to the appendices.*
- *Consistent nomenclature when referring to sites is essential. For example, the Royal Sussex County Hospital is referred to as the Royal Sussex County, Brighton Hospital, University Hospital Sussex and Brighton and University Hospitals NHS Trust. It would also be helpful for those not familiar with the area to state the geographical location of the hospital as is consistently done with St Richard's Hospital, Chichester.*
- *Use of current nomenclature. Tables detailing current and required staffing use the old nomenclature of Hyper Acute Stroke Units (HASU).*

- *The PCBC would benefit from a greater use of pictorial representation of data. For example, using postcode data of stroke admissions, a map showing accessibility to stroke centres within an hour of ambulance call currently and with the options under consideration would benefit understanding.*

Response RAG rating: Green

Patient pathways

Recommendation narrative: The detail with regards to the whole stroke pathway, patient flow and bed modelling both within the Acute Stroke Centre (ASC), but also to the Comprehensive Stroke Centres (CSCs) at the Royal Sussex County Hospital (RSCH), Brighton and the University Hospital Southampton (UHS) require significant strengthening in the PCBC, particularly with regards to patient pathways at RSCH and rehabilitation and access to appropriate therapies across the piece.

The additional flow of Worthing patients into Brighton under the preferred option was a source of concern for the panel. The PCBC needs to provide assurance that the increased number of stroke patients at Brighton will continue to have access to time critical interventions such as thrombolysis and thrombectomy, without unnecessary delay in such a difficult clinical environment.

Response RAG rating: Amber

The PCBC still does not provide sufficient assurance with respect to access to time critical interventions, particularly for stroke patients diverting to RSCH under the preferred option (4b). The graph showing a deteriorating percentage of patients receiving thrombolysis within 1 hour is likely due to increased pressures within the system overall, not specifically in stroke. Busy Emergency Departments with patients arriving from overstretched ambulance services and supported by a finite amount of scanning time will struggle to prioritise stroke alongside other urgent conditions. The establishment of a dedicated stroke assessment unit in A&E at RSCH described in section 10.3 of the PCBC would benefit from modelling to indicate how it will improve patient flow, experience and key outcomes.

Workforce

Recommendation narrative: The plans have an ambitious implementation timeline of early 2023 requiring considerable additions to the specialist workforce. There is also an assumption that nurses and junior therapists from Worthing will move with the Worthing stroke beds. Experience in London and Kent & Medway stroke reconfigurations does not support this. This workforce component of the PCBC requires more explicit description and alignment with workforce strategies for recruitment and retention and training. Aligned timelines will increase confidence in the planning of the modelling.

Response RAG rating: Amber

Overall, workforce planning within the PCBC has been considerably strengthened but there remain concerns over implementation of the workforce plan due to recruitment and retention, training and national shortages. It is evident that recruitment will lag behind final business case approval. Although the Senate recognise the challenges in this area we recommend this work gathers pace and remains a high priority for the programme. Successful recruitment and retention of staff is critical to the success of the transformation.

2. General themes

5.1 Vision and purpose

R1. *Recommendation narrative: The case for change and PCBC set out the need for the coastal area of West Sussex to be brought in line with national standards. The case for the centralisation of services onto a single site would have more relevance to stakeholders if outcomes, such as numbers of lives saved, reduction of patients with severe disability and reduced lengths of stay in an acute hospital were clearly described and quantifiable.*

Response RAG rating: Green

R2. *Recommendation narrative: SSNAP outcomes cover a limited timeframe for Worthing and SRH, Chichester and do not presently include the national optimal stroke imaging pathway or TIA services. More data for RSCH needs to be included, particularly given the increased flow of patients following the proposed transformation. The strength of the Worthing SSNAP performance and how that will translate to SRH needs to be articulated in the PCBC.*

Response RAG rating: Amber

Worthing has clearly demonstrated good SSNAP performance over time (a single point in time marker, such as all the units rating B in 2021 Q4 is less helpful). The question of how the good performance at Worthing will be maintained once the patients move to RSCH and SRC still needs to be addressed.

5.2 Stroke pathway projections and modelling

R3. *Recommendation narrative: Currently the PCBC details incident modelling 2% growth in activity based on ONS growth figures until 2026. There needs to be a longer projected assessment of predicted stroke, TIA and stroke mimic modelling, we would recommend at least 10 years. A detailed demand versus capacity model that shows the effective growth by site in each of the options would add clarity and underpin all the modelling (beds, workforce, financial etc.) and the sustainability of the options.*

Response RAG rating: Amber

Certain systems, for example Kent & Medway, have looked at data up to 2035. It is unlikely that stroke will be radically transformed in the next 10-15 years: change will be steady rather than dramatic, and we know the impact that the ageing population will have and the struggle to modify key risk factors at present. Furthermore, reconfigurations such as this one are frequently delayed such that shorter term planning assumptions are out of date by the time they are realised. Table 49 uses a 20/21 baseline which will be 2 years old before the earliest possible implementation start date for this proposed transformation in stroke services is realised.

R3.1 *Recommendation narrative: Overall, more detail is required that clearly articulates the understanding of future service requirements for the end-to-end stroke pathway (from prevention through to life after stroke and end of life care). This needs to include prevention impact, self-presenters, TIA (non-admitted), inpatients on non-acute sites and redirected mimic activity. Recommendations for specific pathways of TIAs, stroke mimics, thrombolysis and thrombectomy are detailed below.*

Response RAG rating: Amber

Mimics provide a significant challenge to effective hyperacute stroke services. Recent SSNAP data suggests a 50% mimic rate. The modelling needs to understand the number of mimics who may be conveyed to SRH and RSCH (and the impact on the beds there). The process of transferring strokes from Worthing to SRH and RSCH also needs to be clear and supported with evidence that the ambulance service are able to effect timely transfers of such patients.

5.3 Bed modelling and Length of Stay (LOS)

R4. *Recommendation narrative: Effective discharge pathways and clear plans for ongoing care and rehabilitation are key to minimising LOS. The PCBC includes information on a 1.5 day and 4.9 day reduction in LOS. Modelling assumptions regarding the effect of prevention, rehabilitation beds and discharge pathways on LOS require more detail. For example, the projected initial 1.5 LOS reduction has not addressed issues of social care which was acknowledged to be a challenge during panel discussions. The panel heard about an integrated discharge team and 'home first' model. More detail in the PCBC on how these will contribute to patient flow would be helpful.*

Response RAG rating: Green

R4.1 *Recommendation narrative: The PCBC would benefit from a bed model 'bridge' by site that shows the site to site transfers and the impacts of the model of care changes on the bed numbers (up and down) giving a pictorial demonstration of the benefits of reconfiguration from the baseline start-point.*

Response RAG rating: Green

R4.2 *Recommendation narrative: The predicted 1.5 day LOS efficiency is based on ESD services. Currently rehabilitation pathways 2, 3, and 4 are reliant upon external resource availability. There is a potential risk that a single site acute service has less ability to absorb patients with a delayed transfer of care, resulting in decreased access for hyper acute stroke care. The panel heard there were mitigations both for SRH and RSCH. The PCBC would benefit from having this mitigation clearly articulated.*

Response RAG rating: Amber

The medical provision for the 8 step down beds at Worthing (section 10.5.6) needs to be described.

R4.3 *Recommendation narrative: Bed occupancy rate is modelled on 90% occupancy. Is this achievable, what are the current bed occupancy levels?*

Response RAG rating: Green

R4.4 *Recommendation narrative: More detail is required with regards to bed modelling that considers both current and future stroke need, bed usage and occupancy rates, potential inpatient efficiencies, TIA admissions, impact upon*

coadjacent beds and support services of stroke mimics. We heard during the panel meeting that admitted stroke mimics were included in the bed modelling which is positive. However, we also heard that stroke beds are not ring fenced. What plans will be in place for stroke capacity issues?

Response RAG rating: Red

The response suggests that there is an expectation that the beds will be ring fenced and that they will be dedicated to the ASC/CSC. Ring fencing of beds is not actually mentioned in the revised PCBC, this should be stated and adhered to if it is an assumption contributing to bed modelling.

R4.5 *Recommendation narrative: The projected bed modelling is dependent on delivering an effective preventative health programme for the known stroke risk factors. The Senate notes a Local Commissioned Service (LSC) has now been commissioned for primary care management of people with Atrial Fibrillation (AF). It is not clear how the prevention activity flows into the potential average LOS reductions. More detail is required in the PCBC about the outcomes of the preventative programmes in place.*

Response RAG rating: Green

R4.6 *Recommendation narrative: Effective discharge pathways and clear plans for rehabilitation and residual care needs are also key to reducing LOS. The Senate recommend the West Sussex stroke programme include data from the newly commissioned ESD service as soon as possible. This is a huge gap in the current provision and the benefits stated in the PCBC are therefore theoretical and some practical lived experience of the (potentially very major) difference such a service would make could be very helpful and enable learning opportunities with regards to patient care, staff recruitment and retention and effect on current discharge pathways.*

Response RAG rating: Amber

The detailed model is noted but as stated in the response until the ESD pathway is live and generating data it is difficult to be assured.

R4.7 *Recommendation narrative: The PCBC does not articulate clearly the reasons for the loss of one bed in the 4.9 LOS reduction in option 4b. What are the anticipated impacts, risks and mitigations for this?*

Response RAG rating: Green

5.4 TIA pathways

R5. *Recommendation narrative: The TIA pathway requires more in depth modelling taking into account capacity for imaging and cardiac investigations and activity beyond admissions. Currently modelling gives an impression of low numbers due to the inclusion of admitted TIA patients only. Presently there is insufficient information detailing how the national guidance for seeing patients presenting with TIA will be achieved. On panel day a hybrid management model was referred to, but it is unclear what this would mean in practice.*

Response RAG rating: Amber

More clarity on modelled numbers is recommended detailing the size of the challenge, for example how many MRI scans will be needed at the weekend to manage the TIA demand? Assurance that the stated aim of seven day one-stop TIA clinics in the proposed ASC at SRH and the CSC at RSCH can be achieved is required.

R5.1 *Recommendation narrative: Activity modelling has been drawn from SSNAP which is reliant upon accurate data collection manually inputted against identified stroke activity. Triangulating this with validated hospital coded data (ICD-10) maybe valuable for checking reliability.*

Response RAG rating: Green

5.5 Stroke mimic patients: patient pathways and impact on the ASC

R6. *Recommendation narrative: There is limited information with regard to the patient pathway for stroke mimics. More information is required on the pathway for patients who do not directly access stroke services and for the assessment of stroke mimics, the flow through the hospital, fast tracking of patients to avoid the Emergency Department and repatriation in order to better understand the impact on the ASC.*

Response RAG rating: Amber

The PCBC has been strengthened by the addition of several figures describing the different patient pathways, it would be helpful to include a similar figure for stroke mimics.

R6.1 *Recommendation narrative: The effective use of telemedicine for stroke mimics was recognised. The Senate understand the future provision of telemedicine is not yet detailed. The PCBC would benefit from detailing how and when this is to be implemented. For more comments on telemedicine see under digital and innovations.*

Response RAG rating: Amber

Please include the evidence behind the expected reduction in conveyance of stroke mimics through use of telemedicine (the PCBC states this would be a 51% reduction).

5.6 Travel times and thrombolysis

R7. *Recommendation narrative: Travel times between sites are not very clearly articulated and require more detailing, although additional journey times are clear. There is reference to partnership working and a SECAmb report, but little data provided on the impact of the options on ambulance cycle times or the numbers of inter-hospital (incorrectly referred to as intra-hospital transfer throughout the PCBC) secondary transfers. These will be influenced by the percentage of walk-in patients to both EDs, those patients requiring transfer for thrombectomy and also patients developing strokes during the course of unrelated admissions (which may be in a site without an ASC/CSC). These data will be important as SECAmb will need additional resources to undertake the transfers.*

Response RAG rating: Green

R7.1 *Recommendation narrative: In addition, more data will be needed on whether thrombectomy is undertaken in UHS or entirely at RSCH. The transfer time and distance from Chichester to UHS is significantly less and more straight forward than the journey to RSCH, however as UHS is outside of West Sussex this will add to SECAmb cycle-times which requires careful consideration. Data is also required on projected repatriation numbers as this will impact on patient transport services which the South Central Ambulance Service (SCAS) provides in Sussex.*

Response RAG rating: Amber

Section 10.2.22 describes the proposed development of the thrombectomy service at RSCH to eventually provide a 24/7 service, the Senate recommend detailing a timeline. Unless all thrombectomy patients will now be managed at RSCH data on projected repatriation numbers from UHS and the impact on SCAS should be included (albeit although numbers will increase they are still likely to be small based on the current activity data in Table 9).

R7.2 *Recommendation narrative: The ambulance transfer times to both current acute stroke unit sites are short, and it is projected that the reconfiguration will add circa 15 minutes to travel times. Adding a map with 15/30/45/60 minute isochrones would be helpful to demonstrate travel times to and from SRH, Chichester and Worthing sites (that also includes UHS/RSCH) would be beneficial in enabling understanding of the impact.*

Response RAG rating: Green

R7.3 *Recommendation narrative: The PCBC states that thrombolysis will be provided 24/7 for all the proposed options. With recognition that patients should be scanned, assessed by a stroke specialist, and receive thrombolysis within 60 minutes and ideally within 20 minutes of admission. There is evidence of engagement with SECAmb regarding initial journey times. However, there is no secondary transfer modelling either from the non-stroke site (Worthing) to the ASC or from ASC to CSC for thrombectomy and/or neurosurgery. The senate recommends these to be modelled further involving detailed discussion with SECAmb. The senate panel understood that the system is absolutely unable to support taking patients to Portsmouth (who have also made it very clear that they have do not have the capacity to accept these extra patients) which would leave some patients in the Chichester area with very long travel times to Worthing (50 minutes +) in Options 3a and 3b. Explicitly stating this would strengthen the choice of Option 4b as the preferred option.*

Response RAG rating: Amber

Recommendation has been noted but has not yet been addressed (part of 2023/24 SECAmb planning round).

R7.4 *Recommendation narrative: It would be helpful to include current Thrombolysis performance, such as percentage of patients accessing service and door to needle time, quality improvement and outcomes to date and expected future improvements under the new model. Including any risk to patents not directly accessing stroke services. Being able to demonstrate such outcomes is helpful when increasing travel times to receiving units.*

Response RAG rating: Green

R7.5 *Recommendation narrative: A letter of support from SECAmb Executive (and other stakeholders in addition to those already included) confirming their involvement with the clinical/financial modelling and their support will help secure the required support.*

Response RAG rating: Green

5.7 Thrombectomy pathway and stroke imaging pathway

R8. *Recommendation narrative: Mechanical thrombectomy is now a well-established treatment for stroke. With advances in technology there is the potential for the need for thrombectomy to increase well beyond the current quoted figure of 10%. It would be advantageous for modelling to take account of current advances to ensure future sustainability of the service. Modelling needs also to include expected service requirements and activity and flows including repatriation. The Senate panel heard how the service modelling did not solely concern the numbers of patients and pathways must ensure that the right patients for scanning are chosen at the front door; there is currently no evidence to support this in the PCBC. Advice from an independent interventional radiologist expert on what the thrombectomy service might need to look like in 12-24 months would be very helpful.*

Response RAG rating: Red

Artificial intelligence clearly represents a major advance but scans still need review by clinicians with the appropriate skills. Advice from interventional radiology is that the percentage of patients referred for thrombectomy will increase driven by a widening time window for effective intervention and the use of CT perfusion scanning. The panel recommend this sort of potential modelling be undertaken.

R9. *Recommendation narrative: A more detailed analysis of adherence to the national optimal stroke imaging pathway is needed. The move to a 24/7 service will increase access required to imaging (CT/CTA/CTP/MRI). The panel heard that increased provision for scanning equipment is being made. Further information regarding imaging capacity (availability and speed at which imaging can be done) on stroke sites and timely access would be a useful inclusion to support the changes.*

Response RAG rating: Amber

Inclusion of the national optimal stroke imaging pathway is a welcome addition to the PCBC but the statement that the service will meet good practice does not provide assurance without the analysis of where the service does not currently meet good practice and how that will be addressed. We recommend this detail be included in the PCBC.

R9.1 *Recommendation narrative: Thrombolysis and thrombectomy can be successful guided by CT Perfusion (CTP) for up to 24 hours post-stroke for 'wake -up' strokes. Has the impact of the increase in thrombolysis and thrombectomy referrals with provision of CTP and prolonging the treatment window been considered?*

Response RAG rating: Red

This recommendation had been made to highlight that there is evidence of the potential to still improve stroke outcomes well beyond a 4 hour timeframe after onset of symptoms and that advanced imaging can identify patients who could benefit from endovascular intervention presenting within extended treatment time windows[3]. This potential impact should be addressed.

R9.2 *Recommendation narrative: Access to carotid endarterectomy is mentioned in the PCBC and is currently the preferred option for symptomatic carotid stenosis, however carotid artery stenting may be the recommended treatment in the future. What provision has been made for this?*

Response RAG rating: Green

R9.3 *Recommendation narrative: The potential impacts of increased requirements for infection control procedures following the COVID-19 pandemic and the impact this will have on additional time for cleaning scanning facilities have not been considered. The current data the system has regarding this should be incorporated into activity modelling.*

Response RAG rating: Amber

The recommendation has been acknowledged but not addressed.

R9.4 *Recommendation narrative: The PCBC discusses the use of Brainomix as an imaging tool. The Senate heard that Worthing, St Richard's and RSCH hospitals went live in April 2021 with Brainomix and how it has improved the quality of reporting and increased the number of CT angiography's (CTA) performed. Southampton Hospital currently uses Rapid for which there is a workaround for transferring data which has not been a significant issue. The ability to send images across the system to enhance care in this way should be highlighted.*

Response RAG rating: Green

[3] Endovascular Thrombectomy for Acute Ischemic Stroke Beyond 6 Hours From Onset: A Real-World Experience Stroke. 2020 Jul;51(7):2051-2057. doi: 10.1161/STROKEAHA.119.027974. Epub 2020 Jun 17.PMID: 32568647

5.8 Discharge and rehabilitation pathways

R10. *Recommendation narrative: Although this PCBC makes reference to the whole stroke pathway and the introduction of the recently commissioned ESD pathway is a significant addition, the main focus is on the acute aspects of the stroke service. Vocational rehab is a core focus of the National Stroke Service Model yet features little in the rehabilitation section of the PBCB. Work to clarify how rehabilitation services are structured is required and a clear implementation timeline is necessary. Bringing some of the information from appendix 5 'Building a Rehabilitation Mandate for Sussex' into the main PCBC narrative would assist with this.*

Response RAG rating: Green

R10.1 *Recommendation narrative: There is no reference to video fluoroscopy (VF) sessions which would be a key element of the stroke service. Concentrating the service onto one site would impact on the workforce and availability of VF rooms and imaging equipment. There is also little information regarding the percutaneous endoscopic gastrostomy (PEG) service. It is important this service is flexible and available at least 5 days a week. What plans are in place for these key parts of the service?*

Response RAG rating: Amber

We recommend including data on how often videofluoroscopy and fibre optic endoscopic evaluation of swallow (FEES) is required/accessed. Similarly PEG provision can be a major issue when sites take on additional stroke work, and delays can add significantly to length of stay. Evidence to support the statement at 10.2.18 would be beneficial.

R10.2 *Recommendation narrative: The following aspects of the service would benefit from greater clarity in the PCBC.*

- *The Long Term Conditions Programme paper (p3) in the table of 'Long Term Plan – stroke commitments' promises fully implemented improved post hospital stroke rehabilitation models by 2029. This is significantly beyond other timelines quoted, is it correct?*
- *Strengthening and vision around the rehabilitation beds at Worthing Hospital.*
- *The wider Sussex rehabilitation mandate referred to on panel day and the implications for workforce and the opportunities for integrated working this may provide.*
- *The integration of pathways, for example neurology and stroke teams and the sharing of information to avoid the patient's having to repeat themselves.*

- *The focus upon telehealth and self-management could be explored in greater detail.*
- *Exploration of different ways to provide the pathway for therapy at home such as group work and telerehabilitation, as described in the national service model for an integrated community stroke service.*[4]
- *Details regarding the ongoing support and information for family and carers along the pathway.*
- *The life after stroke service says all patients with a residual impairment will be referred every six months. This would be an excellent service, what is the impact of this on the current service?*
- *End of life care provision is not included in the PCBC. What plans are there for this?*

Response RAG rating: Amber

The information about the rehabilitation pathways is welcomed and has been considerably strengthened. There is reference to patients receiving a therapy assessment within 24 hours if appropriate (in the text and in figure 31) - this might need to be tweaked as the service is initially 5 days/week, although with the aspiration of becoming 7 days/week. We recommend building in data from aspects of the service that have now been introduced as they become available.

5.9 Prevention

R11. *Recommendation narrative: The panel heard that the coastal area of west Sussex is performing well with regards to diagnosing Atrial Fibrillation (AF) (currently 86%) and have an ambition to have more than 90% patients diagnosed with AF anticoagulated. However, there is limited evidence of cardiovascular disease (CVD) prevention strategies aside from AF. Further detail on the management of hypertension and the treatment of stroke risks would be beneficial. AF prevalence in West Sussex is higher due to the older population of coastal west Sussex. Use of prevention data would assist in the planning of services. The tables below give the 2021 CVD prevent picture for identification of stroke risks in adults and treatment of those risks.*

Response RAG rating: Green

[4] stroke-integrated-community-service-february-2022.pdf (england.nhs.uk)

3. Review of presented options

6.1 Projected acute stroke activity within each option

R12. *Recommendation narrative: Within option 1, do nothing at Worthing and SRH Chichester, there is the recognition that both Worthing and SRH, Chichester are well performing stroke units in certain areas. However, both units do not meet the SSNAP requirements consistently. The introduction of ESD, which is now commissioned, would improve the overall picture of this option and system may wish to review the evidence.*

Response RAG rating: Green

6.2 Relationship between the CSC, ASC and non ASC hospitals

Recommendation narrative: Presently insufficient information regarding the flows of patients, repatriation of patients to the receiving hospital and overall patient pathways exist in the PCBC. There is no detail in the PCBC regarding remote stroke advice for suspected strokes; repatriation pathways; or management of patients with a stroke mimic. Access to stroke services and timely management for inpatients on non-acute sites should be detailed in the PCBC and include, self-presenters, stroke chameleons and inpatients.

Response RAG rating: Green

Queen Alexandra Portsmouth

R13. *Recommendation narrative: Option 3a set up an ASC at Worthing with acute care at SRH and option 3b set up an ASC at Worthing, with rehabilitation in the Chichester area, whether acute, community or home-based were rejected owing to the increased pressure this would put on the Queen Alexandra Hospital (QAH) in Portsmouth. There is a letter to this effect from the QAH. The Senate panel agree that the additional patient volumes would be unmanageable currently at the QAH. However, it is noted in a previous senate review of proposal for future stroke services in Sussex in 2015[5], Worthing was a preferred site. Should system's plans evolve with reconfiguration of patient pathways to bypass the ED and patients to be conveyed straight from ambulance to scan and then onwards to the stroke ward the system may wish to revisit these options.*

Response RAG rating: Green

[5] South East Clinical Senate Review of Proposals for Future Stroke Services in Sussex. December 2015 https://secsenate.nhs.uk/wp-content/uploads/2020/07/South-East-Clinical-Senate-Review-of-proposals-for-future-stroke-services-in-Sussex-Dec-2015-FINAL.pdf

Royal Sussex County Hospital, Brighton

R14. *Recommendation narrative: Option 4a, set up an ASC at SRH Chichester with acute care at Worthing and option 4b, set up an ASC at SRH Chichester, with rehabilitation in the Worthing area, whether acute, community or home-based are heavily reliant on RSCH, Brighton. Plans to refurbish ED at RSCH and open additional capacity through the move to the new 3Ts building are undoubtedly welcomed however the RSCH under the current proposals is to receive an additional 300 patients. There is little information in the PCBC regarding the patient pathway at RSCH, its current performance or its outcomes and how the additional numbers may impact those. More information is required regarding the flow of patients into Brighton and Brighton's ability to achieve the national standard of patients reaching a stroke unit within 4 hours of arrival and critically meet the standards for assessment, imaging and thrombolysis/thrombectomy where indicated. The PCBC requires more information about the stroke service at RSCH to be assured about these options. In particular,*

- *There was an acknowledgement by the west Sussex team of the challenges RSCH is experiencing. Assurance on how the increased number of stroke patients at Brighton will continue to have access to time critical interventions such as thrombolysis and thrombectomy is needed.*
- *stroke pathway modelling at RSCH is required*
- *Clear plans regarding the implementation of increased thrombectomy services at RSCH from its current 'most weekdays' model to a genuine 24/7 model.*
- *There is the potential for patients from SRH to go to RSCH in place of Southampton, this increase in flow also requires modelling as does the repatriation of patients.*
- *There is limited information regarding flows for Thrombectomy for BSUH from outside of West Sussex, and the potential future impact.*

Response RAG rating: Red

Although the revised PCBC includes considerably more detail there is insufficient assurance in terms of how stroke will be prioritised and the ring fenced stroke assessment service achieved in the very busy emergency department environment at RSCH. Current and future pathways still have the emergency departments as the default route for Stroke patients. Comparison of this standard approach with innovative direct to angiography routes for endovascular therapy indicate that those undergoing the direct route achieve significantly reduced door-to-puncture and door-to-reperfusion times with resultant improved outcomes[6].

[6] Direct to angiosuite strategy versus standard workflow triage for endovascular therapy: systematic review and meta-analysis. J Neurointerv Surg 2022 Jun 16;neurintsurg-2022-018895. doi: 10.1136/neurintsurg-2022-018895.

University Hospitals Southampton

R15. *Recommendation narrative: Detail with regards to Southampton Hospital's view on additional thrombectomy work that may flow their way from the proportion of Worthing patients who move to St Richard's would be helpful.*

Response RAG rating: Green

Worthing

R16. *Recommendation narrative: There is a risk to the Worthing Hospital ED of it becoming deskilled if you move the stroke service to St Richards, Hospital. What mitigations will be put in place?*

Response RAG rating: Amber

Stroke should remain a feature of teaching at Worthing, although with a different emphasis.

6.3 Co-dependencies of clinical services in the ASC

R17. *Recommendation narrative: The panel heard the clinical strategy is to deliver full services from each site and there are no plans to change co-located services. However, there is limited information available on the impact of co-dependencies for the new model. For example, clinical investigations and impact on cardiology, radiology, vascular, pharmacy and other co-dependent specialities especially ED. It would be beneficial to include an overview of the transformational changes and the impact on stroke related support services.*

Response RAG rating: Green

6.4 Travel times from home to ASC

R18. *Recommendation narrative: Although travel times do increase, no patient is expected to face a journey in excess of 60 minutes. Friends, family and carers will be the most impacted by travel times. The west Sussex panel highlighted they are currently working with community providers to source a community transport service. More pictorial representation in the form of travel isochrones would be useful for assessment of travel impact.*

Response RAG rating: Green

4. Proposed metrics for evaluating the quality of future services

R19. *Recommendation narrative: There is high level detail regarding the KPIs for service standards, but little information in regarding how these will be delivered; including TIAs, outpatient investigations and follow ups. How outcomes are going to be measured requires greater articulation in the PCBC. Critical success factors will be patient-related outcomes such as mortality and long-term disability, SSNAP data, primary prevention rates and secondary prevention rates, length of stay and readmission rates.*

Response RAG rating: Green

5. Workforce

R20. *Recommendation narrative: The PCBC states current and projected requirements for staffing across the medical, nursing and allied healthcare professions (AHP) however the Senate panel feel many assumptions have been made which require evidencing. Reference is made to the increased opportunities for recruitment and retention and the benefits for staff in terms of skill acquisition that the proposed site rotation will bring. However, there is no information detailing how this will be realised and little evidence of mitigating workforce related risks. The success of the proposed change is heavily reliant on providing a seven-day stroke service. There is a recognition from the West Sussex team that workforce is a challenge and the current modelling requires more development. The panel also heard about staff engagement workshops but to date engagement has predominantly been with senior staff. The Senate recommends a comprehensive workforce strategy to include short, medium and long term plans with evidence that takes account of retention strategies, recruitment, development, workforce efficiencies and opportunities for new roles, optimising skills, integrated pathway working, clear identifications of risk and mitigating actions. These should be undertaken in concert with the relevant training organisations.*

Response RAG rating: Amber

The workforce plans have been strenghened in the revised PCBC and include new roles such as Physician Associates and details of staff engagement. The Senate realises that the workforce plan as a whole remains embryonic and that recruitment clearly is a critical rate limiting step in the commissioning of the ASC/CSC model. However, the worforce strategy could be further strengthened with short, medium and long term plans, for example introducing degree apprentices. We recommend strengthening skill mix opportunities and the consideration of

Advanced Clinical Specialist roles as described in 10.6.23 together with Consultant Allied Health Professional roles.

8.1 General considerations

R20.1 *Recommendation narrative: There is a vision that the new model will provide an attractive opportunity for recruitment and retention in the future. However, this requires further detail in order to establish a clear strategy.*

Response RAG rating: Amber

See comments in R20 above. Also please include a more detailed understanding of the proposed leadership development and change support package – who is it for, when will it happen, where will it happen, what will it deliver and who will deliver it?

R20.2 *Recommendation narrative: A clear timeline for recruitment of workforce against implementation plans is required to help mitigate risks. The panel heard there is a good track record of recruiting to SRH, evidence in support of this in the PCBC would be helpful. Staff accounts of working at SRH may help to highlight this.*

Response RAG rating: Green

R20.3 *Recommendation narrative: Details of workforce vacancies and turnover specific to stroke services as a percentage would help to give clarity to current workforce assumptions.*

Response RAG rating: Green

R20.4 *Recommendation narrative: Details of the impact of increased demand for imaging on the radiology and radiographer workforce incorporating the potential increased demand for thrombectomy services should be included.*

Response RAG rating: Amber

The comments against R20 apply here too, also a 'recruitment campaign' is very weak assurance, particularly given workforce shortages and demands in radiology and radiography.

R20.5 *Recommendation narrative: Consideration of Health Education England's (HEE) projected requirements for medical, nursing and AHPs with use of their workforce tableaus where appropriate.*

Response RAG rating: Green

R20.6 *Recommendation narrative: National workforce shortages mean that training and development opportunities are key factors for the success of the proposals. Training and on-going development (inclusive of leadership training and development) of all the workforce needs to be strengthened in the PCBC to include registered and non-registered staff. The panel heard that Chichester University has plans to commence a physiotherapy pathway. Engagement with local Higher Education Institutes (HEI) to understand their forecasting with regards to undergraduate places for nursing and all AHP training and if this is expected to meet local demand would help longer term workforce modelling.*

Response RAG rating: Green

R20.7 *Recommendation narrative: A more creative approach to workforce issues would be beneficial. Inclusion of advanced nurse practitioners, apprenticeship pathways and details of collaboration with social care would enhance the current modelling.*

Response RAG rating: Amber

The comments against R20 apply here too.

R20.8 *Recommendation narrative: The Senate heard there are plans for a phased approach to the reconfiguration. Any move of services will entail re-location of staff, the exact details and impact of this on the current workforce is not clear. A full assessment of the impact, risks and proposed mitigation should be included within the narrative.*

Response RAG rating: Green

8.2 Medical

R21. *Recommendation narrative: There are challenges in recruitment of stroke consultants nationally. The recruitment and retention plans for West Sussex stroke reconfiguration are unclear. Job plans have not yet been developed and efficiencies in terms of working arrangements and virtual support not identified. Use of the workforce modelling framework to support developments in this area would be helpful.*[7]

Response RAG rating: Amber

[7] https://www.basp.org/publication/meeting-the-future-consultant-workforce-challenges-stroke-medicine-workforce-requirements-2019-to-2022/basp-stroke-medicine-workforce-requirements-report-final/

It is acknowledged that this is an area of work in progress. Workforce planning for consultants using the British Association of Stroke Physicians guidelines is recommended together with consideration to development of competency based roles as part of the future workforce model.

R21.1 *Recommendation narrative: There is no mention of physician associates. The physician associate role is now being used in many hospitals. Consideration of the benefit to the role within the stroke reconfiguration would be beneficial.*

Response RAG rating: Green

8.3 Nursing

R22. *Recommendation narrative: Evidence from previous stroke reconfigurations shows that while senior staff generally move to the new service this is not the case for more junior, particularly the band 5 registered nurses and the unregistered workforce. This will have an impact on volume of staff and skill mix. There was recognition from the West Sussex team that this may well be a challenge for them also. The plans to mitigate this risk are not clear and require further thought by the programme.*

Response RAG rating: Green

R22.1 *Recommendation narrative: The Senate recognise a move to approximately 75% single rooms and above is a national ambition of the New Hospitals Programme (NHP). The panel heard the nursing establishment modelling in the PCBC was prior to COVID-19 and the ambition for a design of 70% single rooms for West Sussex stroke services at SRH. The impact of this for required staffing levels needs to be fully detailed.*

Response RAG rating: Amber

Work in progress not yet completed.

R22.2 *Recommendation narrative: Specialist nurses are essential for effective front door or direct ward access. What are the current specialist nurse numbers at RSCH?*

Response RAG rating: Amber

Work in progress not yet completed.

8.4 Allied Health Professions

R23. *Recommendation narrative: There is currently a 5 day therapy service. The PCBC acknowledges current workforce levels do not meet national standards of staffing levels for 5 days. To meet the ambition of a 7 day service standard is suggestive of the need to recruit considerable numbers of a very specialised workforce. In addition, there is no current provision for early supported Discharge (ESD) services which also require a specialised therapy workforce. More detail of how the West Sussex stroke reconfiguration will meet this increase in demand is required and may benefit from a specific AHP workforce strategy.*

Response RAG rating: Amber

The rehabilitation section is welcomed and considerable work has contributed to this. We recommend reviewing some of the banding assumptions for the additional workforce.

8.5 Supporting services

R24. *Recommendation narrative: The senate would recommend widening staff engagement and assessment of staffing levels to include other services that will be affected by the changes. Such as radiography and cardiac investigation services.*

Response RAG rating: Green

6. Populations health/inequalities.

Recommendation narrative: It is recognised the coastal area of West Sussex is one of the least deprived areas of the country (131/152 least deprived). However, the district of Arun has areas in Bognor Regis and Littlehampton that rank amongst the poorest 10% of the country, with a reduction in life expectancy of 7.6 years for men and 6 years for women. The NHSEI operational planning guidance 2022/23[8] has a focus on targeted intervention for health inequalities. Interventions to optimise blood pressure and minimise the risk of stroke are one of the 5 priority clinical areas identified as part of NHSEIs Core20PLUS5 approach.[9] The approach enables the biggest impact on avoidable mortality in the most deprived populations and contributes to an overall narrowing of the health inequalities gap. It would be helpful to be able to see how the ICSs understanding of its Core20PLUS population feeds into the West Sussex stroke reconfiguration.

Response RAG rating: Green

R25. *Recommendation narrative: Ninety-two percent of the population of the coastal area of west Sussex are of white ethnicity however the panel heard that the coastal minority ethnic groups live within or near the areas that are most deprived. Both Worthing and SRH Chichester hospitals have very limited data regarding their BAME populations, with a significant percentage of admissions categorised as 'not stated' (PCBC p48) in some months. The Senate recommends identifying and rectifying deficiencies in data collection. This would allow the stroke services transformation programme to assess their population and target appropriate intervention more accurately.*

Response RAG rating: Amber

Although acknowledged as part of the CORE20PLUS5 strategy it would be helpful to detail plans to address this. The EHIA summary (page 108 of the PCBC) states that people with protected characteristics of race and ethnicity will benefit from the reconfiguration due to their higher risk of stroke. This is only true if those at higher risk have been identified and access the service. There is limited evidence presented for this from which to gain assurance.

[8] 20211223-B1160-2022-23-priorities-and-operational-planning-guidance-v3.2.pdf (england.nhs.uk)
[9] https://www.england.nhs.uk/publication/core20plus5-an-approach-to-reducing-health-inequalities-supporting-information/

R25.1 *Recommendation narrative: Equity of access is mainly focused on transport; the travel impact assessment needs to be clearer demonstrating it is across all parts of the patient pathway. The impact of moving services to SRH will result in deprived areas in Worthing being admitted to RSCH. More detailed modelling to ensure equity of access to this patient group is required.*

Response RAG rating: Green

R25.2 *Recommendation narrative: Equity of access for the frail and elderly coastal west Sussex population needing longer-term inpatient rehabilitation requires detailing. Even with ESD, which will take approximately 40% of the cohort of patients requiring rehabilitation, there will be a significant proportion of patients requiring longer-term rehabilitation. The stroke rehabilitation requirements will also be in competition with other services requiring access to rehabilitation and how this will be approached and mitigated requires describing.*

Response RAG rating: Amber

Although planned the work has yet to be undertaken.

R25.3 *Recommendation narrative: It is well documented that COVID-19 has exacerbated health inequalities. The Panel heard about understanding the issues for people in areas of deprivation in coastal west Sussex and how the turn the tide prevention agenda is being adopted. What is the learning from these in terms of addressing the prevention of strokes from inequalities of access to healthcare uncovered by the pandemic? Further detail specifically regarding access to prevention for minority groups and for communities within areas of high deprivation is needed.*

Response RAG rating: Amber

This is another area that would benefit from a decription of how people will be identified and what will be done in order to ensure that those at higher risk access the service.

7. Clinical engagement

R26. *Recommendation narrative: The PCBC highlights a workshop with staff and states staff support for the changes. However, it is suggestive of information sharing rather than offering all staff at all levels proactive opportunities to shape/codesign future plans. During the panel presentation and discussion, it became clear that not all staff had been engaged with to the same extent and assumptions about clinical staff support for the clinical model may have been made. It would be beneficial to have clear*

statements of support from all staff groups within stroke services, particularly those who will be required to move sites.

Response RAG rating: Amber

The inclusion in the PCBC of information regarding the Acute Implementation Working Group (AIWG) is welcomed. Membership of this group appears to be predominately senior staff. We would recommend evidencing inclusion of all grades of staff in this working group, particularly in light of the issues previously identified with regards to band 5 and 6's.

R27. *Recommendation narrative: The changes will see an increase in demand for SECAmb. More detailed data with regards to engagement with SECAmb is required. SECAmb - have given their full support to option 4. Option 4B would decrease the number of inter hospital transfers as there will be less conveyance apart than for thrombectomy.*

Response RAG rating: Amber

The SECAmb cycle times/resource requirements of the preferred model have still to be considered.

R28. *Recommendation narrative: There is no information regarding engagement with co-dependent services, for example cardiology, radiology, gastroenterology and ED. Assurances from these services that they will be able to meet the increased demand need to be sought and documented.*

Response RAG rating: Amber

Although the relevant services will be on the ASC site assurance that they will be able to meet the increased demand would strengthen the case.

R29. *Recommendation narrative: The PCBC appendices includes a letter from Portsmouth in support of options 4a and 4b. Further letters of support from neighbouring stakeholders potentially affected by the changes would be beneficial.*

Response RAG rating: Amber

Letters have been requested but have yet to be received.

8. Patient and public engagement

R30. *Recommendation narrative: The NHS constitution[10] states 'the NHS belongs to the people' and it is responsible for working in partnership with people to plan healthcare. It is clear from the PCBC, appendices and related documents that despite the COVID-19 pandemic work has taken place to engage stakeholders. The PCBC and EHIA provides some information concerning engagement with seldom heard groups. Plans for further work to engage with these groups, how the programme plans to engage those who have not been part of the initial groups and how this will be possible within the current timeframes needs to be detailed.*

Response RAG rating: Green

R30.1 *Recommendation narrative: Co-creation of proposed changes needs to be given a higher priority. Healthwatch and the Stroke Association were not included in the initial workshop regarding the longlist of options. Both have however been involved in helping the programme access patients, carers, family and the public and although this has provided valuable insight it is not that same as patients and families being partners in the decision making. The PCBC would benefit from clearly demonstrating co-production with patients and the public through the use of patient stories highlighting patient need and choice. The Stroke Association has a dual role in the reconfiguration plans as both a provider of services and as a patient, public partner. Any potential for conflict of interest needs to be clearly articulated in the PCBC.*

Response RAG rating: Amber

Use of patient stories present opportunities to demonstrate how all components of the stroke pathway can be improved by the stroke transformation proposals. They also afford opportunities to transcend potential concerns surrounding accessibility. The inclusion of a patient story is therefore welcomed but we would recommend additional patient stories that illustrate how all of the stroke service transformation objectives will be achieved and show how the key outcomes will be improved.

[10] The NHS Constitution for England - GOV.UK (www.gov.uk)

R30.2 *Recommendation narrative: Clearer information about what the proposed changes mean to patients, their families and carers would be helpful. This needs to be presented on a very personal level, addressing how the change will affect their lives and how it will make a difference.*

Response RAG rating: Amber

The PCBC would benefit from additional patient stories that clearly illustrate the changes that will be made and how these will have a positive impact on the lives of people who experience stroke disease.

R30.3 *Recommendation narrative: The level of patient and public involvement in the final decision with regards to options 4b would benefit from being made more evident. Slide 11 taken from the EHIA in the panel presentation could be used to better articulate what patients want improved and be linked to the proposed changes.*

Response RAG rating: Green

9. COVID-19

R31. *Recommendation narrative: There is little information regarding learning from the COVID-19 pandemic in the draft PCBC. The west Sussex team talked passionately about the increased engagement during the pandemic with local communities and the trusted relationships with faith groups, voluntary community enterprises and the local authority that have resulted; this was particularly evident during the vaccination rollout where services learnt 'how to get close to people'. It is unfortunate these opportunities to engage with the public with regards to changes in the stroke service were missed however the enhanced relationships should be highlighted in the PCBC. It is recommended that future engagement strategies incorporate such opportunities.*

Response RAG rating: Amber

This recommendation has been acknowledged and will be addressed in the Communications and Public Engagement plan being finalised for end August 2022.

R31.1 *Recommendation narrative: The COVID-19 pandemic has negatively impacted cardiovascular disease prevention.[11] There are several examples of where targeted prevention intervention was used during the pandemic.[12] There is little evidence of stroke prevention COVID-19 learning in the PCBC. GIRFT*

[11] CVD prevention during the COVID-19 pandemic (evessio.s3.amazonaws.com)

[12] COVID-vax-clinic-guidelines-FINAL.pdf (oxfordahsn.org)

guidance may be helpful to review for local development opportunities. The inclusion of transferable learning within west Sussex or other national examples in the PCBC would further strength the evidence base for change.

Response RAG rating: Amber

The COVID-19 pandemic has impacted health service provision countrywide, including care for acute time sensitive conditions. Stroke and transient ischaemic attacks (TIA) are especially vulnerable to pressures on healthcare delivery as they require immediate diagnosis and treatment. Outcomes of interest which would benefit the PCBC if available are the impact of COVID-19 on ambulance times and emergency call volumes for stroke/TIA. It might also be helpful to understand from the literature where COVID-19 may have adversely impacted outcomes from stroke and stroke treatment. For example, studies have suggested worse functional outcomes and higher mortality rates in COVID-19-related ischaemic strokes in comparison with non-COVID-19 ischaemic strokes.[13,14,15,16]

R31.2 *Recommendation narrative: Discussion took place regarding side room capacity to support infection control. However, there was no information available regarding management of the planned 70% side rooms and the impact this would have upon patient safety (clinical and functional risks post stroke) or the impact upon staffing requirements and patient experience.*

Response RAG rating: Amber

This is work in progress which will be further informed by the New Hospitals Programme when available.

R31.3 *Recommendation narrative: The COVID-19 pandemic has driven advances in virtual appointments that have seen benefits for patients and services. There is no mention of virtual appointments in the PCBC and if this has been explored as an additional pathway for the 7 days a week service and/or the 6 month follow ups. Were virtual appointments used with the stroke services for coastal west Sussex that could be highlighted in the PCBC? Further work is currently being undertaken by Oxford AHSN regarding evaluation of face to face versus virtual services. This may*

[13] COVID-19 and Stroke Recurrence by Subtypes: A Propensity-Score Matched Analyses of Stroke Subtypes in 44,994 Patients. J Stroke Cerebrovasc Dis 2022 Aug;31(8):106591. doi: 10.1016

[14]International Controlled Study of Revascularization and Outcomes Following COVID-Positive Mechanical Thrombectomy. Eur J Neurol 2022 Jul 12. doi: 10.1111

[15] Comparison of COVID-19 patients who underwent thrombectomy with those in the pre-pandemic period in terms of etiology and prognosis. Eur Rev Med Pharmacol Sci 2022 Jul;26(13):4884-4892. doi: 10.26355

[16] Reperfusion Therapies for Acute Ischemic Stroke in COVID-19 Patients: A Nationwide Multi-Center Study. J Clin Med 2022 May 26;11(11):3004. doi: 10.3390

provide a valuable learning resource.[17] *GIRFT has some useful guides on how virtual appointments may be utilised.*[18]

Response RAG rating: Green

R31.4 *Recommendation narrative: During the panel the Senate heard about the potential impact of telemedicine and the effect it might have on service delivery improvement. There is evidence from Kent and Medway of the substantial difference it has made to patient flow in terms of reducing stroke mimics and TIA patients (who can have a fast track referral made instead and stay at home if low risk). More detail in the PCBC about how this may be implemented in west Sussex together with the potential impact on conveyance and front door services in the ASC modelled from Kent and Medway data would strengthen the case.*

Response RAG rating: Green

10. Digital and Communication

R32. *Recommendation narrative: Increased reference in the PCBC to the digital enablers as per the National Stroke Service Model*[19] *would be beneficial. The benefits of telemedicine model used at Kent and Medway are recognised by the west Sussex team. How this is to be implemented and staffed and when is of critical importance to the reconfiguration plans. Embedding it at the beginning of any bed modelling will assist in patients being seen by the appropriate clinical teams and in keeping stroke beds available for stroke patients.*

Response RAG rating: Green

R32.1 *Recommendation narrative: The panel heard that the electronic patient record (EPR) system allowed for some sharing of records across sites and within primary care. Within 15 months all acute Trusts will have the same EPR system which will undoubtedly be beneficial. Attention needs to be paid to how information will flow to and from community and primary care to ensure joined up and coordinated personalised care throughout the stroke pathway.*

Response RAG rating: Green

[17] https://www.basp.org/supporting-stroke-services-during-the-covid-19-pandemic/adapting-stroke-services/
[18] Adapting-stroke-services-in-the-COVID-19-pandemic-May-2020.pdf (oxfordahsn.org)
[19] national-stroke-service-model-integrated-stroke-delivery-networks-may-2021.pdf (england.nhs.uk)

R32.2 *Recommendation narrative: How digital technology will be used to impact self-management could be further explored. For example, how and where it could be delivered and the expected impact and outcomes.*

Response RAG rating: Amber

There is an opportunity here to include the available evidence regarding effectiveness of stroke telerehabilitation and the factors influencing its delivery into practice. Despite the positive evidence for post stroke rehabilitation the recommended amount of therapy is either not available or not achieved resulting in unmet ongoing rehabilitation needs. This has been further compounded by the COVID-19 pandemic. Given the requirement to reduce in-person contacts telerehabilitation offers a unique solution allowing convenient access to post-stroke rehabilitation without exposure risk. It may free up clinician time and address some barriers faced by people with stroke such as time restraints, geographical isolation and compliance.[20,21]

11. Sustainability

R33. *Recommendation narrative: One of the options appraisal's evaluation criteria was environmental sustainability. This is not fully explored in the accompanying narrative. The opportunity to demonstrate how the transformation of services will achieve this should be maximised.*

Response RAG rating: Green

R33.1 *Recommendation narrative: COVID-19 has resulted in great strides being made in digital consultations. Reductions in patient journey time to face to face appointments could be quantified and translated into kg carbon dioxide equivalent reductions. For further information regarding sustainable health care we recommend the information supplied by Centre for Sustainable Healthcare[22] and the Greener NHS programme.[23]*

Response RAG rating: Green

[20] Laver KE, Adey-Wakeling Z, Crotty M, Lannin NA, George S, Sherrington C. Telerehabilitation services for stroke. Cochrane Database Syst Rev. 2020 Jan 31;1(1):CD010255. doi: 10.1002/14651858.CD010255.pub3. PMID: 32002991; PMCID: PMC6992923.
[21] Stephenson A, Howes S, Murphy PJ, Deutsch JE, Stokes M, Pedlow K, et al. (2022) Factors influencing the delivery of telerehabilitation for stroke: A systematic review. PLoS ONE 17(5): e0265828. https://doi.org/10.1371/journal.pone.0265828
[22] https://sustainablehealthcare.org.uk
[23] https://www.england.nhs.uk/greenernhs

Conclusion

There has been further extensive and detailed work undertaken in revising the draft PCBC to respond to the Senate recommendations. Although lengthy the PCBC is easy to read and navigate and the introduction of much more pictorial representation of the key points has made it significantly easier to appreciate these.

The executive summary is clear and concise with the direction of travel and the clinical case for change introduced early in the narrative. The introduction has also been improved and strengthened with links to national standards and evidence from areas where acute stroke service centralisation has already been implemented. The narrative also needs to articulate and make explicit why West Sussex stroke services need to change. Although there is now good use of a patient story the case would benefit from additional such stories to illustrate key improvements and also how some of the challenges of stroke service delivery can be circumvented.

The PCBC has also been improved and strengthened in the description of the workforce strategy and in rehabilitation services. There is a workforce group now in place undertaking detailed workforce planning. This includes recruitment, retention, education and training, together with engagement with staff in re-location and new additions to the specialist workforce. This work needs to continue as a priority for the programme.

Whilst centralisation of services makes sense from a workforce point of view the translation of improved experience into the proposed ASC site should improve door to needle times. However, the other components of the pathway also need to be in place (rapid recognition, appropriate prioritisation in busy emergency departments, access to scanners not blocked by other emergencies, appropriate stroke-trained staff on the ground to perform the assessments and make decisions with respect to intervention). In other words, a focus on improvements to processes of care - i.e. the ambulance would video call the specialist at the pre-hospital stage for triage; as the patient has been virtually assessed, the team are waiting at the door to reduce crucial minutes to initial assessment. The gathering of virtual information has enabled investigations to be requested before arrival and radiology have been prealerted to the patient's arrival for timely diagnosis and intervention. The PCBC should also not neglect the opportunity to look further into the future, such as direct access to the angiography suite. This should also encompass a patient's recovery, such as use of telerehabilitation.

Clinical senate recommendations are not mandatory but reflect the considered opinion of a group of independently acting clinicians and others after reviewing the material shared with them within the timescales required. It is hoped that the range of recommendations in this report will help to ensure that the proposals going forwards are clear, supported by the evidence provided, address quality and safety requirements, and are shown to improve the quality of care for the population of West Sussex.

Appendix A: South East Clinical Senate Expert Review Panel

Name	Roles
Paul Stevens	Clinical Senate Chair
Amanda Allen	Clinical Director of Therapies, Maidstone and Tunbridge Wells NHS Trust
May Bullen	Patient and Public Partner
Emily Castle	Clinical Lead, Canterbury and Coastal Neuro Team, Kent Community Health NHS Foundation Trust
David Sulch	Consultant Physician in Stroke Medicine, Dartford and Gravesham NHS Trust
Louise Ward	Clinical Director for Stroke, Integrated Stroke Delivery Network, Kent and Medway CCG
Janet Waters	Patient and Public Partner
Helen Bell	Programme Manager, South East Clinical Senate
Emily Steward	Head of South East Clinical Senate

Appendix B: RAG rating of Recommendations

Ref No.	Key Recommendations	RAG Rating
The Clinical Evidence Test		
	The PCBC requires a compelling reason to reconfigure services for the options presented. How best to present the shortlisted options within the PCBC should be reconsidered. At present it does not contain a persuasive narrative in order to meet the NHS England and Improvement clinical evidence base for reconfiguration. Whilst the panel understood the basic principles that the transformation proposal is trying to tackle, in particular concerns over 7 day working and the numbers of patients treated on the current units at St Richard's and Worthing, this may be at the expense of compromising a strength (the Worthing unit performance) to solve a weakness. The panel were also unclear if the staffing implications had been fully worked through.	
The content and presentation of the PCBC		
	Tables and accompanying narrative need to align to aid understanding of what is being presented. • There is an excess of information which detracts from the message being conveyed. For example, the methodology behind SSNAP does not need describing in full but could be referenced and/or be added to the appendices. • Consistent nomenclature when referring to sites is essential. For example, the Royal Sussex County Hospital is referred to as the Royal Sussex County, Brighton Hospital, University Hospital Sussex and Brighton and University Hospitals NHS Trust. It would also be helpful for those not familiar with the area to state the geographical location of the hospital as is consistently done with St Richard's Hospital, Chichester. • Use of current nomenclature. Tables detailing current and required staffing use the old nomenclature of Hyper Acute Stroke Units (HASU). • The PCBC would benefit from a greater use of pictorial representation of data. For example, using postcode data of stroke admissions, a map showing accessibility to stroke centres within an hour of ambulance call currently and with the options under consideration would benefit understanding.	
Patient pathways		
	The detail with regards to the whole stroke pathway, patient flow and bed modelling both within the Acute Stroke Centre (ASC), but also to the Comprehensive Stroke Centres (CSCs) at the Royal Sussex County Hospital (RSCH), Brighton and the University Hospital Southampton (UHS) require significant strengthening in the PCBC, particularly with regards to patient pathways at RSCH and rehabilitation and access to appropriate therapies across the piece. The additional flow of Worthing patients into Brighton under the preferred option was a source of concern for the panel. The PCBC needs to provide assurance that the increased number of stroke patients at Brighton will continue to have access to time critical interventions such as thrombolysis and thrombectomy, without unnecessary delay in such a difficult clinical environment.	

Ref No.	Key Recommendations	RAG Rating
Workforce		
	The plans have an ambitious implementation timeline of early 2023 requiring considerable additions to the specialist workforce. There is also an assumption that nurses and junior therapists from Worthing will move with the Worthing stroke beds. Experience in London and Kent & Medway stroke reconfigurations does not support this. This workforce component of the PCBC requires more explicit description and alignment with workforce strategies for recruitment and retention and training. Aligned timelines will increase confidence in the planning of the modelling.	
Recommendations		
General Themes		
Vision and Purpose		
1.	The case for change and PCBC set out the need for the coastal area of West Sussex to be brought in line with national standards. The case for the centralisation of services onto a single site would have more relevance to stakeholders if outcomes, such as numbers of lives saved, reduction of patients with severe disability and reduced lengths of stay in an acute hospital were clearly described and quantifiable.	
2.	SSNAP outcomes cover a limited timeframe for Worthing and SRH, Chichester and do not presently include the national optimal stroke imaging pathway or TIA services. More data for RSCH needs to be included, particularly given the increased flow of patients following the proposed transformation. The strength of the Worthing SSNAP performance and how that will translate to SRH needs to be articulated in the PCBC.	
Stroke Pathway Projections and Modelling		
3.	Currently the PCBC details incident modelling 2% growth in activity based on ONS growth figures until 2026. There needs to be a longer projected assessment of predicted stroke, TIA and stroke mimic modelling, we would recommend at least 10 years. A detailed demand versus capacity model that shows the effective growth by site in each of the options would add clarity and underpin all the modelling (beds, workforce, financial etc) and the sustainability of the options.	
3.1	Overall, more detail is required that clearly articulates the understanding of future service requirements for the end-to-end stroke pathway (from prevention through to life after stroke and end of life care). This needs to include prevention impact, self-presenters, TIA (non-admitted), inpatients on non-acute sites and redirected mimic activity. Recommendations for specific pathways of TIAs, stroke mimics, thrombolysis and thrombectomy are detailed below.	

Ref No.	Recommendations	RAG Rating
Bed Modelling and Length of Stay (LOS)		
4.	Effective discharge pathways and clear plans for ongoing care and rehabilitation are key to minimising LOS. The PCBC includes information on a 1.5 day and 4.9 day reduction in LOS. Modelling assumptions regarding the effect of prevention, rehabilitation beds and discharge pathways on LOS require more detail. For example, the projected initial 1.5 LOS reduction has not addressed issues of social care which was acknowledged to be a challenge during panel discussions. The panel heard about an integrated discharge team and 'home first' model. More detail in the PCBC on how these will contribute to patient flow would be helpful.	
4.1	The PCBC would benefit from a bed model 'bridge' by site that shows the site to site transfers and the impacts of the model of care changes on the bed numbers (up and down) giving a pictorial demonstration of the benefits of reconfiguration from the baseline start-point.	
4.2	The predicted 1.5 day LOS efficiency is based on ESD services. Currently rehabilitation pathways 2, 3, and 4 are reliant upon external resource availability. There is a potential risk that a single site acute service has less ability to absorb patients with a delayed transfer of care, resulting in decreased access for hyper acute stroke care. The panel heard there were mitigations both for SRH and RSCH. The PCBC would benefit from having this mitigation clearly articulated.	
4.3	Bed occupancy rate is modelled on 90% occupancy. Is this achievable, what are the current bed occupancy levels?	
4.4	More detail is required with regards to bed modelling that considers both current and future stroke need, bed usage and occupancy rates, potential inpatient efficiencies, TIA admissions, impact upon coadjacent beds and support services of stroke mimics. We heard during the panel meeting that admitted stroke mimics were included in the bed modelling which is positive. However, we also heard that stroke beds are not ring fenced. What plans will be in place for stroke capacity issues?	
4.5	The projected bed modelling is dependent on delivering an effective preventative health programme for the known stroke risk factors. The Senate notes a Local Commissioned Service (LSC) has now been commissioned for primary care management of people with Atrial Fibrillation (AF). It is not clear how the prevention activity flows into the potential average LOS reductions. More detail is required in the PCBC about the outcomes of the preventative programmes in place.	
4.6	Effective discharge pathways and clear plans for rehabilitation and residual care needs are also key to reducing LOS. The Senate recommend the West Sussex stroke programme include data from the newly commissioned ESD service as soon as possible. This is a huge gap in the current provision and the benefits stated in the PCBC are therefore theoretical and some practical lived experience of the (potentially very major) difference such a service would make could be very helpful and enable learning opportunities with regards to patient care, staff recruitment and retention and effect on current discharge pathways.	
4.7	The PCBC does not articulate clearly the reasons for the loss of one bed in the 4.9 LOS reduction in option 4b. What are the anticipated impacts, risks and mitigations for this?	

Ref No.	Recommendations	RAG Rating
TIA Pathways		
5.	The TIA pathway requires more in depth modelling taking into account capacity for imaging and cardiac investigations and activity beyond admissions. Currently modelling gives an impression of low numbers due to the inclusion of admitted TIA patients only. Presently there is insufficient information detailing how the national guidance for seeing patients presenting with TIA will be achieved. On panel day a hybrid management model was referred to, but it is unclear what this would mean in practice.	
5.1	Activity modelling has been drawn from SSNAP which is reliant upon accurate data collection manually inputted against identified stroke activity. Triangulating this with validated hospital coded data (ICD-10) maybe valuable for checking reliability.	
Stroke mimic patients: patient pathways and impact on ACS		
6.	There is limited information with regard to the patient pathway for stroke mimics. More information is required on the pathway for patients who do not directly access stroke services and for the assessment of stroke mimics, the flow through the hospital, fast tracking of patients to avoid the Emergency Department and repatriation in order to better understand the impact on the ASC.	
6.1	The effective use of telemedicine for stroke mimics was recognised. The Senate understand the future provision of telemedicine is not yet detailed. The PCBC would benefit from detailing how and when this is to be implemented. For more comments on telemedicine see under digital and innovations.	
Travel times and thrombolysis		
7.	Travel times between sites are not very clearly articulated and require more detailing, although additional journey times are clear. There is reference to partnership working and a SECAmb report, but little data provided on the impact of the options on ambulance cycle times or the numbers of inter-hospital (incorrectly referred to as intra-hospital transfer throughout the PCBC) secondary transfers. These will be influenced by the percentage of walk-in patients to both EDs, those patients requiring transfer for thrombectomy and also patients developing strokes during the course of unrelated admissions (which may be in a site without an ASC/CSC). These data will be important as SECAmb will need additional resources to undertake the transfers.	
7.1	In addition, more data will be needed on whether thrombectomy is undertaken in UHS or entirely at RSCH. The transfer time and distance from Chichester to UHS is significantly less and more straight forward than the journey to RSCH, however as UHS is outside of West Sussex this will add to SECAmb cycle-times which requires careful consideration. Data is also required on projected repatriation numbers as this will impact on patient transport services which the South Central Ambulance Service (SCAS) provides in Sussex.	
7.2	The ambulance transfer times to both current acute stroke unit sites are short, and it is projected that the reconfiguration will add circa 15 minutes to travel times. Adding a map with 15/30/45/60 minute isochrones would be helpful to demonstrate travel times to and from SRH, Chichester and Worthing sites (that also includes UHS/RSCH) would be beneficial in enabling understanding of the impact.	

Ref No.	Recommendations	RAG Rating
7.3	The PCBC states that thrombolysis will be provided 24/7 for all the proposed options. With recognition that patients should be scanned, assessed by a stroke specialist, and receive thrombolysis within 60 minutes and ideally within 20 minutes of admission. There is evidence of engagement with SECAmb regarding initial journey times. However, there is no secondary transfer modelling either from the non-stroke site (Worthing) to the ASC or from ASC to CSC for thrombectomy and/or neurosurgery. The senate recommends these to be modelled further involving detailed discussion with SECAmb. The senate panel understood that the system is absolutely unable to support taking patients to Portsmouth (who have also made it very clear that they have do not have the capacity to accept these extra patients) which would leave some patients in the Chichester area with very long travel times to Worthing (50 minutes +) in Options 3a and 3b. Explicitly stating this would strengthen the choice of Option 4b as the preferred option.	
7.4	It would be helpful to include current Thrombolysis performance, such as percentage of patients accessing service and door to needle time, quality improvement and outcomes to date and expected future improvements under the new model. Including any risk to patents not directly accessing stroke services. Being able to demonstrate such outcomes is helpful when increasing travel times to receiving units.	
7.5	A letter of support from SECAmb Executive (and other stakeholders in addition to those already included) confirming their involvement with the clinical/financial modelling and their support will help secure the required support.	
Thrombectomy pathway and stroke imaging pathway		
8.	Mechanical thrombectomy is now a well-established treatment for stroke. With advances in technology there is the potential for the need for thrombectomy to increase well beyond the current quoted figure of 10%. It would be advantageous for modelling to take account of current advances to ensure future sustainability of the service. Modelling needs also to include expected service requirements and activity and flows including repatriation. The Senate panel heard how the service modelling did not solely concern the numbers of patients and pathways must ensure that the right patients for scanning are chosen at the front door; there is currently no evidence to support this in the PCBC. Advice from an independent interventional radiologist expert on what the thrombectomy service might need to look like in 12-24 months would be very helpful.	
9.	A more detailed analysis of adherence to the national optimal stroke imaging pathway is needed. The move to a 24/7 service will increase access required to imaging (CT/CTA/CTP/MRI). The panel heard that increased provision for scanning equipment is being made. Further information regarding imaging capacity (availability and speed at which imaging can be done) on stroke sites and timely access would be a useful inclusion to support the changes.	
9.1	Thrombolysis and thrombectomy can be successful guided by CT Perfusion (CTP) for up to 24 hours post-stroke for 'wake -up' strokes. Has the impact of the increase in thrombolysis and thrombectomy referrals with provision of CTP and prolonging the treatment window been considered?	

Ref No.	Recommendations	RAG Rating
9.2	Access to carotid endarterectomy is mentioned in the PCBC and is currently the preferred option for symptomatic carotid stenosis, however carotid artery stenting may be the recommended treatment in the future. What provision has been made for this?	
9.3	The potential impacts of increased requirements for infection control procedures following the COVID-19 pandemic and the impact this will have on additional time for cleaning scanning facilities have not been considered. The current data the system has regarding this should be incorporated into activity modelling.	
9.4	The PCBC discusses the use of Brainomix as an imaging tool. The Senate heard that Worthing, St Richard's and RSCH hospitals went live in April 2021 with Brainomix and how it has improved the quality of reporting and increased the number of CT angiography's (CTA) performed. Southampton Hospital currently uses Rapid for which there is a workaround for transferring data which has not been a significant issue. The ability to send images across the system to enhance care in this way should be highlighted.	
Discharge and rehabilitation pathways		
10.	Although this PCBC makes reference to the whole stroke pathway and the introduction of the recently commissioned ESD pathway is a significant addition, the main focus is on the acute aspects of the stroke service. Vocational rehab is a core focus of the National Stroke Service Model yet features little in the rehabilitation section of the PBCB. Work to clarify how rehabilitation services are structured is required and a clear implementation timeline is necessary. Bringing some of the information from appendix 5 'Building a Rehabilitation Mandate for Sussex' into the main PCBC narrative would assist with this.	
10.1	There is no reference to video fluoroscopy (VF) sessions which would be a key element of the stroke service. Concentrating the service onto one site would impact on the workforce and availability of VF rooms and imaging equipment. There is also little information regarding the percutaneous enterogastrendoscopic gastrostomy (PEG) service. It is important this service is flexible and available at least 5 days a week. What plans are in place for these key parts of the service?	
10.2	The following aspects of the service would benefit from greater clarity in the PCBC. • The Long Term Conditions Programme paper (p3) in the table of 'Long Term Plan – stroke commitments' promises fully implemented improved post hospital stroke rehabilitation models by 2029. This is significantly beyond other timelines quoted, is it correct? • Strengthening and vision around the rehabilitation beds at Worthing Hospital. • The wider Sussex rehabilitation mandate referred to on panel day and the implications for workforce and the opportunities for integrated working this may provide. • The integration of pathways, for example neurology and stroke teams and the sharing of information to avoid the patient's having to repeat themselves. • The focus upon telehealth and self-management could be explored in greater detail. • Exploration of different ways to provide the pathway for therapy at home such as group work and telerehabilitation, as described in the national service model for an integrated community stroke service.	

	• Details regarding the ongoing support and information for family and carers along the pathway. • The life after stroke service says all patients with a residual impairment will be referred every six months. This would be an excellent service, what is the impact of this on the current service? • End of life care provision is not included in the PCBC. What plans are there for this?	
Ref No.	**Recommendations**	**RAG Rating**
Prevention		
11.	The panel heard that the coastal area of west Sussex is performing well with regards to diagnosing Atrial Fibrillation (AF) (currently 86%) and have an ambition to have more than 90% patients diagnosed with AF anticoagulated. However, there is limited evidence of cardiovascular disease (CVD) prevention strategies aside from AF. Further detail on the management of hypertension and the treatment of stroke risks would be beneficial. AF prevalence in West Sussex is higher due to the older population of coastal west Sussex. Use of prevention data would assist in the planning of services.	
Review of Presented Options		
Projected acute stroke activity within each option		
12.	Within option 1, do nothing at Worthing and SRH Chichester, there is the recognition that both Worthing and SRH, Chichester are well performing stroke units in certain areas. However, both units do not meet the SSNAP requirements consistently. The introduction of ESD, which is now commissioned, would improve the overall picture of this option and system may wish to review the evidence**.**	
Relationship between CSS, ASC and non ASC hospital		
	Presently insufficient information regarding the flows of patients, repatriation of patients to the receiving hospital and overall patient pathways exist in the PCBC. There is no detail in the PCBC regarding remote stroke advice for suspected strokes; repatriation pathways; or management of patients with a stroke mimic. Access to stroke services and timely management for inpatients on non-acute sites should be detailed in the PCBC and include, self-presenters, stroke chameleons and inpatients.	
Queen Alexandra Portsmouth		
13.	Option 3a set up an ASC at Worthing with acute care at SRH and option 3b set up an ASC at Worthing, with rehabilitation in the Chichester area, whether acute, community or home-based were rejected owing to the increased pressure this would put on the Queen Alexandra Hospital (QAH) in Portsmouth. There is a letter to this effect from the QAH. The Senate panel agree that the additional patient volumes would be unmanageable currently at the QAH. However, it is noted in a previous senate review of proposal for future stroke services in Sussex in 2015, Worthing was a preferred site. Should system's plans evolve with reconfiguration of patient pathways to bypass the ED and patients to be conveyed straight from ambulance to scan and then onwards to the stroke ward the system may wish to revisit these options	

Ref No.	Recommendations	RAG Rating
Royal Sussex County Hospital, Brighton		
14.	Option 4a, set up an ASC at SRH Chichester with acute care at Worthing and option 4b, set up an ASC at SRH Chichester, with rehabilitation in the Worthing area, whether acute, community or home-based are heavily reliant on RSCH, Brighton. Plans to refurbish ED at RSCH and open additional capacity through the move to the new 3Ts building are undoubtedly welcomed however the RSCH under the current proposals is to receive an additional 300 patients. There is little information in the PCBC regarding the patient pathway at RSCH, its current performance or its outcomes and how the additional numbers may impact those. More information is required regarding the flow of patients into Brighton and Brighton's ability to achieve the national standard of patients reaching a stroke unit within 4 hours of arrival and critically meet the standards for assessment, imaging and thrombolysis/thrombectomy where indicated. The PCBC requires more information about the stroke service at RSCH to be assured about these options. In particular, • There was an acknowledgement by the west Sussex team of the challenges RSCH is experiencing. Assurance on how the increased number of stroke patients at Brighton will continue to have access to time critical interventions such as thrombolysis and thrombectomy is needed. • stroke pathway modelling at RSCH is required • Clear plans regarding the implementation of increased thrombectomy services at RSCH from its current 'most weekdays' model to a genuine 24/7 model. • There is the potential for patients from SRH to go to RSCH in place of Southampton, this increase in flow also requires modelling as does the repatriation of patients. • There is limited information regarding flows for Thrombectomy for BSUH from outside of West Sussex, and the potential future impact.	
University Hospitals Southampton		
15.	Detail with regards to Southampton Hospital's view on additional thrombectomy work that may flow their way from the proportion of Worthing patients who move to St Richard's would be helpful.	
Worthing		
16.	There is a risk to the Worthing Hospital ED of it becoming deskilled if you move the stroke service to St Richards, Hospital. What mitigations will be put in place?	
Co-Dependencies of clinical services in the ACS		
17.	The panel heard the clinical strategy is to deliver full services from each site and there are no plans to change co-located services. However, there is limited information available on the impact of co-dependencies for the new model. For example, clinical investigations and impact on cardiology, radiology, vascular, pharmacy and other co-dependent specialities especially ED. It would be beneficial to include an overview of the transformational changes and the impact on stroke related support services.	

Ref No.	Recommendations	RAG Rating
Travel times from home to the ACS		
18.	Although travel times do increase, no patient is expected to face a journey in excess of 60 minutes. Friends, family and carers will be the most impacted by travel times. The west Sussex panel highlighted they are currently working with community providers to source a community transport service. More pictorial representation in the form of travel isochrones would be useful for assessment of travel impact.	
Proposed metrics for evaluating the quality of future services		
19.	There is high level detail regarding the KPIs for service standards, but little information in regarding how these will be delivered; including TIAs, outpatient investigations and follow ups. How outcomes are going to be measured requires greater articulation in the PCBC. Critical success factors will be patient-related outcomes such as mortality and long-term disability, SSNAP data, primary prevention rates and secondary prevention rates, length of stay and readmission rates.	
Workforce		
20.	The PCBC states current and projected requirements for staffing across the medical, nursing and allied healthcare professions (AHP) however the Senate panel feel many assumptions have been made which require evidencing. Reference is made to the increased opportunities for recruitment and retention and the benefits for staff in terms of skill acquisition that the proposed site rotation will bring. However, there is no information detailing how this will be realised and little evidence of mitigating workforce related risks. The success of the proposed change is heavily reliant on providing a seven-day stroke service. There is a recognition from the West Sussex team that workforce is a challenge and the current modelling requires more development. The panel also heard about staff engagement workshops but to date engagement has predominantly been with senior staff. The Senate recommends a comprehensive workforce strategy to include short, medium and long term plans with evidence that takes account of retention strategies, recruitment, development, workforce efficiencies and opportunities for new roles, optimising skills, integrated pathway working, clear identifications of risk and mitigating actions. These should be undertaken in concert with the relevant training organisations.	
Workforce General Considerations		
20.1	There is a vision that the new model will provide an attractive opportunity for recruitment and retention in the future. However, this requires further detail in order to establish a clear strategy.	
20.2	A clear timeline for recruitment of workforce against implementation plans is required to help mitigate risks. The panel heard there is a good track record of recruiting to SRH, evidence in support of this in the PCBC would be helpful. Staff accounts of working at SRH may help to highlight this.	
20.3	Details of workforce vacancies and turnover specific to stroke services as a percentage would help to give clarity to current workforce assumptions.	
20.4	Details of the impact of increased demand for imaging on the radiology and radiographer workforce incorporating the potential increased demand for thrombectomy services should be included.	

Ref No.	Recommendations	RAG Rating
20.5	Consideration of Health Education England's (HEE) projected requirements for medical, nursing and AHPs with use of their workforce tableaus where appropriate.	
20.6	National workforce shortages mean that training and development opportunities are key factors for the success of the proposals. Training and on-going development (inclusive of leadership training and development) of all the workforce needs to be strengthened in the PCBC to include registered and non-registered staff. The panel heard that Chichester University has plans to commence a physiotherapy pathway. Engagement with local Higher Education Institutes (HEI) to understand their forecasting with regards to undergraduate places for nursing and all AHP training and if this is expected to meet local demand would help longer term workforce modelling.	
20.7	A more creative approach to workforce issues would be beneficial. Inclusion of advanced nurse practitioners, apprenticeship pathways and details of collaboration with social care would enhance the current modelling.	
20.8	The Senate heard there are plans for a phased approach to the reconfiguration. Any move of services will entail re-location of staff, the exact details and impact of this on the current workforce is not clear. A full assessment of the impact, risks and proposed mitigation should be included within the narrative.	
Medical		
21.	There are challenges in recruitment of stroke consultants nationally. The recruitment and retention plans for West Sussex stroke reconfiguration are unclear. Job plans have not yet been developed and efficiencies in terms of working arrangements and virtual support not identified. Use of the workforce modelling framework to support developments in this area would be helpful.	
21.1	There is no mention of physician associates. The physician associate role is now being used in many hospitals. Consideration of the benefit to the role within the stroke reconfiguration would be beneficial.	
Nursing		
22.	Evidence from previous stroke reconfigurations shows that while senior staff generally move to the new service this is not the case for more junior, particularly the band 5 registered nurses and the unregistered workforce. This will have an impact on volume of staff and skill mix. There was recognition from the West Sussex team that this may well be a challenge for them also. The plans to mitigate this risk are not clear and require further thought by the programme.	
22.1	The Senate recognise a move to approximately 75% single rooms and above is a national ambition of the New Hospitals Programme (NHP). The panel heard the nursing establishment modelling in the PCBC was prior to COVID-19 and the ambition for a design of 70% single rooms for West Sussex stroke services at SRH. The impact of this for required staffing levels needs to be fully detailed.	
22.2	Specialist nurses are essential for effective front door or direct ward access. What are the current specialist nurse numbers at RSCH?	

Ref No.	Recommendations	RAG Rating
Allied health professionals		
23.	There is currently a 5 day therapy service. The PCBC acknowledges current workforce levels do not meet national standards of staffing levels for 5 days. To meet the ambition of a 7 day service standard is suggestive of the need to recruit considerable numbers of a very specialised workforce. In addition, there is no current provision for early supported Discharge (ESD) services which also require a specialised therapy workforce. More detail of how the West Sussex stroke reconfiguration will meet this increase in demand is required and may benefit from a specific AHP workforce strategy.	
Supporting Services		
24.	The senate would recommend widening staff engagement and assessment of staffing levels to include other services that will be affected by the changes. Such as radiography and cardiac investigation services.	
Populations health/inequalities		
	It is recognised the coastal area of West Sussex is one of the least deprived areas of the country (131/152 least deprived). However, the district of Arun has areas in Bognor Regis and Littlehampton that rank amongst the poorest 10% of the country, with a reduction in life expectancy of 7.6 years for men and 6 years for women. The NHSEI operational planning guidance 2022/23 has a focus on targeted intervention for health inequalities. Interventions to optimise blood pressure and minimise the risk of stroke are one of the 5 priority clinical areas identified as part of NHSEIs Core20PLUS5 approach. The approach enables the biggest impact on avoidable mortality in the most deprived populations and contributes to an overall narrowing of the health inequalities gap. It would be helpful to be able to see how the ICSs understanding of its Core20PLUS population feeds into the West Sussex stroke reconfiguration.	
25.	Ninety-two percent of the population of the coastal area of west Sussex are of white ethnicity however the panel heard that the coastal minority ethnic groups live within or near the areas that are most deprived. Both Worthing and SRH Chichester hospitals have very limited data regarding their BAME populations, with a significant percentage of admissions categorised as 'not stated' (PCBC p48) in some months. The Senate recommends identifying and rectifying deficiencies in data collection. This would allow the stroke services transformation programme to assess their population and target appropriate intervention more accurately.	
25.1	Equity of access is mainly focused on transport; the travel impact assessment needs to be clearer demonstrating it is across all parts of the patient pathway. The impact of moving services to SRH will result in deprived areas in Worthing being admitted to RSCH. More detailed modelling to ensure equity of access to this patient group is required.	
25.2	Equity of access for the frail and elderly coastal west Sussex population needing longer-term inpatient rehabilitation requires detailing. Even with ESD, which will take approximately 40% of the cohort of patients requiring rehabilitation, there will be a significant proportion of patients requiring longer-term rehabilitation. The stroke rehabilitation requirements will also be in competition with other services requiring access to rehabilitation and how this will be approached and mitigated requires describing.	

Ref No.	Recommendations	RAG Rating
25.3	It is well documented that COVID-19 has exacerbated health inequalities. The Panel heard about understanding the issues for people in areas of deprivation in coastal west Sussex and how the turn the tide prevention agenda is being adopted. What is the learning from these in terms of addressing the prevention of strokes from inequalities of access to healthcare uncovered by the pandemic? Further detail specifically regarding access to prevention for minority groups and for communities within areas of high deprivation is needed.	
Clinical Engagement		
26.	The PCBC highlights a workshop with staff and states staff support for the changes. However, it is suggestive of information sharing rather than offering all staff at all levels proactive opportunities to shape/codesign future plans. During the panel presentation and discussion, it became clear that not all staff had been engaged with to the same extent and assumptions about clinical staff support for the clinical model may have been made. It would be beneficial to have clear statements of support from all staff groups within stroke services, particularly those who will be required to move sites.	
27.	The changes will see an increase in demand for SECAmb. More detailed data with regards to engagement with SECAmb is required. SECAmb - have given their full support to option 4. Option 4B would decrease the number of inter hospital transfers as there will be less conveyance apart than for thrombectomy.	
28.	There is no information regarding engagement with co-dependent services, for example cardiology, radiology, gastroenterology and ED. Assurances from these services that they will be able to meet the increased demand need to be sought and documented.	
29.	The PCBC appendices includes a letter from Portsmouth in support of options 4a and 4b. Further letters of support from neighbouring stakeholders potentially affected by the changes would be beneficial.	
Patient and public engagement		
30.	The NHS constitution states 'the NHS belongs to the people' and it is responsible for working in partnership with people to plan healthcare. It is clear from the PCBC, appendices and related documents that despite the COVID-19 pandemic work has taken place to engage stakeholders. The PCBC and EHIA provides some information concerning engagement with seldom heard groups. Plans for further work to engage with these groups, how the programme plans to engage those who have not been part of the initial groups and how this will be possible within the current timeframes needs to be detailed.	
30.1	Co-creation of proposed changes needs to be given a higher priority. Healthwatch and the Stroke Association were not included in the initial workshop regarding the longlist of options. Both have however been involved in helping the programme access patients, carers, family and the public and although this has provided valuable insight it is not that same as patients and families being partners in the decision making. The PCBC would benefit from clearly demonstrating co-production with patients and the public through the use of patient stories highlighting patient need and choice. The Stroke Association has a dual role in the reconfiguration plans as both a provider of services and as a patient, public partner. Any potential for conflict of interest needs to be clearly articulated in the PCBC.	
30.2	Clearer information about what the proposed changes mean to patients, their families and carers would be helpful. This needs to be presented on a very personal level, addressing how the change will affect their lives and how it will make a difference.	

Ref No.	Recommendations	RAG Rating
30.3	The level of patient and public involvement in the final decision with regards to options 4b would benefit from being made more evident. Slide 11 taken from the EHIA in the panel presentation could be used to better articulate what patients want improved and be linked to the proposed changes.	
COVID-19		
31.	There is little information regarding learning from the COVID-19 pandemic in the draft PCBC. The west Sussex team talked passionately about the increased engagement during the pandemic with local communities and the trusted relationships with faith groups, voluntary community enterprises and the local authority that have resulted; this was particularly evident during the vaccination rollout where services learnt 'how to get close to people'. It is unfortunate these opportunities to engage with the public with regards to changes in the stroke service were missed however the enhanced relationships should be highlighted in the PCBC. It is recommended that future engagement strategies incorporate such opportunities.	
31.1	The COVID-19 pandemic has negatively impacted cardiovascular disease prevention. There are several examples of where targeted prevention intervention was used during the pandemic. There is little evidence of stroke prevention COVID-19 learning in the PCBC. GIRFT guidance may be helpful to review for local development opportunities. The inclusion of transferable learning within west Sussex or other national examples in the PCBC would further strength the evidence base for change.	
31.2	Discussion took place regarding side room capacity to support infection control. However, there was no information available regarding management of the planned 70% side rooms and the impact this would have upon patient safety (clinical and functional risks post stroke) or the impact upon staffing requirements and patient experience.	
31.3	The COVID-19 pandemic has driven advances in virtual appointments that have seen benefits for patients and services. There is no mention of virtual appointments in the PCBC and if this has been explored as an additional pathway for the 7 days a week service and/or the 6 month follow ups. Were virtual appointments used with the stroke services for coastal west Sussex that could be highlighted in the PCBC? Further work is currently being undertaken by Oxford AHSN regarding evaluation of face to face versus virtual services. This may provide a valuable learning resource. GIRFT has some useful guides on how virtual appointments may be utilised.	
31.4	During the panel the Senate heard about the potential impact of telemedicine and the effect it might have on service delivery improvement. There is evidence from Kent and Medway of the substantial difference it has made to patient flow in terms of reducing stroke mimics and TIA patients (who can have a fast track referral made instead and stay at home if low risk). More detail in the PCBC about how this may be implemented in west Sussex together with the potential impact on conveyance and front door services in the ASC modelled from Kent and Medway data would strengthen the case.	
Digital and communication		
32.	Increased reference in the PCBC to the digital enablers as per the National Stroke Service Model would be beneficial. The benefits of telemedicine model used at Kent and Medway are recognised by the west Sussex team. How this is to be implemented and staffed and when is of critical importance to the reconfiguration plans. Embedding it at the beginning of any bed modelling will assist in patients being seen by the appropriate clinical teams and in keeping stroke beds available for stroke patients.	

Ref No.	Recommendations	RAG Rating
32.1	The panel heard that the electronic patient record (EPR) system allowed for some sharing of records across sites and within primary care. Within 15 months all acute Trusts will have the same EPR system which will undoubtedly be beneficial. Attention needs to be paid to how information will flow to and from community and primary care to ensure joined up and coordinated personalised care throughout the stroke pathway.	
32.3	How digital technology will be used to impact self-management could be further explored. For example, how and where it could be delivered and the expected impact and outcomes.	
Sustainability		
33.	One of the options appraisal's evaluation criteria was environmental sustainability. This is not fully explored in the accompanying narrative. The opportunity to demonstrate how the transformation of services will achieve this should be maximised.	
33.1	COVID-19 has resulted in great strides being made in digital consultations. Reductions in patient journey time to face to face appointments could be quantified and translated into kg carbon dioxide equivalent reductions. For further information regarding sustainable health care we recommend the information supplied by Centre for Sustainable Healthcare and the Greener NHS programme.	