South West Clinical Senate

Independent Clinical Review of Complex Spinal Surgery Referral Pathways at North Bristol NHS Trust and Plymouth Hospitals NHS Trust

June 2016
Final

Chair's Foreword

This report has been produced by the South West Clinical Senate at the request of the Specialised Commissioning team for Orthopaedics, Neurosurgery and Spinal Surgery. It examines the antecedents and circumstances around the difficulties in meeting the demand for complex spinal surgery at Plymouth Hospitals Foundation Trust and North Bristol NHS Trust.

The document then goes on to make recommendations to restore a sustainable equilibrium whereby the NHS can meet its responsibilities to its citizens with respect to availability of assessment and appropriate intervention of spinal problems.

As a circumscribed piece of work it has not attempted to engage all the extended stakeholders in spinal surgery, and related disciplines of physiotherapy, pain management and rehabilitation. The considered findings of the panel, drawn from experts across the UK, should form the basis for a further broader programme of work for Specialised Commissioners and the Senate will continue an interest in this area as the outputs of this report are taken forward.

I commend this report to you.

Dr Phil Yates
Chairman of the South West Clinical Senate

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Signed off by: Phil Yates, South West Clinical Senate Chair

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1 Summary

1.1 Chair's Summary

The South West Clinical Senate in its capacity as an independent clinical advisory body brought together an informed but non-aligned, out of area clinical review panel to review orthopaedic and neurosurgery referral pathways and related issues for complex spinal surgery at Plymouth Hospitals NHS Trust (PHT) and North Bristol NHS Trust (NBT) at the request of the South West Specialised Commissioners.

The process for review included the following key steps:

- Production and sign-off of Terms of Reference (appendix 1);
- Identifying and convening the clinical panel;
- Literature review ;
- A site visit with provider leads to each of the Hospital Trusts:
  - 11th May site visit to PHT;
  - 18th May site visit to NBT;
- Final panel meeting to develop recommendations on 26th May 2016.

A cooperative approach was encouraged by the Senate to support and facilitate open and constructive discussion and there was good engagement from all parties.

1.2 Summary Recommendations

1.2.1 Overall Recommendations for both providers

1. Set up a one South West provider lead spinal network to include:

   - Joint appointments between lead and other providers to new posts and recruitment of all senior specialty doctors;
   - Multi-disciplinary facilitation of surgery across and between all NHS Trust and Any Qualified Provider (AQP) sites to optimise surgical throughput at each potential site, assure best practice, and maximise efficiency of provision;
   - Coordinated training in spinal surgical specialties across the South West to share good practice;
   - Governance that will ensure that the same minimum quality criteria for service delivery are met for all providers be they NHS Trusts or AQPs.

2. All spinal surgery provider trusts in the South West are mandated to take up the CQUIN (April 2016 – March 2019) to set up a network. See appendix 10w.

3. All South West Trusts should actively support 24-hour repatriation protocols.

4. Both Trusts to review and strengthen community triage arrangements with CCG support.

1.2.2 Additional Recommendations specific to Bristol

1. NHSE and specialised commissioners should urgently scrutinise the paediatric spinal deformity service and waiting list at Bristol Children's Hospital (BCH) with United Hospitals Bristol (UHB) and NBT with a view to maximising theatre efficiency and throughput including ensuring availability of requisite standard and high dependency beds.

2. Having established a functional network, NBT should plan a staged lifting of waiting list restrictions and open their list initially as a hub centre for Bristol, North Somerset & South Gloucestershire (BNSSG) only with modelling of anticipated activity against capacity once its backlog is substantially cleared.

3. Validate the assessment and triage services across BNSSG to ensure effectiveness and consistency. Review where patients are going, how integrated the model is and how well joint working functions. Ideally pain management should be integrated as part of the triage services and Extended Scope Practitioners (ESPs) used as part of community triage with the ability to request, interpret and discuss scans with patients as well as input to consultant MDT to refer if required.

1.2.3 Additional Recommendations specific to Plymouth

1. Set up a community triage service guided by the pathfinder project.

2. Support the development of a lead provider network to specifically include closer working with the Exeter spinal service.

3. Set up a service for x-ray guided nerve route injections.

4. Trust review of theatre efficiency and pre-op management to reduce cancellations.

2 Background

The Clinical Senate Review Process is usually used to provide independent clinical review of large scale service change to ensure there is a clear clinical evidence base underpinning any proposals. In this instance the South West Clinical Senate agreed to undertake a clinical review of existing services on behalf of the South West Specialised Commissioners.

The driver behind this review was the restriction of waiting lists and ongoing backlog of patients waiting more than 52 weeks for complex spinal surgery at both NBT and PHT. The issue is being consistently flagged at the NHS England national performance review meetings and costing the Trusts significantly in monthly fines resulting from 52 week breaches.

The Specialised Commissioners were seeking assurance around clinical thresholds and the service specification to be able to understand the causes of the backlog; to understand what actions need to be taken to move the Trusts to an acceptable position in terms of its long waiters for complex spinal surgery; and to inform future commissioning arrangements.

The output of the review will be signed off by, and remain the property of, the South West Specialised Commissioning Team for implementation.

3 The Review Panel

The independent review panel was convened by the South West Clinical Senate to bring together a breadth of clinicians with significant experience of complex spinal surgery. Panel members are senior leaders within their professions and their health communities of practice. Dr Phil Yates, Chair of the South West Clinical Senate, acted as the Chair of the Review Panel and facilitated the discussion. Panel member biographies are provided in Appendix 3.

Prior to the panel meeting, clear Terms of Reference (see appendix 1) were developed and agreed with Specialised Commissioning (and cross-checked with NBT and PHT) outlining the methodology, process and timeline for the review. Panel members were required to declare any conflicts of interest. None were declared.

Name	Title	Attending
1. Dr Phil Yates	Chair, South West Clinical Senate and Chair of the review panel	All
2. Mr David Cumming	Spinal Surgeon, Ipswich Hospital Trust	All
3. James Greenwood	Spinal ESP (physio), UCLH	11th & 26th May
4. Rashida Pickford	Consultant Physiotherapist, GSTT	All
5. Nevila Kallfa	Public Health Consultant, PHE	All
6. Mr Iqroop Chopra	Consultant Spinal Neurosurgeon, University Hospital of Wales and University Hospital Llandough	All
7. Helen Vernau	Spinal Specialist Spinal Nurse, Ipswich Hospital Trust	All
8. Kevin Dixon	Chair South West Citizens' Assembly	All
9. Mr John Leach	Consultant Neurosurgeon, Consultant Neurosurgeon, Neuro-oncology and Spine, Salford Royal NHS Foundation Trust	18th May
10. Dr Paul French	Clinical Lead for Mental Health and LD, Dorset CCG (retired GP with spinal interest)	All
11. Mr Mike Gibson	Spinal surgeon, specialising in spinal deformity, Newcastle upon Tyne Hospital Trust	11th & 18th May

4 Timeline

Action	Timescale
1. Early discussion	Late February
2. Draft TOR	Late February
3. Share TOR with providers for comment	Late February
4. Finalise and sign off TOR	March
5. Establishment of clinical review team	March - April
6. Information gathering	March - May
7. Clinical Review Team brief & planning	April
8. Organisational arrangements with providers	April
9. Review period	May
10. Final review panel	May
11. Report writing	June
12. Draft report to Senate Council	June
13. Sign off final report	June

5 Methodology

Following sign off of the Terms of Reference with specialised commissioning (and agreed with the provider Trusts), a clinical panel from around the country with complex spinal surgery expertise, including complex deformity surgery, was brought together. A literature search to identify relevant evidence was carried out by the Oxford Health Libraries. A review of this and summary of the findings was conducted by Public Health England (appendix 10s). The search and summary fed into the pre-reading included in panel packs for members and helped guide the questions used by the panel. This was in addition to articles recommended by the panel, information and data provided by specialised commissioners and the provider Trusts themselves. An international specialist from Sweden was also invited to join the panel. Although unable to attend on the dates set due to the short timeframe he shared relevant data regarding the Swedish Spine Registry.

Prior to the site visits the panel members were sent a panel pack providing them with the most relevant research and evidence identified from the information provided to the Senate above in addition to background information about the two Trusts under review. 17 pre-reading items were included in the packs from the 32 items that informed the review preparation and further items were added as the review progressed. The pre-reading is provided in appendix 10. This included:

- Latest and historical data on patient waits and activity;

- Review of registry data (if available)*;
- Analysis already carried out by South West Specialised Commissioning Team/Provider Trusts;
- National Pathway work.
- Best practice models

*More detailed British Spine Registry data on the South West Trusts in addition to that in the appendices (10) was requested in late May but had not yet been received at the time of writing this report.

The Spinal Registry are due to provide data including the date of first entry on the BSR and compliance with HES data for South West Spine Surgical centres. They are also validating data as part of the GIRFT (Get it Right First Time) process and visiting each unit to discuss data before its publication. This will be available in early August and include number of cases on the registry at unit level and their compliance with HES activity.

The Senate will share this data as soon as it is available with the specialised commissioners to inform future network arrangements.

5.1 Site Visits

The Senate team met with the nominated lead provider clinicians and general managers before the panel meetings to discuss the proposed review, gather information and plan the site visits. The nominated leads for each Trust were:

North Bristol Trust

Mr Ian Harding, Consultant Spinal Surgeon

Carolyn Roper, General Manager, MSK

Mr Crispin Wigfield, Consultant Neurosurgeon

Rhona Galt, General Manager, Neurosciences

Plymouth Hospitals Trust*

Mr Nicholas Haden, Consultant Neurosurgeon and Service Line Director

Rachael Buller, Service Line Manager

*The Plymouth Site Pre-Meet was conducted over the phone

Each site visit included a trust presentation by provider clinicians followed by a detailed discussion with a question and answer session. Additional clinicians from each hospital spinal team were also invited to join the review meeting. The additional attendees for each Trust were as follows;

Plymouth Hospitals Trust

Mr Tim Germon, Consultant Spinal Surgeon

Mr Ed Cox, Matron, Neurosurgery and Critical Care

Mr Ian Wren, Surgery Care Group Manager

Mr Tony Davies, Pain Consultant*

(*unable to attend due to clinical commitments on the day however he fed in comments and information regarding pain services.)

North Bristol Trust

Mr Stephen Morris, Consultant Spinal Surgeon

Rosanna James, Deputy Director of Operations

Dr Chris Burton, Medical Director

Each Trust presentation outlined the history to their waiting list problems and the closure of their non-urgent waiting lists as well as their current position. The presentations also covered any networking arrangements and included a review of MDT patients. It was discussed and agreed before the site visits that a random case note review could be arranged but that it would not provide significant additional information to the panel, especially given that waiting lists at both Trusts were restricted at the time of the review. It was agreed instead to look at a week of MDT patients as part of the Trust presentation.

The Agendas for each visit are in appendix 6. The Trust presentations are in appendix 7 and 8. The notes from each visit are in appendix 9.

6 Context

Both Trusts currently have restricted waiting lists. At NBT orthopaedic spinal services are restricted to complex urgent patients and neuro-spinal services are restricted to BNSSG referrals only. PHT is open only to urgent and emergency complex and non-complex spinal referrals, both locally and regionally for the Peninsula. (Background information provided to the panel is in appendix 4.)

6.1 National Contributing Factors to Current Position

Acknowledging that sustainability comes from wider learning and understanding nationally, the panel explored the role of and the extent to which national issues around spinal surgery play into the local problems at NBT and Plymouth;

- An ageing population with increased functional expectations.
- New technology for degenerative scoliosis leads to great surgical ability and higher expectations.
- Overall higher expectations of care for spinal degenerative problems.
- Advances in oncology and tumour care impacts significantly on spine.
- National and specialty wide inpatient bed and flow issues across hospitals, exacerbated by the diversion of cases into trauma centres.
- Variation in surgeon availability and skill-mix.
- Variation between interface services.
- Litigation risk aversion and loss of continuity of care in primary care, upping referral rates.
- Spinal cord injury patients in beds waiting for rehab at specialist centres due to flow issues. This has gone from 1-2 weeks up to 5-6 weeks in many places. During this time intensive physio and nursing input is required.
- Neuro surgery centres that manage major trauma are also more likely to struggle with bed shortages and intra cranial work taking priority over spinal. This results in elective spinal work being de-prioritised and there aren't formal links with orthopaedic spine centres to manage this.
- Nationwide issue around paediatric anaesthetic training.

6.2 Plymouth Hospital Trust

Plymouth Hospital's Service is integrated under neurosurgery with a fully combined neurosurgical and orthopaedic spinal service. Plymouth does not deliver non-emergency paediatric surgery, and pure deformity correction adult surgery (without direct neural decompression) is a small component of their work. Plymouth restricted their list to urgent and emergency complex and non-complex spinal referrals (locally and regionally for the Peninsula) on 18th April 2016 and have been working with the Intensive Support Team.

Plymouth describe their issue as a core capacity and demand problem. The service has 33 beds and 2 Orthopaedic and 3 Neurosurgeons (4.5 wte) with a 24 hour 7 day a week on-call service. There is a weekly MDT and the team also attends the bi-annual SW spine group (two day meet).

6.2.1 PHT History

Their number of surgical cases has gone up while length of stay has reduced. Spondylolisthesis was the commonest indication for instrumentation of the thoracolumbar spine for patients on the Plymouth waiting list. Demand for all ages has gone up to match the national picture. Falls from standing height are the main cause of trauma in the elderly in the South West. There is also a trauma peak in summer related to tourist influx however this is not considered a significant impact in relation to the total rise in demand.

They were 96% over-referred last year and at the time of this review had 1,000 patients on their outpatient waiting list and 425 (gone up from 300 since May) in June on their surgical waiting list when capacity is for 130 on their inpatient waiting list at any one time to manage demand. This is in order to meet 18 weeks for 92% of patients as per the incomplete pathways standard. They also have a high cancellation rate of about 1 in 5 (19.5% in February 2016) with the main causes for cancellation being theatre and bed availability (appendix 10x). They believe they should achieve a sustainable position for outpatient referral to treatment time (RTT) delivery as per IMAS IST methodology by March 2017. However they expect that if they open to routine referrals at that date their waiting list will extend without changes to their capacity. There is a risk that demand will have built up if no other capacity elsewhere can be found during 2016/17. The elective inpatient waiting list has been static as they have not been able to see all the new outpatients. Their current backlog must be permanently cleared in order to manage the ongoing waiting list sustainably.

6.2.2 Further Learning from Panel Discussion at PHT

Referrals are managed by Consultant led triage; 60% of OPWL are seen for appointments (40% turned away) and 60% conversion to surgery (36% overall of referrals have surgery). GPs can currently refer patients with abnormal MRI scans directly. Access is via GPs to physios for lumbar spine. There is no community triage service. There has been an initiative by the community (supported by the commissioners) to develop a single access point for a community back pain pathway. This would filter appropriate patients to appropriate services including pain and spinal team. To date however there has been no suitable location to operationalise this and currently there is nothing in place.

There is a bed flow problem throughout the whole hospital. There is a lack of both ITU and cranial capacity resulting in patients being cancelled 2-3 times on day of surgery. Within neurosurgery elective spine and cranial work is cancelled when beds are not available in the Trust. Plymouth is no different to the rest of England in terms of overall bed capacity (www.nuffieldtrust.org.uk/node/1470) however it was noted that England is 2nd from the bottom for beds per capita in Europe. Repatriation is also a considerable problem. 12 months ago the team described losing 10% of bed days due to repatriation issues. Current policy is to send patients back to their local DGH A&E departments after 48 hrs if necessary although this cannot happen when other Trusts are in escalation. The current wait to Salisbury is 4-6 weeks for local rehabilitation.

There is currently no theatre space available to run more lists even if more consultants were recruited. The designated emergency theatre is used as part of the elective capacity during the normal working week so any emergency patients for spine and cranial will result in elective cancellations.

Theatres are not currently being fully utilised and can't start at 8.30am due to bed issues. Anaesthetist and theatre staffing availability can also affect theatre capacity and the ability to start spinal cases after a certain time due to the length of the cases and the potential to over-run. The service protocol is to send the first patient on the list unless the hospital is in black escalation or they need ITU but theatres can be empty because there are no beds. There aren't any spinal services in the 3 main referring hospitals, only at Exeter. The nearest other hospital is Torbay where

repatriation is an issue. There are also limited options for Independent Sector Treatment Centre (ISTC) delivery of activity in the area where only simple procedures can be delivered.

6.3 North Bristol Hospital Trust

The orthopaedic spinal service has 6 full-time consultants and is on-call major trauma and tumour compliant 24/7. The on-call service is run via the neurosurgery registrars. The 6 spinal orthopaedic surgeons and 3 of the neurosurgeons provide complex spine cover on a weekly basis. Spinal orthopaedic surgeons are currently doing 0% simple surgery.

The orthopaedic spinal service closed to routine new referrals on 29th September 2014, to support clearance of its backlog of complex spinal surgery patients waiting over 52 weeks. An MDT was established to ensure any urgent referrals were triaged and reviewed by the whole team for consideration of whether they should be listed immediately as an urgent case, or returned to their GP/ referrer. At the time of closure the Trust took the deliberate approach to continue to treat all patients who had already been referred and accepted by the service before 29th September. Although the service was restricted to new routine referrals, the service continued to support the care of paediatric patients at the BCH as well as running an emergency rota for all NEL adult admissions at Southmead.

The Trust did not initially close its neurosurgery spinal service – which in turn has led to a capacity and demand imbalance. The NBT Neuro Spine service has been running for 65 years, originally at Frenchay with a regional catchment wider than BNSSG. The service has 12 consultant neuro surgeons, 2 of whom do complex spinal work and undertake the spinal MDT triage. As the spinal waiting list restrictions impacted on their service a neurospine departmental wait list was set up. From March 2016 neurospine elective restrictions were put in place and during the first 8 weeks 33% of referrals were rejected. Previously all neurosurgeons would have carried out routine spinal work but now consultants sub-specialise so there is less capacity to fit small cases around big cases in theatre.

The Trust Board took the decision in October 2015 to also close the neurosurgery spinal service to routine referrals from outside of local CCGs (BNSSG). The restrictions have had a knock on effect for other local trusts and the volume of patients being held in the local interface services. Neuro lists are 74% utilised against a national average of 75% and all lists are reallocated during annual leave.

6.3.1 NBT History

The Trust saw its first 52 week breach in November 2013. From November 2013 to September 2014 referrals continued as the 52 week breach list climbed. In April 2014 paediatric services were centralised with the spinal service provided by NBT employees at Bristol Children's Hospital.

In May 2014 the service moved when NBT merged Southmead and Frenchay Hospital sites to the new Brunel building at Southmead. This for a time compounded waiting list issues with problems relating to the site move. Theatres were not initially commissioned and there were delays in delivering a full elective operating timetable in the building. There were also theatre design issues in the new building with no anaesthetic rooms which impacted on theatre efficiency. Staffing and turnover has also had an impact. Neuro surgery lost 25% theatres in the Brunel move. In comparison

paediatrics was transferred to the Children's hospital but this move only took up 16% of theatre against a 25% loss. In late September 2014 the orthopaedic spinal referral criteria was restricted.

6.3.2 NBT Solutions to Date

Extensive and constant waiting list validation has been undertaken and some cancellations of other patients to manage their 52 week waiters. Friday lists are currently kept for emergencies with the use of stand by patients. NBT currently benefits from good primary care triage set up via MATS and SATS services across Bristol, North Somerset and South Gloucestershire in 09/10 with community physio and CAB open access injections. However there is a perceived increase in numbers sent for surgical opinion. Due to service restrictions the use of ESPs has not been maximised in last 10 months. There is good triage for the pain service but real difficulty in accessing trust pain services with a current 9 month wait. The clinical team self-observed that their clinical behaviours are changing as a result of waiting list pressures and that they are now only listing those who need an operation in the next 3-4 months.

It took a year to see the first drop in inpatient waiting list demand and the initial February 2016 trajectory to resolve the issue was not met. This was reported as down to independent sector capacity not coming to fruition due to; patient choice, restrictions on case mix and re-referrals where pain relief rather than definitive treatment had been provided although this was a clinical perception rather than something evidenced by re-referral data which is not available. HDU capacity is reported as an ongoing problem that impacts waits although it is expanding in year by another 8 beds at NBT. There are current ongoing constraints due to bed flow, repatriation and discharge. Delayed transfers of care at NBT are the highest in the country.

6.3.3 Further Learning from Panel Discussion at NBT

The regional system is not believed to be in balance. It is not felt that the limited case mix taken by AQPs supports the resolution of the waiting list. Both Bath & Gloucester Trusts are facing recruitment issues and are reported as having seen a slow decline in work despite their older population. Bath has two surgeons one of whom is about to retire. Gloucester has two surgeons in post (one due to retire) and two vacancies; one appointed to and the other they were unable to appoint to. These Trusts are with reduced surgical expertise referring more to NBT although Gloucester is believed to have theatre capacity. Taunton and Exeter don't refer into NBT except for paediatrics, cardiac and ITU input patients. There is a perception by NBT surgeons that not all routine work that could be accommodated at these other units is being done there, leading to increased pressures on NBT. This work includes spinal instrumentation work that is not deformity surgery. For example, one and two-level fusion surgery for degenerative disease and instrumentation for spinal fractures. Some routine work at NBT was also previously carried out at Weston which stopped. Repatriation in general is a problem and NBT often have 3-4 Gloucester/Bath patients waiting to go back to those Trusts at any one time. NBT are currently engaged with Gloucester to discuss future networking arrangements but still need to meet with Bath who have some concerns over network proposals.

The trust state they are currently on track to clear the orthopaedic spine waiting list by the end of 2016. Similarly to Plymouth but to a greater extent there are concerns about managing a tide of referrals that have been held back to date.

The Trust has 3 scenarios adjusted for risks to tackle the neuro spine backlog. Scenario C shows November 2017 as the latest date to clear the 52 week wait. Their current trajectory is to clear the backlog by summer 2016 but this is dependent on an increase in theatre capacity in June. (Work has been sub contracted to ISTCs in other specialties to create theatre capacity for neuro spine for one year only at cost to the Trust above tariff. 7-10 cases a week are also outsourced to the private sector facilities with NBT consultants operating on patients. Within orthopaedics the spinal patients had a change of surgeon for ISTC moves and less than 10 successfully have moved in total to date.

There is concern from the NBT spinal surgery team that spinal services at Circle Bath are performed by surgeons without an NHS spinal sub-specialty interest and that AQP treatment in general is not regulated alongside NHS Trust treatment. Clinical pathways are at risk of being income-driven and not always appropriate to a patient's pathology. The AQP model is described by NBT as cherry-picking simple cases and leaving NBT to pick up complications, patients with serious co-morbidity and patients with complex spinal disorders, sometimes after prolonged and repeated inappropriate intervention. Circle Bath were reported as having a business plan that includes a growth in spinal work of 200 outpatients per month which will stimulate subsequent complex surgery referrals to NBT for which there is no capacity. Other ISTC providers on CAB are also described as taking work without any links in to NBT.

6.3.4 Paediatrics

The Trust's presentation of MDT patients from the previous week in particular raised serious concern regarding the position of paediatric spinal surgery within context of the whole region. The waiting list situation was described as feeling unmanageable and considered to be a serious clinical risk.

4 of the 6 orthopaedic spinal consultants at NBT cover the children's hospital with 1 list per week in total. The cases are very complex; for example one surgeon has 8 cases in the next two months all of which need a one day list. 20 of his patients have waited more than a year since listing and patients who turn 16 years of age while waiting then impact NBT adult waiting lists. Each surgeon's current list varies and some are more untenable than others. It was considered that it would take 4 NBT surgeons a year and a half to clear the paediatric list if they did nothing else. The NBT team would need 2 full operating days at the children's hospital going forward (currently have one) but UHB can only currently offer ad hoc Tuesdays.

Due to unacceptable delays patients are consequently requiring bigger operations with higher complication rates. Diagnostics were shown demonstrating the poor clinical outcomes of long waits (eg. Age 10, 60% curve gone to 96% over the year child has been waiting). Part of the cause of the problem was deemed to be list start times with knife to skin time sometimes being 11-11.30am when it has previously been 9am with a senior anaesthetist in theatre. There is also a South West wide problem with very poor availability for HDU and PICU beds across the region. Both NBT and

UHBT are aware of the issue and are reported to be working to improve the situation within the limits of their infrastructure.

Overall NBT has a balanced bed base but with 100% occupancy in May 2016 and their winter plan is not yet signed off. There is a proposal in the winter plan to commit to 24 hr repatriation and NHSI are expected to write to all CEs to support this. There is an ongoing large scale cross cutting issue of patient flow and beds in the Trust. The Trust intend to meet recovery trajectories but would like assurance of capacity balance; they would like to see closer working with neuro and spine services and a network set up with Gloucester and Bath. The Service and Trust aim is to be open to local CCGs with restrictions for others or set up as a lead provider. They see a commitment to their local population and do not want to be too restrictive.

7 Diagnosis and Recommendations

7.1 Overall Themes

The differentiation between work that is specialised and non-specialised is not clear cut for spinal surgery. Both units are designated major trauma centres. This means that all of their spinal work is categorised under specialised commissioning although some of the work with unrestricted waiting lists would otherwise be routine and categorised as CCG commissioned work. It is estimated that within the whole system 90% of work will be non-specialised. From 17/18 CCGs will be paying for all non-specialised work in neurosciences centres which will include these two major trauma centres. In relation to this forward plan the financial incentive to providers to categorise procedures as specialised if possible should be noted.

Whilst this review was set up to look at specialised spinal surgery services it was clear to the panel that these cannot be commissioned without considering non-specialist spinal surgery services, associated non-surgical spinal services and pain services among others. A sustainable service will need to improve the front end of the pathway: this will reduce demand, allowing the right patients at the right time to be seen in secondary care. The commissioning of effective alternative services to spinal surgery will be crucial to the sustainability of specialist spinal surgical services and need to feed into STPs for community services. If these services are available it would be better for patients as well as reducing demand for spinal surgery.

The panel noted from the data available to them that waiting times had increased when specialised commissioning was taken on because all the complex work moved to those two centres in Plymouth and NBT. The panel also discussed that the concentration of skills and complex work can risk centres losing the ability to access capacity elsewhere and work with smaller DGHs. An overall crisis in funding around spinal surgery amongst other specialities was discussed however the panel were mindful of the financial limitations to resolve this and the need to focus on unblocking spinal services now.

The services at both Trusts suffer as a result of wider infrastructure issues and widespread patient flow problems. Referrals need to be managed consistently and robustly to ensure equity of access.

This also needs to be supported by adequate infrastructure, particularly in terms of theatre, beds and discharge.

The problems between the two Trusts were deemed to be very different but one key recommendation around developing one South West provider led network emerged which the panel felt strongly would support resolution of issues at both Trusts. The panel advised that the current system is unsustainable and that across the South West it is crucial that the only alternative to GP referral shouldn't be referral to a spinal surgeon. It was also considered that at both Trusts Neuro and Spine waiting lists should be kept separate and looked at independently based on evidence that if you combine them then the spinal waiting list will suffer. The panel also felt that both Trusts could work further on integration between sub-specialties to include anaesthetics and radiology and encourage the set-up of other services such as pain management and ESP led triage.

The potential impact of the current situation on patients from waiting is that some may become psychologically damaged, with chronic neuropathic pain and impact on quality of life and work such as increased long-term sickness absence. Conversely some patients will recover without intervention and not need surgery at all. There is currently concern within both services regarding sustainability, what is happening to patients while the list is restricted and a desire to ensure they don't return to the same problem when restrictions are lifted.

7.2 Principle Recommendation to set up one South West Spinal Network

The panel agreed that for both Trusts more routine specialised commissioning work can be carried out at other providers with clear oversight of patient outcomes. They discussed the merits of hub and spoke, partner and lead provider models and recommend that one partnership lead provider network is set up that covers the whole of the South West using CQUIN as an enabling tool. This would need to be agreed between NHSE, specialised commissioning and across CCGs with a lead CCG working in partnership with the lead provider. As major trauma centres PHT and NBT will naturally form two main hubs for this network in the North and the South while the two other spinal centres in Exeter and Taunton will also need to be used more effectively.

The role of CCGs as commissioners of non-specialist and community services as well as of specialist services in the future means that CCGs need to take an increased responsibility for commissioning an integrated spinal pathway. Without a network the panel do not feel that spinal services in the South West can regain sustainability. A standardised system is needed across the south west with a one network set-up or patients will end up having surgery at trusts that don't have the same comprehensive triage or use of pathfinder best practice.

One partnership lead provider network will:

- Facilitate peer review, joint learning and support more regional connectivity for complex surgery services.
- Share workload and problem solve collaboratively.
- Support recruitment across the region.
- Target training issues where either too much or too little complex work is being carried out.
- Review outcomes and develop learning protocols to develop outcomes
- Support oversight and governance of non-NHS providers

- Support commissioners in service planning

All Trusts in the South West should be mandated to take up the 16/17 CQUIN (duration from April 16 to March 2019) to set up a network with all trusts funding a lead surgeon as clinical leader to develop it up building on examples elsewhere such as the East of England Spinal Network.

Stage 1 would include setting up a network to include AQPs and repatriation protocols.

Stage 2 would model the south west activity volumes and use of the centres within the network. The network would include;

- Lead provider Trust and Lead CCG
- A regional network triage model to handle referrals and manage activity. Without consensus around restrictions there is the risk that referrals move around the system.
- Clear targets for conversion rates
- Consideration of how theatre capacity is best used in the South West
- Consideration of how private work is ideally commissioned.
- Network MDT arrangements.
- All trusts within the network to submit data to the British spine registry.
- All new consultant appointments are made as joint appointments with the lead provider.
- Regular rotas to ensure consistency of clinical teams will be required for surgical lists at partner hospitals
- Support to develop cross-trust clinical relationships particularly for running theatre lists for visiting surgeons, ensuring equal priority of access.
- Recommendation from the panel and clinical senate to all South West Trusts to support 24 hour repatriation protocols as per NHSI communication. (This does not have to happen as part of a network but is a recommendation that would benefit both Bristol and Plymouth spinal services).

7.3 North Bristol Diagnosis

The trust presentation demonstrated that heavy validation of the service to date has been valuable. Theatre efficiency in the new build is not yet felt to be at pre-move levels and there is significant pressure on HDU and ward bed availability. Diverted patients from NBT services are currently often being seen by AQPs but it is anticipated that some of these patients who might receive injections or routine surgery will need more definitive complex surgery in the future. It is not clear what proportion of work that is declined reappears later, what proportion recovers spontaneously, and what proportion deteriorates if not treated. Other Trusts nearby are not felt to be fully resourced for moderate complex patients. The service is currently in a much more manageable position with restrictions and more capacity than demand but if it were to open waiting lists up now it would not cope. Currently the level of unmet demand in the wider system is not fully understood. The Trust has begun to explore the commissioning of care through a network of providers in the North of the patch also considering other parts of the patient pathway including pain services, physio services, community and independent providers.

The background information and visit demonstrated to the panel that while NBT have carried out significant work to clear their backlog with a trajectory to re-open their waiting lists by the end of 2016 there remain some issues to resolve in order to open the list in a managed and sustainable fashion. The current highly complex case mix at NBT is not sustainable and also impacts upon training for routine spinal. The loss of resource at Gloucester and Bath is a key issue. These Trusts are likely to struggle to recruit spinal surgeons in the future as, increasingly, subspecialty-trained spinal surgeons will want to work in the centres providing 24-hour care for complex spinal disorders, spinal trauma and spinal tumours.

Dissociation of 'simple' spinal surgery poses a real threat in terms of sustainability. Spinal services must be viewed as a whole (locally commissioned spinal surgery, complex spinal surgery and neurosurgery) and ideally via a Regional Spinal Network.

Whilst there are initial proposals being explored to set up a network to include Gloucester, Bath, Swindon, Weston, Taunton, AQP and include the metastatic cord service development these seem to have encountered some stumbling blocks. Network development needs to be moved forward considerably as soon as possible and include the whole of the South West.

Clearly highlighted and of concern to the panel were the current waits over 52 weeks for paediatric deformity surgery delivered at the Bristol Children's Hospital (UHB) by NBT consultants. Some appalling examples of additional risk to the quality of patient life through delays to surgery were described and the subsequent increased risks of complication for patients.

UHB services were not part of the scope of this clinical review and were therefore not represented at meetings with comprehensive service information not having been sought. However this serious issue cannot be ignored and needs to be picked up urgently not least because it impacts on NBT's own waiting lists with a flow of patients turning 16 being referred to NBT.

Overall improved patient flow out of NBT is needed to support the Trust carrying out the specialist work it is set up for. Total service capacity within the STP footprint needs to be considered as well as other neighbouring STPs and specialist flows. A business case for expansion of spinal services based on increased spinal work could easily be made by the provider. However, the Brunel building at NBT is currently running at 100% bed occupancy and 100% theatre list utilisation and service expansion is therefore going to be difficult in addition to the wider context of reductions in commissioned activity.

7.4 North Bristol Key Recommendations

1. A serious concern was raised through review of the NBT service regarding the current waits for children's spinal deformity surgery. The damage from waiting is greater to children and therefore there is an argument to prioritise them over adults. It was clearly stated during the site visit at NBT that children's health is being adversely affected by current arrangements for spinal deformity surgery at BCH. As a clinical governance issue this requires the immediate attention of those responsible for paediatric care in the region. Bearing in mind that UHB services were not in the original scope of this work and therefore not fully explored, it is recommended that;

a. NHSE and Specialised Commissioning investigate this issue urgently with UHB and NBT as a matter of importance.

b. UHB/NBT should not be accepting referrals from outside the South West for children.

c. NBT include children in their trajectories for clearing waiting lists.

d. NBT work with UHB regarding theatre capacity to clear waiting lists and ensure this issue is managed via both Trust and specialised commissioning risk registers.

e. Validation of surgical paediatric spinal deformity patient lists with a view to clearing the waiting list by treating non-South West patients at other specialist centres eg. London. If successful, South West patients could also be offered surgery elsewhere to clear the backlog.

f. Review anaesthetics support to spinal paediatric theatre sessions as part of the above.

2. A network set-up is needed to drive work to other providers and create a balanced case mix at NBT. A lead provider could potentially manage the flow of activity and where work is delivered. Network pathway protocols recommend care close to home unless it is specialist so it is not anticipated that a network would risk widening the patient flow map and referral borders. NBT is currently at the very beginning of network discussions but pathfinder supports this model nationally. As per the key recommendation from this review already outlined it is recommended that NBT pursue their proposals to set up a spinal network in order to provide equity of access for patients to spinal services in the region. It recommended that they think beyond the North of the patch and that a partnership lead provider network for the whole of the South West as already outlined in this report is established. At NBT it would incorporate the following;

   a. Joint appointments to new posts and recruitment of clinical fellows/associate specialists/specialty doctors to a network in addition to Consultant posts. (For example, Swindon already has combined contracts with Oxford.) Appointments as part of a network are more attractive to recruit to with shared ownership of services helping to iron out issues collaboratively. High quality surgeons would want to be part of a spinal rota and a network approach would support staff retention regionally, acknowledging the difficulties in recruiting to Bath and Gloucester and that making appointments to a network provides a more appealing package with variation in work than single appointments to small departments.

   b. MDT attendance arrangements as part of the network. Consider evening timetabling.

   c. Involvement of private healthcare partners in spinal surgical services should be overseen by the Regional Spinal Network. There is a strong perception of there being a quality issue at AQP providers in the region. Governance from a network

would need to ensure that AQPs meet the same minimum criteria for service delivery as NHS Trusts with all surgeons participate in peer review and entering data on the British Spine Registry. AQPs should be joined up with a lead provider.

d. Consider joint appointments with AQPs (Consider workforce and regulation) as part of the network taking into account; concerns around either inadequate treatment or over treating, streamlined pathways and commissioner value for service.

e. Examination of capacity at Gloucester & Bath to take back more activity.

f. As detailed in the key report recommendation, use the Spinal CQUIN for a network model to facilitate care pathways, to support clinical release for input into the set up.

g. It would seem sensible that a Spinal Network solution identifies NBT as the lead provider. NBT is the only provider of 24-hour emergency spinal care, adult deformity surgery, and surgery for metastatic spinal cord compression in the region.

3. Audit AQP treatments (e.g. numbers of nerve root blocks). Where AQP provider support is needed to manage NHS activity Trusts should buy sessions and use facilities rather than surgeons to avoid perverse incentives to be inefficient. Serious consideration should also be given to bringing AQP providers into a network.

4. NBT Trust management need to consider anaesthetics job plans and capacity of their workforce to support theatre efficiency and waiting list management.

5. In preparation for lifting waiting list restrictions NBT need to consider their pain service and ensure that there are robust alternatives to consultant appointments and surgery.

6. Set up secondary care non consultant analysis and reporting of MRI scans to avoid default NBT surgical spinal opinion post scans. ESP led triage was felt by the panel to be extremely helpful both in primary and secondary settings and reported as really helping patients achieve a surgical perspective on their condition without seeing a surgeon and therefore gain an understanding of possible non operative strategies even after they have been referred to a surgical unit.

7. Validate the Community assessment and triage service for BNSSG and review where patients are going, how integrated its models are and how well joint working functions. Ideally pain management should be integrated as part of the triage service and Extended Scope Practitioners (ESPs) should be being effectively used as part of community triage with the ability to request, interpret and discuss scans with patients as well as input to consultant MDT to refer if required. A good fast track system of treating acute nerve root pathologies with quick access to injections and surgery should also reduce the patients who go on to develop chronic pain. With NBT, the CCGs must consider linking the lifting of restrictions to the existing provision of alternative services being strengthened.

8. NBT as a priority need to plan activity anticipated once 'doors open' based on prior activity and triage service information against what ongoing capacity they will have once backlog cleared. The next step would be to plan a staged lifting of waiting list restrictions and open list initially for BNSSG patients only.

7.5 Further NBT Suggestions

1. Pre-assessment – use specialist nurses to support enhanced recovery and patient information in clinic to avoid cancellations especially on the day. This role would also support discharge.

2. Using day lists for injections to be done by radiologists, nurse specialists, physiotherapists (precedence set in the region by Exeter).

3. Ensure there are clear protocols for discharging patients who do not need immediate surgery but may develop symptoms later down the line. This would require quick access to speciality opinion when they reach the right surgical threshold.

4. Neurosurgery would benefit from the appointment of one or two additional surgeons with a spinal sub-specialty interest. This is required to fill the gap in service for those patients who neither have true adult deformity nor simple disc pathology. These patients include those requiring fusion for one or two-level degenerative disease and those with metastatic but not cord-compressive tumours. The business case for such appointments could be made by the Trust financially but would be predicated on increased activity rather than reduction in demand.

5. In terms of bed stock, options that could be considered include the development of a dedicated day case area within the Brunel Building. Current neurosurgery theatre utilisation figures suggest that on many neurosurgery lists, it may be possible to perform a day case lumbar discectomy first on the list, prior to the day's major case.

6. Consider re-visiting the use of step down HDU beds, which look after just post-operative patients working Monday through Friday (PACU – post-anaesthesia care unit or extended recovery model).

7.6 Plymouth Diagnosis

The review panel shared the view of the Plymouth team that their situation is largely a capacity issue with activity data showing that much of their work is routine spinal activity. However, Plymouth holds a key role as the southern South West major trauma centre and it was considered that a lot more could be done to manage both activity and capacity to appropriately flex it for the right patients. Currently, non-recovering patients are at risk as a result of waits. There is an undeniable capacity issue but the panel did believe it can be mitigated against.

Plymouth has a high level of referrals and also a high 18-20% cancellation rate which is largely due to bed issues. Problems around the repatriation of patients also play into the lack of capacity for

patients and subsequent waiting list problems. There was some concern from the panel that the reduced throughput of activity due to bed and theatre availability could potentially lead to skills attrition.

(Data on the number of emergency spinal cases performed broken down by instrumented versus non-instrumented as well of time of admission to time in theatre has also been requested by the final review panel. When this is provided by the PHT performance team it will be shared with the specialised commissioners.)

Their on-call is a category B with cranial colleagues on call overnight for cauda equina and non-instrumental. Four people share the complex spine rota exclusively. There is a different 2nd on call for cranial work and the lead consultant covers both at the weekend. A separate on-call rota for spinal is the right model in order that consultants are not on-call for different things at once.

There are no nearby DGHs to take activity although Exeter which is 45 miles away is a spinal centre. CRG definition of complex spinal surgery is 2 levels instrumented or more. Instrumented surgery for a single level fix cannot be delivered in an ISTC and capacity on the current site is difficult to expand. There is little DGH or private sector capacity and it is not good practice for patients to be sent long distances elsewhere.

The panel were surprised to find that a community triage service has not been set up and that all patients referred to the Trust get an MRI scan. This risks sending too many patients to spinal outpatient clinics and will drive up intervention rates. Services elsewhere in the country have used triage services to both obtain low referral rates and subsequent high conversion rates of outpatient appointment to surgery when patients do get to the hospital system.

There is no pain service as part of the pathway although a proposed integrated back pain model for the western locality was shared with us (appendix 10p) and matches up with best practice models elsewhere. Neither is there a current service for x-ray guided nerve route injections. This type of service can be very successful when pre-selection of patients is carried out effectively for specific conditions. Similar issues at GSTT 10 years ago were discussed by the panel where a 2yr wait was reduced to 8 weeks. This programme involved heavy validation and process management including review of recurrence, ESP interface clinics alongside consultants, seeing acute radicular pathway patients early with more injections and community clinics for chronic pain patients.

Plymouth currently uses a general pre-assessment service. Specialist nurse input at Ipswich uses 1 hr pre-assessment appointments 3-4 weeks before surgery to avoid any cancellations due to patient reasons and also to facilitate discharge.

The team and the panel also discussed the limited availability of AQP providers and other available theatres to support capacity issues. There was however an opinion that effective triage and reduced cancellations could eliminate the need for private capacity.

There is concern regarding returning to the same waiting list 12 months on from restriction in 2017, particularly given that modelling shows that RTT will get worse before it gets better.

7.7 Plymouth Recommendations

1. Set up a community triage service to reduce demand and referral numbers going into Plymouth and increase conversion rates to 80/90% with only the right referrals getting through. There is believed to be significant opportunity here. Use of the Pathfinder business case and secured commitment of specialised commissioning to transfer funds to CCGs is suggested. Pain management should be an integral part of this service as in the model supported by pathfinder ensuring all secondary care back pain work goes in via triage. Any such service should support shared decision making early on in the process with scans only used where it will make a difference to treatment plans. Community triage should include;

    a. Decommissioning of MRI for lumbar spine unless there is a red flag.

    b. Explore the potential of physio support to GPs around educating patients.

    c. Development of the model for pain management already explored.

    d. Extended Scope Practitioners (ESPs) used as part of community triage with the ability to request, interpret and discuss scans with patients as well as input to consultant MDT to refer if required. This could be run as community triage from a hospital which can have very positive patient perceptions.

    e. A fast track system of treating acute nerve root pathologies with quick access to injections and surgery will also reduce the patients who go on to develop chronic pain.

2. Use ESPs in clinic alongside consultants to increase volume and capacity of consultant sessions.

3. Support the development of a lead provider network to support development of other capacity. In particular capacity at Plymouth needs to be considered with capacity at Exeter where there are 5 surgeons, with an agreement to work together to support the development of consultant skills and shifting patients rather than surgeons with one trust keeping nursing and physio expertise. A network approach would also ensure that each surgeon has a high enough volume of complex work to be comfortable with specialised procedures in emergency situations.

4. There needs to be an internal trust focus on spinal service links and building relations with theatre teams and anaesthetists. Anaesthetist availability also affects theatre capacity and overrun protocols from mid-afternoon onwards are needed with a dedicated overrun team. There is a shortage of anaesthetists and regular arrangements are needed to build good specialty relationships. Theatre team job plans should be able to run theatres to 6.30 with one anaesthetist rota'd on to stay late.

5. The use of protected emergency lists with standby elective patients for theatre should also be employed.

6. Set up a service for x-ray guided nerve route injections as recommended best practice by pathfinder and consider links to the Exeter non-medical injection service. For example for acute disc prolapse single level injections, 70% of patients don't come back in. It is national guidance in "pathfinder" and the NICE guidance to offer target nerve root block or epidural for acute sciatica. There must be a fast track option to refer into this service from the community triage as if patients are in pain for over 6 months then all treatments are less effective and patients are more likely to need discectomies.

7.8 Further PHT Suggestions

1. Ask NBT general manager for MSK to support Plymouth with waiting list validation based on their experience to date.

2. Validate which patients are being sent to HDU/ITU and consider options of extended recovery and a 5 day ward running simple cases at the start of the week.

3. Whilst new techniques develop skills and can improve patient care, spinal navigation methods using x-ray guidance (which can lengthen procedures and reduce turnover) should only be used in cases where evidence indicates the benefit of this procedure and shows the quality of surgery will be improved.

4. Specialist nurse pre-op assessment to reduce demand as well as patient choice cancellations on the day, manage discharge and improve the overall patient journey through better information is recommended.

8 Next Steps

This review was conducted on behalf of the Specialised Commissioning team and as such it has been agreed that the specialised commissioners are accountable for following up on and implementing the recommendations.

It is proposed that the specialised commissioning team feedback progress to the Clinical Senate at their July 2017 Senate Council with a 6 month update in January 2017.

The following leads for key actions are recommended with specialised commissioning oversight to review the proposed timetable and take responsibility for driving this work forward as soon as possible;

Overall Recommendations	Lead	Timeframe
1. All Trusts in the South West should be mandated to take up the 16/17 CQUIN to set up a network with all trusts funding a lead surgeon to set it.	Specialised Commissioners & CCGs	Sept 16

2. Set up a partnership lead provider network for the South West	Specialised Commissioners/CCGs/Trusts	2017
3. 24hr Repatriation Protocol across the South West	NHSE, NHSI and Trusts	Oct 16
4. Both trusts to strengthen their community triage	CCGs	16/17
NBT Recommendations		
Investigate Paediatric waiting lists urgently	Specialised Commissioners	August 16
Audit AQP activity	Specialised Commissioners	August 16
Review workforce and job plans to support spinal surgery	NBT	September 16
Review pain service to support spinal surgery	NBT	October 16
Non Consultant MRI Reporting	NBT/CCG	September 16
Validation of community triage services	CCGs	October 16
Plan staged lifting of restrictions	NBT/CCGs	October 16
Plymouth Recommendations		
Set up a community triage service	CCG	16/17
ESPs in Consultant Clinics	PHT	End 2016
Work with Exeter as part of South West Spinal Network	PHT	2016
Anaesthetics Overrun team	PHT	October 2016
Standby Patients	PHT	September 2016
X-Ray Guided nerve root injection service	CCG/PHT	October 2016

Mr David Cummings from the review panel and also the lead for the East of England Spinal Network has offered to support the development of a network and NBT have already made contact.

9 Reporting Arrangements

The clinical review team will report to the clinical senate council which will agree this final report and be accountable for the advice contained therein. The report will be shared with the Trusts and Specialised Commissioners. Specialised Commissioning will own the report and be responsible for any implementation of recommendations.

The final report will go to the following groups for sign off at the end of June;

- South West Clinical Senate Council
- Directors' Group, NHS England, South West
- Regional Director, NHS England South West

The final report will then also be shared again with;

- South West Trusts delivering spinal care
- Specialised Commissioners
- South West CCGs
- Professor Charles Greenough and the Improving Spinal Care Team group
- Complex Spinal CRG (currently being set up)

10 Appendices

These appendices will be shared separately in a zip file or individually due to the number and size of appendices. Please email the senate administrator sarah.redka@nhs.net to access them if you do not have them.

1. Terms of reference

2. Clinical review team declarations of interest

3. Clinical review team biographies

4. Background document

5. Panel Questions

6. Site visit agendas

7. Trust Presentation NBT

8. Trust Presentation PHT

9. Site visit notes

10. Pre-reading

a) Commissioning Spinal Services – guidance for commissioners

http://www.evidence.nhs.uk/Search?ps=20&q=responsible+commissioner

b) Improving the Quality of Orthopaedic Care within the NHS in England

http://www.gettingitrightfirsttime.com/report/

c) Letter to commissioners about North Bristol Trust MSK services

d) NBT 52 week position

e) NHS England Toolkit for Spinal Surgery

f) NHS standard contract service specifications for complex spinal surgery

https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-d/d14/

g) NICE guidelines - Low back pain in adults: early management
https://www.nice.org.uk/guidance/cg88

h) Plymouth Hospitals Trust Safety & Quality Committee summary report

i) Plymouth Hospitals Trust waiting list data

j) South West Neurosurgery Spinal Service - Revised Referral Criteria

k) The South West Task and Finish Spinal Surgery Network Report April 2015

l) Specialty Level Capacity and Demand Review: North Bristol NHS Trust

m) The Swedish Spine Register http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2899320/

n) Trauma Programme of Care Pathfinder Project and National Pathway of Care for Low Back and Radicular Pain

o) East of England Regional Spinal Network Document

p) Plymouth Proposed Integrated Back Pain Model for the Western Locality

q) BSR annual report http://www.britishspineregistry.com/news/

r) Improving Spinal Care SCOG Bristol

s) Spinal Surgery Evidence Summary

t) Spinal Specialised Surgery Activity

u) Neurosurgery Market Data

v) Update on PHT Neuro Spinal Surgery

w) CQUIN TR3 Spinal Surgery: Networks, Data, MDT Oversight https://www.england.nhs.uk/nhs-standard-contract/cquin/pres-cquin/

x) Plymouth Cancelled Ops data 15-16