

## WEST YORKSHIRE ASSOCIATION OF ACUTE TRUSTS

<b>Date:</b>	24 April 2018	<b>Agenda Item:</b>	4
<b>Meeting:</b>	<b>Committee in Common</b>		
<b>Title:</b>	West Yorkshire Vascular Network: Options Appraisal		
<b>Programme</b>	Vascular		
<b>Author:</b>	Matt Graham, WYAAT Programme Director		
<b>Presented By:</b>	Matt Graham, WYAAT Programme Director		
<b>Lead Exec:</b>	N/A		
<b>SRO:</b>	N/A		
<b>Purpose of the Report</b>			
To approve WYAAT's recommendation to NHS England for WYAAT's preferred option for the location of the other arterial centre in West Yorkshire (WY).			
<b>Key Points to Note</b>			
<p>The Yorkshire &amp; Humber Clinical Senate published their report on vascular services in January 2017. The report recommended that there should be two arterial centres in WY, one at LGI co-located with the Major Trauma Centre (MTC) and one at either BTHFT or CHFT. WYAAT agreed with NHS England that it would make a recommendation on its preferred option for the location of the other centre. To agree its recommendation, WYAAT agreed a process and criteria and established a Programme Board and Clinical Working Group (CWG). Over the last 6 months the CWG and Programme Board have analysed the four differentiation criteria. The results of the analysis and the Programme Board's recommendation to the Programme Executive are presented in the attached Options Appraisal.</p> <p>The WYAAT Clinical Reference Group, Directors' of Finance Group and Strategy and Operations Group have reviewed the Options Appraisal. They have all agreed that the process was followed robustly and that the information presented in the Options Appraisal is accurate. They have all confirmed that, from their perspectives, there is nothing which should prevent the Programme Executive or Committee in Common making a recommendation of WYAAT's preferred option for the location of the other arterial centre in WY.</p> <p>The Programme Executive considered the Options Appraisal on 19 April 2018 and unanimously agreed that WYAAT's recommendation to NHS England should be that its preferred option is BTHFT (BRI) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.</p> <p>The CEOs also agreed that this recommendation, and the analytical approach used, do not set a precedent for future recommendations and approaches for other services. Different approaches may be used in future, as appropriate to the services under consideration.</p>			

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<b>Recommendation</b>			
The Programme Executive unanimously recommends that WYAAT's recommendation to NHS England should be:			
<ul style="list-style-type: none"><li>Option 4.b - Preferred option of BTHFT (BRI) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.</li></ul>			
<b>Gateway Approval:</b>	<b>N/A</b>		
<b>Previous Gateway Approval</b>	<b>None</b>	<b>Previous Approval Date</b>	<b>N/A</b>

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**2** | A collaboration between Airedale NHS Foundation Trust, Bradford Teaching Hospitals NHS Foundation Trust, Calderdale and Huddersfield NHS Foundation Trust, Harrogate and District NHS Foundation Trust, Leeds Teaching Hospitals NHS Trust and Mid Yorkshire NHS Trust.

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**GATEWAY APPROVAL ADVICE SUMMARY**

<b>Programme Executive</b>		19 April 2018
<b>Recommendation:</b>	<p>The Programme Executive unanimously recommends that WYAAT's recommendation to NHS England should be:</p> <ul style="list-style-type: none"> <li>Option 4.b - Preferred option of BTHFT (BRI) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.</li> </ul>	
<b>Key Points</b>	<p>The CEOs agreed that this recommendation and the analytical approach used, do not set a precedent for future recommendations and approaches for other services. Different approaches may be used in future, as appropriate to the services under consideration</p>	

<b>Clinical Reference Group</b>		13 April 2018
<b>Recommendation:</b>	<p>The CRG confirms that, based on the data available, there are no clinical issues which should prevent the Programme Executive or Committee in Common making a recommendation of WYAAT's preferred option for the location of the other arterial centre in West Yorkshire.</p>	
<b>Key Points</b> - <b>Quality Impact</b> - <b>Sustainability Impact</b>	<p>The CRG view is that clinical interdependencies with renal services are an important factor in the decision making, but that differentiation based on the non-emergency travel analysis is not material and likely to affect very few patients.</p> <p>The key issue is maintaining the WY vascular workforce once the decision has been made. The CRG was very clear that all WY vascular clinicians, particularly those in BTHFT and CHFT, but also those in LTHT and MYHT, need to be fully engaged and involved in developing the implementation plans which must be based on creating a true, integrated network across all trusts and sites.</p> <p>The CRG urged that WYAAT should make a unanimous recommendation to NHS England.</p>	

<b>Directors of Finance Group</b>		13 April 2018
<b>Recommendation:</b>	<p>The WYAAT DOFs Group confirms that there are no financial issues which should prevent the Programme Executive or Committee in Common making a recommendation of WYAAT's preferred option for the location of the other arterial centre in West Yorkshire.</p>	
<b>Key Points</b> - <b>Financial Impact</b>	<p>The recommendation of WYAAT's preferred option for the location of the other arterial centre in West Yorkshire is not dependent on knowing the full cost of the future service model. The future model will be the same whichever site is recommended so the future cost</p>	

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	<p>is not dependent of the recommendation.</p> <p>A full business case will be required to implement the future service model and ensure that the full financial implications are identified and managed.</p> <p>The future service will be a single service for the whole of WY, including all 5 trusts. Detailed implementation planning is required to identify and manage the operational and financial issues, including a clear risk/gain share arrangement.</p>
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<b>Strategy &amp; Operations Group</b>	18 April 2018
<b>Recommendation:</b>	<p>The Strategy &amp; Operations group confirms that there are no strategic or operational issues which should prevent the Programme Executive or Committee in Common making a recommendation on WYAAT's preferred option for the location of the other arterial centre in West Yorkshire.</p>
<b>Key Points</b> <ul style="list-style-type: none"><li>- <b>Quality Impact</b></li><li>- <b>Sustainability Impact</b></li></ul>	<p>The process agreed by WYAAT has been robustly followed and the results, as presented in the Options Appraisal, are factually accurate.</p> <p>The materiality of the differential in non-emergency travel was discussed.</p> <p>Operationally the future service model and the outline plans for implementation are deliverable, although a substantial amount of further work is required to develop detailed implementation plans.</p> <p>From a service resilience perspective, the group believes that it is important that WYAAT makes a unanimous recommendation to NHS England.</p>

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## WEST YORKSHIRE ASSOCIATION OF ACUTE TRUSTS

### WEST YORKSHIRE VASCULAR NETWORK OPTIONS APPRAISAL 19 APRIL 2018

1. **Background.** Vascular disease relates to disorders of the arteries, veins and lymphatics. NHS England commissions specialised vascular services which include conditions such: lower limb ischaemia; abdominal aortic aneurysm (AAA); stroke prevention (carotid artery intervention); venous access for haemodialysis; suprarenal and thoraco-abdominal aneurysms; thoracic aortic aneurysms; aortic dissections (not provided in WY); mesenteric artery disease; renovascular disease; arterial/graft infections; vascular trauma; upper limb vascular occlusions; vascular malformations and carotid body tumours. The scope of the specialised service includes deep vein reconstruction and thrombolysis for deep vein thrombosis (DVT) but excludes varicose veins and inferior vena cava (IVC) filter insertion.

Specialised vascular services in West Yorkshire (WY) are currently based in three arterial centres at Leeds General Infirmary (LGI), Bradford Royal Infirmary (BRI) and Huddersfield Royal Infirmary (HRI). Between October 2016 and January 2017 the Yorkshire and the Humber Clinical Senate reviewed vascular services in Yorkshire and the Humber (Ref A). The review made a number of recommendations and concluded that there should be only two arterial centres in WY, one of which must be LGI because it is the Major Trauma Centre for WY.

Following the Senate's recommendations, WYAAT agreed with NHS England that it would undertake a process to recommend its preferred option for the site of the other arterial centre recommendation to NHS England. This would be one factor, alongside others including public engagement, which NHS England would consider in making its commissioning decision.

Over the summer of 2017, the WYAAT PMO, supported by the NHS Transformation Unit, worked with the WY vascular clinicians to agree the principles for how WY vascular services should operate. The key principle agreed is that vascular services in WY should operate as a single WY Network based on the following principles:

- To develop a West Yorkshire vascular network working as a West Yorkshire team with sub specialist team(s)
- West Yorkshire needs two strong arterial centres which are well utilised - this is NOT centralising service in Leeds
- The casemix in the two centres will reflect the specialist tertiary service provision and MTC status of Leeds
- Governance will be based on parity of esteem between partner organisations - we will develop a MOU covering governance, decision making, clinical model, workforce plan and operating principles

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- Start with joint appointments for the West Yorkshire service including the university
- The network model will consider development of local services and potential spokes including partner Trusts in West Yorkshire
- NHSE is supportive of a network approach and evolutionary development
- There will be a shared financial model with risk gain share

Following this agreement, a process to determine WYAAT's preferred option for the location of the other arterial centre was developed and agreed by CEOs and the Committee in Common (CIC) in August 2017. The process set out the governance, differentiation criteria and timetable for WYAAT to agree its preferred option at the CIC on 24 April 2018. This was captured in a Memorandum of Understanding for the WY Vascular Network which was agreed by the Programme Executive (Ref B). Recommending its preferred option for the location of the other arterial centre in WY to NHS England is the first significant recommendation on clinical services that WYAAT will make. A clear recommendation is important to maintain WYAAT's credibility.

2. **Determining WYAAT's Recommendation to NHS England.** The WY Vascular Network MOU sets out the process for arriving at WYAAT's recommendation to NHS England. The agreed process was stated as:

- The parties agree that if BTHFT and CHFT can come to an agreement that is consistent with the analysis of the criteria then all parties will be bound by their agreement
- If BTHFT and CHFT are unable to come to an agreement themselves then the Parties agree that the Dispute Resolution process in Schedule 3 of the WYAAT MOU will be followed and that they will be bound by its outcome.

The Dispute Resolution process sets out the following steps:

- In the first instance the WYAAT Programme Executive will seek to resolve the dispute to the mutual satisfaction of each of the Parties. If not the Programme Executive will refer the dispute to the CIC for resolution
- CIC shall deal proactively with any dispute on a "Best for Meeting the Key Principles" basis so as to reach a majority recommendation.
- If a Party does not agree the CIC recommendation or the CIC cannot resolve the dispute, the dispute can be referred to an Independent Facilitator. The facilitator's role is to assist the CIC in working towards a consensus.
- If facilitation does not work, the whole process should be tried again
- If that fails then the CIC would either have to terminate the MOU or agree the dispute does not need to be resolved

In line with the WYAAT Governance Framework, the Programme Board's recommendation to the Programme Executive was reviewed by the WYAAT clinical reference group and DOFs group on 13 April, and by the Strategy & Operations group on 18 April. This paper presents the Programme Board's recommendation, with advice from the CRG, DOFs and Strategy & Operations groups.

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If BTHFT and CHFT have not reached agreement by 19 April, the Programme Executive will seek to achieve agreement to the mutual satisfaction of both trusts. If that is not possible the Programme Executive will refer the issue to the CIC with its recommendation and the CIC will seek to achieve a majority recommendation on 24 April.

The BTHFT and CHFT representatives at the CIC will either need to be able to confirm that they have authority from their boards to accept the CIC's majority recommendation or the CIC recommendation will need to be taken back to the trust boards for confirmation<sup>1</sup>. Once BTHFT and CHFT have confirmed that they accept the CIC majority recommendation then WYAAT can make that recommendation to NHS England.

### 3. Current Service

- a. **Service Model.** All five trusts in WY currently provide a vascular service, with three arterial centres (BTHFT - BRI, CHFT - HRI and LTHT - LGI) providing complex, inpatient vascular care. Harrogate District Hospital NHS FT (HDFT) is networked with York Teaching Hospital NHS FT for vascular services so is not part of the WY Vascular Network.

LTHT and MYHT merged their service in 2014 and it now runs as a joint service with the arterial centre and all inpatient services at Leeds General Infirmary (LGI) and day-case and outpatient services at Pinderfields General Hospital (PGH). Consultant surgeons and interventional radiologists work across both sites. Emergency cover for both vascular surgery and vascular interventional radiology (VIR) is provided 24/7 from LGI and the vascular surgeons also provide the on call surgeon for the LGI major trauma centre, including a second on call surgeon during the day. Feedback from the LTHT, MYHT team is that the merger has worked well, with the exception of repatriation of patients from LGI back to PGH which has been very difficult to achieve in practice.

BTHFT and CHFT provide a networked vascular service with a shared on call system where the trusts alternate weeks on call. There are vascular inpatient beds at both BRI and HRI. BTHFT also provides an in reach vascular surgery service to Airedale NHS FT (ANHSFT) for outpatients, day-cases and support to other specialties. The BTHFT service has a catchment population of 630,000 and the CHFT service 498,000 which are both lower than 800,000 which is often considered the minimum population required for a centralised vascular service (as identified in the Y&H Senate Report and the NHS England service specification).

All three arterial centres provide a full range of vascular interventions including open and endovascular abdominal aortic aneurysm procedures, carotid endarterectomies, major amputations and lower limb revascularisation. A small number of the most complex procedures are only provided at LGI, but this equates to less than 25 procedures per year. The National Vascular Registry Annual Report for 2017 shows that outcomes (ie risk adjusted mortality) for all three centres are within the expected range.

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<sup>1</sup> CHFT Board is on 3 May; BTHFT Board is on 10 May

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- b. **Consultant Workforce.** The table below summarises the current consultant workforce across the WY vascular network. The LTHT/MYHT service is well staffed with sufficient consultants to meet the NHS England specialised vascular services specification (which states a minimum of 6 vascular surgeons and 6 interventional radiologists per arterial centre) and to provide a reasonable on call commitment. The BTHFT and CHFT services are smaller and neither meets the service specification requirements individually. Recruitment of interventional radiologists is difficult nationally and CHFT has only one substantive consultant in post (with some support from locums).

	<b>BTHFT</b>	<b>CHFT</b>	<b>LTHT/MYHT</b>
Surgeons - established (ie funded)	4.5	4	15
Surgeons - substantive (ie in post)	3.5	3	15
Interventional Radiologists - established	3.5	4	11
Interventional Radiologists - substantive	2.5	1	11

NB. Numbers reflect whole time equivalent posts, not individuals

- c. **Facilities.** The three arterial centres have the following facilities dedicated to the vascular service:

<b>Facility</b>	<b>BTHFT - BRI</b>	<b>CHFT - HRI</b>	<b>LTHT - LGI</b>
Ward beds	28	15	27
Theatre Sessions	11	12	19
Hybrid Theatre	No	No	No
VIR suites	1	1	4

All three arterial centres, particularly CHFT and LTHT, report that they regularly exceed this number of ward beds with patients outlying onto other surgical wards. In the initial GIRFT report, LTHT reported 36 vascular beds and a bed audit at CHFT indicated average occupancy of 25 beds.

- d. **Activity.** In 2016/17 there were just under 11,000 elective inpatient, day case and non-elective vascular surgery and IR spells in WY. Of these, approximately 4350 (40%) are the more complex and high risk procedures which must be delivered in an arterial centre. Together BTHFT and CHFT deliver just under 1600 arterial cases per year so around 800 cases will be affected by the choice of site for WYAAT's preferred option for the other arterial centre in WY. This is only 7% of the total activity in WY; the other 93%, plus all outpatient clinics, will continue to be delivered in its current locations and will be unaffected by the reconfiguration from 3 to 2 arterial centres.

The table below summarises the activity by trust and major treatment type (a more detailed breakdown is at Appendix 1):

<b>Condition / Procedure</b>	<b>ANHSFT</b>	<b>BTHFT</b>	<b>CHFT</b>	<b>LTHT</b>	<b>MYHT</b>	<b>Total</b>
Amputations		45	31	115	2	193
Lower Limb	1	175	183	355	32	746
Aortic Elective Endovascular		26	23	74		123
Aortic Rupture Endovascular			2	11		13
Aortic Surgery		39	32	96		167
Thoracoabdominal		3	2	10		15
Carotids & Upper Limb		61	56	91		208

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<b>Condition / Procedure</b>	<b>ANHSFT</b>	<b>BTHFT</b>	<b>CHFT</b>	<b>LTHT</b>	<b>MYHT</b>	<b>Total</b>
Deep vein thrombosis		3	2	6		11
Non intervention		74	70	170	1	315
Trauma	1	2	1	7	3	14
Varicose Vein	113	273	310	577	426	1699
Vascular Access		125	48	193	15	381
Vascular IR	173	574	621	1729	673	3770
Other Vascular	23	75	66	202	80	446
Non Vascular / VIR HRG <sup>2</sup>		334	559	693	717	2303
Procedure Planned Not Carried Out		69	104	271	55	499
<b>Total</b>	<b>311</b>	<b>1878</b>	<b>2110</b>	<b>4600</b>	<b>2004</b>	<b>10903</b>

- e. **Finance.** Under the current service model most vascular services in WY run at a loss and in some cases income does not even cover their direct and indirect costs. The only exception is the predominantly out-patient based service at Airedale NHS FT which generates a surplus. The MYHT service which only provides outpatient and daycase procedures, and does not have a vascular ward, makes a small deficit.

The table below summarises the current financial position of the services (Appendix 2 provides full details):

<b>Income and expenditure associated with the current service model</b>	<b>AHFT</b>	<b>BTHFT</b>	<b>CHFT</b>	<b>LTHT</b>	<b>MYHT</b>	<b>TOTAL</b>
	£000	£000	£000	£000	£000	£000
<b>Costs</b>						
Direct	220	3,879	3,904	9,561	1,230	18,794
Indirect	37	2,550	2,316	3,508	96	8,508
<b>Sub-total</b>	<b>257</b>	<b>6,429</b>	<b>6,220</b>	<b>13,069</b>	<b>1,326</b>	<b>27,302</b>
Overheads	28	1,314	1,253	1,326	526	4,448
<b>Total</b>	<b>285</b>	<b>7,744</b>	<b>7,473</b>	<b>14,395</b>	<b>1,852</b>	<b>31,749</b>
Income	548	7,039	5,971	11,791	1,710	27,059
<b>Surplus/(Deficit)</b>	<b>263</b>	<b>(705)</b>	<b>(1,503)</b>	<b>(2,604)</b>	<b>(142)</b>	<b>(4,690)</b>
<b>Contribution to overheads</b>	<b>291</b>	<b>610</b>	<b>(250)</b>	<b>(1,278)</b>	<b>384</b>	<b>(243)</b>
Surplus/(Deficit) as % of income	48.0%	(10.0%)	(25.2%)	(22.1%)	(8.3%)	(17.3%)
Contribution as % of income	53.1%	8.7%	(4.2%)	(10.8%)	22.5%	(0.9%)
Overheads in proportion to other costs	10.9%	20.4%	20.1%	10.1%	39.7%	16.3%

4. **Future Service Model.** The CWG has agreed an outline service model for the future WY vascular service which defines high level pathways for the main vascular conditions (Appendix 3). The model takes into account patient views captured in 2016 (Ref C) which highlighted:

- Importance of integrated, specialist teams
- Better access to specialist expertise and equipment
- Convenient timing and location of appointments

<sup>2</sup> This is activity coded under vascular surgery but to an HRG code outside the Vascular or Interventional Radiology sub-chapters. While the total activity in ANHSFT/BTHFT and CHFT is comparable, as expected, there are clearly differences in coding between the trusts in this line.

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- Travel times for emergency and routine patients

Taking account of patient feedback about access, travel times and location of appointments, the model aims to treat patients as close to home as possible and so is designed to retain as much activity as possible locally.

### a. Service Delivery<sup>3</sup>

- i. **Outpatients and daycase.** Outpatient clinics and day case surgery will continue to be provided in all hospitals currently providing vascular services.
- ii. **Non elective and elective inpatient care.** To make best use of the vascular workforce there will only be vascular beds in the two arterial centres so all inpatient and non-elective activity will be delivered in the arterial centres. The only exception to this will be a small number of relatively simple situations where the patient can be managed on a general surgical ward, for instance the small number of varicose vein cases which need an inpatient stay.
- iii. **Repatriation.** Following treatment at the arterial centres, the aspiration is that patients requiring a prolonged hospital stay, for instance following amputation, should be repatriated to an appropriate local hospital service (this could be in a local hospital or a non-vascular service in an arterial centre depending on where the patient lives) once the requirement for vascular input is complete. In 2016/17 952 patients in WY had amputations, major lower limb surgery or a ruptured aortic aneurysm which are the conditions most likely to lead to a prolonged hospital stay and, therefore, might benefit from repatriation. This equates to approximately 4 patients per day, Monday to Friday, needing to be repatriated. These patients have average lengths of stay of over 2 weeks and repatriating them to another specialty for 5 days would reduce the number of dedicated vascular beds required by 15 and ensure that new patients can access vascular treatment quickly.  
  
To enable repatriation, local services outside the arterial centres would be supported by a vascular surgeon on site Monday to Friday with time allocated to provide vascular advice to local clinicians, a ward round to review repatriated patients and a daily clinic to review patients with potential vascular conditions. This aspiration is supported by the WYAAT Medical Directors, but it is recognised as challenging to achieve in practice and agreement with the relevant local services is required.
- iv. **Acute On Call.** Each arterial centre will have dedicated rotas for vascular surgery and VIR so emergency cover for each site is clear. The rotas will be coordinated across the network to maximise the benefits of a flexible consultant workforce. With VIR on call consolidated into the two arterial centres, a network solution for out of hours cover for non-vascular IR in BTHFT/CHFT will also need to be developed.

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<sup>3</sup> For CHFT it is important to note that the future location of the arterial centre has been assumed to be Calderdale Royal Hospital (CRH), not HRI, in line with the approved business case for reconfiguration of services within CHFT.

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- v. **Sub-specialty Teams.** The CWG has an aspiration to develop sub-specialty teams, for instance for abdominal aortic aneurysm procedures, so that procedures are increasingly delivered by consultants who specialise in particular types of condition. This would meet patient feedback about the importance of integrated, specialist teams and access to specialist expertise and equipment. Further work is required to develop the service model for sub-specialty teams but it would not be a differentiating factor for WYAAT's preferred option for the other arterial centre so has not been included in the modelling of the future service model.
- b. **Activity.** We have modelled two scenarios for where the activity would be delivered in future:
- BRI chosen as WYAAT's preferred option for the other arterial centre; all CHFT arterial activity moved to BRI
  - CRH chosen as WYAAT's preferred option for the other arterial centre; all BTHFT arterial activity moved to CRH

These scenarios reflect the intention to retain the current activity within the WY Vascular Network and have been used as the basis for the financial and travel modelling.

Two additional scenarios were considered which showed the potential impact on the distribution of activity if the ambulance service and patients chose the next nearest arterial centre following reconfiguration. Following consideration by the Programme Board and advice from the ambulance service they have been discounted as unrealistic for the following reasons:

- Elective Patients.** Pathways for elective patients would start with referral to an outpatient clinic at the patient's local WY vascular network hospital as currently (outpatient clinics will not be affected by the choice of site for the other arterial centre). If treatment in an arterial centre is then required the pathway would be to one of the WY arterial centres. After reconfiguration, patients will still be closer to their local hospital than to a non-WY arterial centre so it is very unlikely that elective activity will be lost out of WY.
- Non-elective Patients.** Ambulance Service advice is that, because the crews are familiar with locations and processes at EDs within Yorkshire, they very rarely take patients to EDs outside Yorkshire. Based on 16/17 data, this means the vast majority of emergency patients would continue to be taken to WY arterial centres, with only a handful (less than 5 in total) potentially taken to Sheffield, Doncaster or York.

Based on these scenarios, the following table shows the allocation of activity to sites in each scenario and, for comparison, in the current configuration (a more detailed breakdown is at Appendix 4):

Scenario	ANHSFT	BTHFT	CHFT	LTHT	MYHT	Total
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Current Configuration	311	1878	2110	4600	2004	10903
BRI arterial centre, all CHFT activity at BRI	311	2631	1352	4605	2004	10903
CRH arterial centre, all BTHFT activity at CHFT	311	1072	2911	4605	2004	10903

- c. **Workforce.** To deliver this service model, and as set out in the principles agreed in July 2017, the service will operate as a single vascular team. To make best use of the available workforce and to allow individual consultants to develop sub-specialty, research and teaching interests, the consultant workforce will be able to work flexibly across all sites in the network. This does not mean that consultants will be expected to work across more than 2 sites and in practice most consultants will probably spend the majority of their time between one arterial centre and one local hospital. The opportunity for more flexible working will be available, however, both for regular job planned activity and to cover gaps in rotas, clinics, theatres due to illness or other unexpected circumstances.

The current activity is being delivered by the current workforce so it should still be deliverable if the BTHFT and CHFT arterial activity is consolidated into one arterial centre. This is, however, based on consultants working well above their official job plans. There is a small additional requirement for travel time for consultants moving between BTHFT/CHFT but this should be accommodated if the gaps in the consultant workforce are filled as a result of improved recruitment. The biggest additional requirement for clinical time in the future service model is 15 PAs to provide cover on spoke sites to enable repatriation. This additional capacity would open up opportunities to manage patients more effectively, with shorter length of stay and using other clinical roles which would minimise the additional requirement and future proof the service. Further, detailed work is required with the clinical working group in the implementation phase to develop the full workforce requirement to deliver the future service model.

- d. **Management.** Further work will be done during the implementation phase to determine the best organisational, contractual and management models for the future WY vascular network.

## 5. Options

- a. **Do Nothing - Retain three arterial centres in West Yorkshire.** Do nothing is a significantly less favourable option. The BTHFT and CHFT services are not compliant with the NHS England service specification and the Yorkshire and the Humber Clinical Senate report recommended that WY needs to move to a model with two arterial centres. NHS England agreed that WYAAT could take the lead on recommending its preferred option for the other arterial centre, but, if WYAAT could not make a recommendation, NHS England, as commissioner, would make its own decision.
- b. **Preferred option of BTHFT (BRI) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.**
- c. **Preferred option of CHFT (CRH) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.**

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6. **Differentiation Criteria.** The WYAAT CIC agreed the following differentiation criteria to inform the recommendation for WYAAT’s preferred option for the other arterial centre:

Criteria		Differentiates if:
Clinical Interdependencies		Requirement for immediate co-located support to another clinical service which can only be delivered on an arterial centre (confirmed by an independent vascular clinician from outside West Yorkshire)
Travel & Access	Emergency (Blue Light)	Material impact on ambulance service performance or resources
	Private Car	Material difference in total population or specific population groups outside 45mins travel to an arterial centre
Finance	Revenue	>10% difference in total revenue costs
	Capital	>10% difference in total capital costs
Implementation		> 6 months difference in implementation timescale

a. **Clinical Interdependencies.** Vascular services have clinical interdependencies with many other services. The WY Vascular Network CWG reviewed the key interdependencies between vascular and other services and identified that the only one which might differentiate between the choice of site for the other arterial centre was with renal services. This is because BTHFT has an acute inpatient renal unit at Bradford Royal Infirmary (BRI) but CHFT does not. The CWG reviewed a number of documents and other evidence to determine the strength of the interdependency (see Appendix 5 for more details). As set out in Appendix 5, based on this evidence the CWG concluded that it is possible to implement practical and affordable service models which would maintain high quality, safe care for vascular and renal patients whichever site is proposed as WYAAT’s preferred option for the other arterial centre in WY. However, all other things being equal, the evidence also shows that it is preferable (although not absolutely essential) that arterial and renal centres are co-located.

The CWG, in consultation with the BTHFT, CHFT and LTHT renal teams, identified the support that would need to be in place to provide high quality, safe renal services at BTHFT and to provide renal support to vascular patients at CHFT if the renal unit and arterial centre were not co-located (ie if CHFT was recommended as WYAAT’s preferred option for the location of the other arterial centre). The key requirement (that would not be needed if the renal and arterial services were co-located in BTHFT) would be the provision of bedside dialysis on the vascular ward at CHFT<sup>4</sup>. Based on an assumption of around 80 patients per year, the service would require a small team of renal nurses, up to six bedspaces equipped for bedside dialysis and four sets of dialysis machines. The costs are identified in the financial section below (section 5.c.).

If BTHFT is recommended as WYAAT’s preferred option for the location of the other arterial centre, there would be an additional requirement for renal dialysis of vascular patients as CHFT vascular patients needing dialysis, who are currently referred to LTHT, would be retained in the CHFT/BTHFT arterial centre for continuity of care. Likely demand is approximately 30 vascular patients needing dialysis per year from CHFT, in

<sup>4</sup> Although not considered as part of the work on the WY Vascular Network, there would be the potential to expand this service for other specialties at CHFT to provide care closer to home and relieve pressure on the LTHT renal service.

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addition to the 30-40 patients already being treated at BTHFT. Currently, the BRI renal unit is not operating at full capacity so the additional patients could be accommodated within the existing unit with no additional costs.

**Therefore the Programme Board concluded (although this was not supported by the CHFT representatives) that clinical interdependencies do differentiate between the options in favour of option 4.b (BTHFT) because it is preferable (although not absolutely essential) that arterial and renal centres are co-located.**

### b. Travel & Access

- i. **Emergency.** For emergency patients, YAS considered the impact of closing either BRI or HRI as an arterial centre on emergency ambulance travel times and on their resource requirements to maintain performance and provide increased inter-hospital transfers. As described above (section 2.a), BTHFT and CHFT operate a system of alternating weeks on-call, so there are only two arterial centres on call for emergencies at any time (LGI and either BRI or HRI) now. Based on this and an analysis of the number of emergency inter-hospital transfers currently provided for vascular patients, YAS' assessment (Appendix 6) is that there will be minimal impact on either ambulance travel times or their resource requirements from closing either BRI or HRI and, therefore, no material difference in the choice between them.

**Therefore the Programme Board determined that there is no differentiation between the options on emergency travel and access.**

- ii. **Private Car.** For routine patient travel ORH, a specialist travel analysis consultancy, was commissioned to model the impact of the choice of BRI or CRH as the other arterial centre on the overall population and a number of population groups identified by the CWG as at higher risk of vascular conditions:
  - Deprivation: Most deprived 20% of population
  - Health Deprivation: Most deprived 20% of population
  - Age: Over 65
  - Sex: Male
  - Ethnicity: White (more at risk of AAA and peripheral vascular disease)
  - Ethnicity: Asian (high prevalence of diabetes and renal failure which are key risk factors for peripheral vascular disease)

ORH's report is at Appendix 7 and the detailed data tables underpinning the report are at Ref D. The key results set out in the Executive Summary to the report are:

- Closing the arterial centre at BRI produces a drop of 53,000 people within 45 minutes of an arterial centre in WY. Closing the centre at CRH results in 32,000 fewer people being within 45 minutes of an arterial centre in WY.
- The maximum expected journey time to an arterial centre increases from 58 minutes to 80 minutes when the centre at BRI is closed. There is no change in the maximum expected journey time when the centre at CRH closes.

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- Closing the centre at BRI produces greater reductions in the population within 30, 45 and 60 minutes compared to when the centre at CRH is closed.
- For all the identified at risk-groups, the impact (both in terms of average travel time and in terms of population within 30 and 45 minutes of the closest arterial centre) is greater when BRI is closed than when CRH is closed.

**Therefore on private car travel and access, the Programme Board concluded that the analysis does differentiate between the options in favour of option 4.b (BTHFT) although this was not supported by the CHFT representatives.**

### c. Finance

- i. **Revenue.** It has not been possible to complete a detailed, bottom up costing of the future service model. Whilst there might be a risk that the future model is more expensive than the current model, analysis undertaken so far indicates that this should not be the case even before opportunities for efficiency are taken into account. A summary of the potential impacts of key elements of the future service model are described below and will apply equally whichever site is recommended as WYAAT's preferred option (further details are provided in Appendix 8). The only exception is a relatively small additional cost at CHFT to establish a bed side dialysis service (see below) which is unlikely to be material in the context of the overall cost of the service.
  - **Local Outpatient & Daycase Services.** Outpatient and daycase services are currently provided at ANHSFT, BTHFT, CHFT, LTHT and MYHT. The baseline assumption is that these would continue unchanged in the future service model. The costs should be the same as now, regardless of WYAAT's preferred option for the location of the other arterial centre. Opportunities for increased efficiency may also be available.
  - **Inpatient Care.** The baseline assumption (without taking into account potential efficiencies) is that the total number of bed-days required will not change either as a result of moving from three to two arterial centres, or due to the choice of WYAAT's preferred option for the other arterial centre. The location of the beds required will change and, if repatriation is implemented (see below), the specialty mix would also change. In simple terms, an extra ward will be required at the other arterial centre and a ward released at the site no longer providing an arterial centre.
    - **Ward & Theatre Staff.** Assumption is that vascular ward and theatre staff at the site no longer providing an arterial centre would either transfer to the other arterial centre or would be subsumed into other services on their existing site to fill existing workforce gaps. Either option releases direct costs to fund the service transfer.
    - **Critical Care.** An additional 2 critical care beds are required to support the additional activity in the other arterial centre. NHS England and the critical care network will determine whether the released beds in the

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non-arterial centre are retained or decommissioned. If decommissioned, then staff released would reduce the requirement for bank and agency staff.

- **Therapies.** As with ward and theatre staff, therapists working with vascular services will have the opportunity to transfer to the other arterial centre or remain at their existing site.
  - **Repatriation.** The future service model includes an assumption that patients would be repatriated to non-vascular services if they still need acute care, but once their requirement for vascular care is complete. Repatriation would require consultant support at the local hospitals but this would be minimised by operational efficiencies, different clinical roles and new models of care. In terms of length of stay, the baseline assumption is that there would be no change in the total bed-day requirement due to repatriation; fewer vascular beds would be required in the arterial centres, but the balance of the total bed requirement would still be needed in medical specialties. If anything, by ensuring patients are cared for in the right specialty and closer to home, there should be opportunities to reduce total length of stay.
  - **Reduced Length of Stay.** Variation in length of stay between the trusts and the Vascular GIRFT report also indicate that there may be opportunities to reduce length of stay (although access to out of hospital care may constrain the reductions achievable).
- **Consultant Travel Time to/from the Arterial Centre.** Currently vascular consultants are employed by and based at BTHFT and CHFT. In future, with only one arterial centre, they will need to travel between BTHFT and CHFT for arterial and local activities which will incur a travel time allowance. The baseline assumption is that there is no difference in the travel time requirement based on the choice of WYAAT's preferred option for the other arterial centre.
  - **Renal Dialysis Support.** A small number of patients undergoing major vascular procedures also need renal dialysis support so the other arterial centre must be able to provide dialysis for these inpatients. At BTHFT, the existing inpatient renal unit has capacity to accommodate the additional patients from CHFT without additional costs. At CHFT a bedside dialysis service would need to be established, run by the LTH satellite dialysis unit, requiring an initial capital investment of approximately £60k and an estimated annual running cost of £154k. Appendix 5 provides more details.

**Therefore the Programme Board concluded that revenue costs did not differentiate between the options, although CHFT were concerned that the future model was not fully costed.**

- ii. **Capital.** Modelling of the facilities required to combine the CHFT and BTHFT arterial activity onto a single site indicates that the following additional facilities would be required on either site (more details on the modelling are at Appendix 9):

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- 1 ward of 28 beds
- 2 Level 3 (ICU) critical care beds
- 9 theatre sessions per week
- 2 vascular IR suite sessions per week

In addition either trust would need to invest in a hybrid theatre<sup>5</sup> to meet the NHS England service specification. The trusts have identified how they would provide this additional capacity and estimated the capital costs where investment is required (Appendices 10 and 11):

Facility	Capital Cost		Comments
	BTHFT	CHFT	
28 bedded ward	£80k	£60k	BTHFT has identified existing ward space which can be reallocated to the vascular service with some minor reconfiguration to provide the 28 beds  CHFT has identified 2, currently unused, ward “pods” at CRH which have 32 beds and could be allocated to the vascular service in advance of the planned full HRI/CRH reconfiguration. The capital costs are for dialysis machines and enabling works for a bedside dialysis service.
2 Level 3 (ICU) beds	Nil	£200k	Both trusts can provide the additional beds within their existing ICUs. Costs are for additional equipment.
9 theatre sessions	Nil	See hybrid theatre costs	BTHFT propose to deliver the additional capacity initially by making use of spare lists and some three session working, in advance of building a new hybrid theatre CHFT will provide the capacity through the new hybrid theatre
1 Vascular IR suite (10 sessions)	Nil	See hybrid theatre costs	BTHFT propose to deliver the additional capacity within their existing IR suites CHFT will provide the capacity through the new hybrid theatre which will be used for both surgery and VIR
Hybrid Theatre	£5.1m	£5.4m	
<b>Total Capital Cost</b>	<b>£5.20m</b>	<b>£5.66m</b>	

The difference in capital costs between the sites is approximately £460k which is less than 10% and so within the margin of error for estimated costings at this stage.

**Therefore on capital costs the Programme Board concluded that there was no differentiation between the options.**

- d. **Implementation.** Alongside their estimates of the capital costs to provide the facilities required, BTHFT and CHFT have provide outline plans for implementation of the facilities (Appendices 10 and 11). Both trusts have provided outline plans to implement an interim solution ahead of full implementation including the hybrid theatre. The timescales for each element are summarised below:

<sup>5</sup> A hybrid theatre is equipped with advanced medical imaging devices (eg CT scanners) to enable minimally-invasive surgery and interventional radiology procedures.

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Facility	Timescale		Comments
	BTHFT	CHFT	
28 bedded ward	11 weeks	6 weeks	CHFT interim solution would involve surgery at HRI, with patients repatriated to CRH for ongoing medical care. This is not unusual for CHFT's two site model. Full implementation would be at CRH.
2 Level 3 (ICU) beds	1 week	6 weeks	Both trusts can provide the additional beds within their existing ICUs.
9 theatre sessions	8 weeks	6 weeks	BTHFT propose to deliver the additional capacity initially by making use of spare lists and some three session working, in advance of building a new hybrid theatre  CHFT will provide initial capacity at HRI, with capacity at CRH for the full implementation through the new hybrid theatre
1 Vascular IR suite (10 sessions)	4 weeks		BTHFT propose to deliver the additional capacity within their existing IR suites  CHFT can provide the additional capacity initially at HRI within their existing IR suite. For full implementation, new hybrid theatre which will be used for both surgery and VIR
Hybrid Theatre	18 months	18 months	
<b>Overall Timescale</b>	<b>3-4 months (interim)</b>  <b>18 months (with hybrid)</b>	<b>2 months (interim)</b>  <b>18 months (with hybrid)</b>	Both BTHFT and CHFT could provide an interim solution ahead of completion of the hybrid theatre.

**On the basis of the information available there is less than 6 months difference between the trusts on both interim and full implementation timescales, and, therefore, the Programme Board concluded that there was no differentiation between the options.**

7. **Equality Impact Assessment.** To comply with the Public Sector Equality Duty, an Equality Impact Assessment has been completed for this option appraisal and is at Appendix 12.

8. **Recommendation.** The Programme Board has considered the four differentiation criteria and concluded the following:

Criteria	Differentiates	Notes
Clinical Interdependencies	Yes - BTHFT	Not supported by CHFT
Travel & Access	Emergency (Blue Light)	No

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	Private Car	Yes - BTHFT	Not supported by CHFT
Finance	Revenue	No	
	Capital	No	
Implementation		No	

**Therefore the Programme Board recommends (although this was not supported by the CHFT representatives) that WYAAT's recommendation to NHS England should be:**

- a. **Option 4.b - Preferred option of BTHFT (BRI) as the other arterial centre in the WY vascular network working with the arterial centre at LGI and the non-arterial local hospitals.**

### 9. Next Steps

- a. **NHS England.** Once WYAAT has completed the process in section 2, it will make its recommendation to NHS England, as the commissioner of vascular services. Considering WYAAT's recommendation, alongside other factors, NHS England will determine the next steps including the requirement for public engagement and formal consultation ahead of its decision. As commissioner, NHS England will be responsible for completing any engagement or formal consultation, although they will need substantial support from WYAAT.
- b. **Communications.** Communications will need to be handled very carefully for a number of reasons. Firstly WYAAT is only make its recommendation to NHS England, as requested, and this will only be one factor that NHS England considers in its decision making process. Public engagement, and potentially formal consultation, will be required before NHS England's decision so it is critical that WYAAT's recommendation is presented correctly as such and not as a decision. Secondly we are currently in a period of pre-local elections purdah until after 3 May.

For the period until WYAAT makes its recommendation to NHS England, communications, both externally and internally to staff, will be reactive rather than proactive. A reactive communications plan and statement are at Appendix 13.

Following WYAAT's recommendation to NHS England, NHS England will lead on communications and engagement, supported by WYAAT and the trusts. While it will be important that trust staff, particularly in vascular services, are briefed, for the reasons above, we will need to be very careful how it is presented. Trust comms teams will work with NHS England to agree internal communications to staff and to support external communications with media, local politicians, MPs and the public.

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**Appendices**

1. WY Vascular Activity Data, 2016/17
2. WY Vascular Financial Details
3. WY Vascular Network, Service Model and High Level Pathways
4. WY Vascular Network, Future Activity Distribution
5. Clinical Interdependencies (particularly Vascular-Renal), dated 29 March 2018
6. YAS letter re Emergency Travel dated 23 March 2018
7. WY Vascular Network Travel Analysis, Final Report, dated 27 March 2018
8. WY Vascular Network, Future Service Model Cost Impact
9. WY Vascular Network, Other Arterial Centre Facilities Requirement
10. BTHFT estimated capital costs and outline implementation plan
11. CHFT estimated capital costs and outline implementation plan
12. Equality Impact Assessment
13. Communications Plan

**References**

- A. Clinical Senate Review for Yorkshire and the Humber Vascular Services, Part 2 - January 2017
- B. WY Vascular Network MOU, dated 9 January 2018
- C. Yorkshire and the Humber review of specialised vascular services: report of patient and public engagement events, July–August 2016 (report by School of Health and Related Research, University of Sheffield, September 2016)
- D. WY Vascular Network Travel Analysis, Data Appendices, dated 27 March 2018