

Lancashire and South Cumbria

Pre-Consultation Business Case

Vascular Network Programme

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Purpose of this document

This Pre Consultation Business Case (PCBC) has been prepared by the Vascular Network Programme Team, in consultation with the Vascular Network Board membership, and in collaboration with Trust representatives and NHS England Specialised Commissioning NW.

The purpose of the PCBC is to present the rationale for the programme and the preferred option for delivering the Vascular Network Model of Care. It provides a tool for transparent, evidenced-based decision-making and a framework for the co-ordination, delivery, monitoring and evaluation of the resultant outputs, outcomes, and benefits.

The PCBC sets out:

- the strategic case for change nationally and in Lancashire, South Cumbria, and Wigan (LSC&W) for vascular services.
- how and why the proposed model of care was chosen, and the other options considered.
- plans for implementing the model of care.
- the impact of the proposed change and the economic, commercial, and financial considerations
- details of the governance and management of the programme delivery

The medium to long-term future of vascular services in Lancashire and South Cumbria (L&SC) (including the permanent site for the main Arterial Centre) will be determined by the L&SC Integrated Care Board (ICB) – as the central commissioning body - in partnership with the Provider Collaborative Board and NHS Trusts.

Glossary of Abbreviations

AAA	Abdominal Aortic Aneurysm	HOSC	Health Overview & Scrutiny Committee	PET-CT	Positron Emission Tomography – Computed Tomography
AC	Arterial Centre	HPB	Hepatobiliary	POAC	Pre-Operative Assessment Clinic
ACP	Advance Care Planning	ICB	Integrated Care Board	POVS	Pre-Operative Assessment Clinic
ACP	Advance Clinical Practitioner	ICS	Integrated Care Systems		The Provision of Services for patients with Vascular Disease
ADL	Active Daily Living [assessment]	ICU	Intensive Care Unit	PROM	Patient Reported Outcome Measure
AHP	Allied Healthcare Professional	IM&T	Information Management and Technology	rAAA	Ruptured Abdominal Aortic Aneurysm
AKA	Above-knee Amputation	IMD	Index Of Multiple Deprivation	RLI	Royal Lancaster Infirmary
ALI	Acute Limb Ischaemia	IR	Interventional Radiologists	RPH	Royal Preston Hospital
ANP	Advanced Nurse Practitioner	ISDN	Integrated Stroke Delivery Network	RTT	Referral-to-treatment
BAU	Business As Usual	IT	Information Technology	SDEC	Same Day Emergency Care
BKA	Below-knee Amputation	ITU	Intensive Therapy Unit	SMRC	Specialist Mobility Rehabilitation Centre
BSIP	Bus Service Improvement Plans	KPI	Key Performance Indicators	SOTW	Surgeon of the Week
BTH	Blackpool Teaching Hospital NHS Trust	L&SC	Lancashire and South Cumbria	SPA	Supporting Professional Activity
CAG	Clinical Advisory Group	LoS	Length of Stay	SRO	Senior Responsible Officer
CCG	Clinical Commissioning Group	LSC&W	Lancashire, South Cumbria and Wigan	SUS	Secondary Uses Service
CDH	Chorley District Hospital	LSOA	Lower LAYER? Super Output Areas	SVT	Superficial Venous Thrombosis
CEA	Carotid Endarterectomy	LTHT	Lancashire Teaching Hospital Foundation Trust	SWOT	Strengths, Weaknesses, Opportunities, Threats
CLTI	Chronic Limb Threatening Ischaemia	MDM	Multi-Disciplinary Team Meeting	TAA	Thoracic Aortic Aneurysm
CPB	Clinical Programme Board	MDT	Multi-Disciplinary Team	TAVI	Transcatheter Aortic Valve Implant
CRG	Clinical Reference Group	MDTM	Multi-Disciplinary Team Meeting	TIA	Transient Ischaemic Attack
CSF	Critical Success Factors	MLCSU	Midlands & Lancs Commissioning Support Unit	TU	Trauma Unit
CT	Computed Tomography	MR	Magnetic Resonance	TUPE	Transfer of Undertakings/Protection of Employment
CTA	Computed Tomogram Angiogram	MRI	Magnetic Resonance Imaging	TVN	Tissue Viability Nurse
CVD	Cardiovascular Disease	MSP	Managing Successful Programs	UHMB	University Hospital Morecambe Bay
CVS	Clinical Vascular Scientist	MTC	Major Trauma Centre	UHMBT	University Hospital Morecambe Bay NHS Trust
DVT	Deep Vein Thrombosis	NAAASP	NHS AAA Screening Programme	US	Ultrasound
ECG	Electrocardiogram	NEL	Non-Elective	USS	Ultrasound Scan
ED	Emergency Department	NICE	National Institute of Health and Care Excellence	VCFSE	Voluntary, Community, Faith, & Social Enterprise
EHIIRA	Equality & Health Inequalities Impact & Risk Assessment	NVR	National Vascular Registry	VNB	Vascular Network Board
EL	Elective	NWAAS	North West Air Ambulance Service	VPB	Vascular Programme Board
ELHT	East Lancashire Hospital Trust	NWAS	North West Ambulance Service	VSGBI	Vascular Society of Great Britain and Ireland
EPR	Electronic Patient Record	OD	Organisational Development	VSN	Vascular Specialist Nurse
EVAR	Endovascular Aneurysm Repair	ONS	Office of National Statistics	VSQIP	Vascular Services Quality Improvement Programme
FGH	Furness General Hospital	PACU	Post Anaesthesia Care Unit	VTE	Venous Thrombo-Embolic
FRCA	Fellowship Of The Royal College Of Anaesthesia	PAD	Peripheral Arterial Disease	WGH	Westmorland General Hospital
	GIRFT Getting It Right First Time	PAS	Patient Administration System	WTE	Whole Time Equivalent
GMC	General Medical Council	PBC	Programme Business Case		
GP	General Practitioner	PCB	Provider Collaborative Board		
HDU	High Dependency Unit	PCCPB	Provider Collaborative Clinical Programme Board		
HES	Hospital Episode Statistics	PCI	Percutaneous Coronary Intervention		

Executive Summary

This Pre-Consultation Business Case (PCBC) outlines the rationale and preferred option for establishing a single Vascular Network Model of Care across Lancashire, South Cumbria, and Wigan (LSC&W). The PCBC was prepared by the Vascular Network Programme Team, in consultation with the Vascular Network Board membership, and in collaboration with Trust representatives and NHS England Specialised Commissioning NW.

Section 1 - A Brief Introduction to the Vascular Specialty

Vascular surgery involves reconstructing, unblocking, or bypassing arteries and has evolved into a predominantly urgent care service. Advances rely heavily on specialist resources, such as minimally invasive procedures and Vascular Interventional Radiology (IR). The specialty is critical for treating frail patients with conditions like aneurysms and restricted blood flow, where delays pose a risk to life or limb. The overall vascular service includes diagnosis, outpatient management, inpatient care, day case activity, follow-up, and rehabilitation.

Section 2 - The Strategic Context

LSC&W serves an estimated 1.8 million people, characterised by high levels of deprivation and lower than average life expectancy. Future demand is driven by the aging population (with 72% of vascular surgical spells predicted to be for those aged 65+ by 2040) and rising prevalence of conditions like Diabetes and Hypertension. National guidance (i.e., NHS England service specification, GIRFT, and the Vascular Society for Great Britain and Ireland) mandates services be organised into networks (or 'hub and spoke' models). This structure requires centralising emergency and complex arterial work at specialised 'Arterial Centres' (hubs) that serve a minimum population of 800,000 to maintain high procedure volumes and better outcomes. The L&SC Provider Collaborative Board (PCB), formalised in 2020, supports this collaboration to standardise quality and build resilience.

Section 3 - Case for Change

The current model, involving two separate Vascular Centres (LTHT and ELHT), is non-compliant with the NHSE Service Specification and national guidance. ELHT's service area population (circa 550,000) does not meet the minimum population requirement of 800,000. Both centres show performance issues against national quality standards, notably failing to meet minimum procedure volumes for core index procedures (e.g., AAA repairs and carotid endarterectomy). Repatriation and rehabilitation challenges contribute to complex patient discharge and negatively impact patient length of stay. Risks of maintaining the status quo include continued variability in care, persistent recruitment and retention issues, underperformance against quality standards, and risk to patient safety and sustainability.

Section 4 - Critical Success Factors

The programme's Critical Success Factors (CSF) require the solution to: be strategically aligned with national guidance; meet improvement needs (including reducing variation and improving

mortality/morbidity); be safe, efficient, and sustainable; possess adequate capacity and capability; be deliverable; offer affordability/best value.

Section 5 - Anticipated Benefits

The proposed reconfiguration is essential to deliver core national recommendations and mitigate current risks. Key quantifiable and qualitative benefits include improved quality, patient outcomes, reduced variability, enhanced workforce resilience and sustainability (creating a high-volume centre of excellence), support for equitable access, and system-wide financial improvement. Specific financial modelling projects an overall system-wide financial improvement of £1.8 million per annum. Quality targets include achieving >60 AAA procedures and ≥35 CEA procedures per year.

Section 6 - Model of Care Development

The Vascular Programme Board (VPB), established in 2018, developed a vision focused on safety, efficiency, and improved outcomes which would meet the required standards in the NHSE service specification. An evaluation process ranked the establishment of a single Vascular Network transitioning to one Arterial Centre hosted by LTHT (Royal Preston Hospital, RPH) as the highest scoring option, fully aligning with the National Service Specification.

Section 7 - Future Model of Care

The future model sees the two services coming together to form a single Vascular Network. It centralises emergency and complex arterial work, consistent with the volume-outcome effect supported by clinical evidence. It ensures patients maintain local access to specialist care across the Network (BTH, ELHT, LTHT, UHMB, WWL).

- **Arterial Centre (AC):** Will be the single commissioned centre, hosted at RPH. It will provide all 24/7 consultant-led acute elective and emergency vascular surgery and complex arterial work. This site maintains the on-site requirements for co-dependent services.
- **Network Hospitals:** Will continue to provide comprehensive vascular diagnostic, outpatient, ambulatory care services, day case surgery, and rehabilitation. They will not have dedicated vascular inpatient beds, but specialist staff will be present regularly.

Section 8 - Stakeholder Engagement

Engagement since 2018 involved patients, clinicians, commissioners, and the public. Patient feedback was broadly supportive of centralising complex surgery for quality benefits, but concerns were consistently raised regarding travel and access, particularly in East Lancashire.

Section 9 - Implications from Implementing the Option

The centralisation plan involves the transfer of approximately 654 inpatient spells annually from ELHT to LTHT.

- **Infrastructure:** The proposed Arterial Centre capacity is 65 dedicated beds (48 acute and 17 sub-acute 'step-down' beds for rehabilitation), aligning with the 'achievable standard' for the LSC&W population. RPH will consolidate capacity into three dedicated vascular theatres (two hybrid, one standard). The model supports daily Vascular Hot Clinics at the Arterial Centre and weekly hot clinics at Network Hospitals.
- **Workforce:** The model proposes a consolidated vascular consultant body aiming for 21 WTE (1 per 100,000 population) and a sustainable middle-grade rota. The goal is to create a single, resilient L&SC IR Network Team.
- **Implementation Options:** The business case considers Doing Nothing as Option 1; or implementing the National Specification, through the establishment of a vascular network as Option 2.

Section 10 - Enablers

Successful implementation relies on key enablers: workforce, digital, estates, and sustainability. The Workforce strategy adopts a 'One LSC approach' to management, improving training, and centralising recruitment for specialist staff, enhancing resilience. Digital transformation focuses on streamlining IT systems, leveraging virtual consultations, and improving patient information flow. The Estates plan seeks efficient and sustainable use of infrastructure, aligning with NHS Net Zero Carbon commitments in new infrastructure where required.

Section 11 - Indicative Financial Modelling

The indicative financial modelling projects an overall system-wide saving/financial improvement of £1.8 million per annum. Funding is expected to follow activity from ELHT to LTHT. A total capital requirement of under circa £2m is profiled into 2026/27 plans at LTHT.

Section 12 - Plans for Consultation

The ICB is committed to an open, transparent, and inclusive public consultation (proposed eight weeks plus analysis) on the transfer of all vascular inpatient surgery to RPH. The consultation will meet legal duties and follow best practice guidance.

Section 13 - Management, Governance and Assurance

The management and governance of the programme adhere to the Managing Successful Programmes (MSP) methodology. Programme execution and monitoring align with PRINCE 2 project methodology. The Vascular Network Programme is overseen by the Provider Collaborative Clinical Portfolio Board (CPB). The Vascular Programme Board (VPB), chaired by the SRO, reports to the CPB, managing the programme plan, risk register, and benefits realisation register.

Integrated Impact Assessment

Assurance mechanisms include the Integrated Impact Assessment (IIA), encompassing a Quality Impact Assessment (QIA), an Equality and Health Inequalities Impact and Risk Assessment (EHIIRA), a Health Equity Assessment Tool (HEAT), and a Sustainability Impact Assessment (SIA).

As an additional independent assurance mechanism, the North West Clinical Senate and NHS England's 'Subject Matter Experts' also reviewed these assessments as part of their wider scrutiny process.

Section 14 - NHS England Four Tests

The proposal satisfies the assurance requirements of the NHS England Four Tests:

- **Test One (Public and Patient Involvement):** Extensive pre-consultation has occurred, utilising feedback (especially concerning travel and access) to refine the model. A formal public consultation is committed to.
- **Test Two (Patient Choice):** Patient choice is maintained for the majority of vascular care (outpatients, diagnostics). Centralisation limits choice for elective surgical care but this is mitigated by safety benefits, and choice regulations do not apply to urgent/emergency care.
- **Test Three (Clinical Evidence):** The case is strongly based on national clinical evidence supporting volume-outcome effects, drawn from GIRFT, the Vascular Society, and the NHSE service specification.
- **Test Four (Commissioner Support):** The proposals have the full support of the Lancashire & South Cumbria Integrated Care Board and NHS England Specialised Commissioning.
- **Bed Closures:** The system's total dedicated vascular bed capacity increases slightly from 64 to 65. Crucially, the dedicated vascular beds closed at ELHT will not be reallocated to other services/specialities without formal discussion and monitoring by the L&SC ICB.

Section 15 - Implementing the Vascular Network

The implementation adheres to NHS England's Assurance Processes and involves two key phases: Pre-implementation and Implementation. Pre-implementation involves detailed planning, assessing current ('as is') arrangements, and designing the future ('to be') blueprint for services, pathways, and infrastructure. This stage includes formal consultation for staff affected by the transition (e.g., TUPE processes), leading to staff being contracted by the host organisation (LTHT). The formal Implementation Phase commences upon endorsement of the Decision Making Business Case, involving enacting infrastructure plans, commissioning the single network contract, and the 'go live' transition of services. Risk Management uses robust arrangements, including a Risk Register reviewed monthly by the Vascular Network Board, with major risks (score 15+) escalated to the PCCPB. Benefits Realisation is monitored monthly via a Benefits Tracker, ensuring that the expected improvements in patient care, workforce, and efficiency are delivered.

Conclusion

There is a clear and compelling case for change to vascular services across Lancashire, South Cumbria and Wigan. The evidence demonstrates that the current configuration—two separate vascular services operating independently—is not compliant with NHS England’s Service Specification for Specialised Vascular Services, GIRFT recommendations or Vascular Society standards. As a result, our population is not receiving a consistently high-quality, safe or resilient service.

Several core elements of the NHSE Service Specification are not being met, including:

- Population Coverage: An arterial centre must serve $\geq 800,000$ people (ideally ≥ 1.2 million). One of our current services serves only $\sim 550,000$ —far below the required threshold.
- Mandatory Procedure Volumes:
 - ≥ 60 AAA repairs/year: one service completed 26; the other 56 (still below the national minimum)
 - ≥ 35 CEAs/year: one service completed 30 — below required levels.
- Hybrid Theatre Requirement: One of our current services does not have a hybrid theatre, failing a fundamental specification requirement.

These gaps affect the timeliness, safety and equity of care, including meeting targets for AAA repair within 8 weeks and carotid surgery within 14 days of first symptoms. Patients across our geography have therefore been receiving care through a model that has been non-compliant for many years, resulting in unwarranted variation and avoidable inequalities.

Interventional Radiology – ambition and next steps

Interventional Radiology (IR) is central to delivering a safe and compliant arterial centre. The PCBC sets out the ambition for a resilient network-wide Endovascular IR model. Further detail will be finalised within the Decision Making Business Case to ensure it is deliverable, sustainable and aligned to clinical need. However, the PCBC describes that

- Elective day-case endovascular procedures delivered at both LTH and ELHT
- All inpatient endovascular work relating to vascular surgery delivered at LTH.

The regional consultant-led on-call endovascular IR service will provide emergency endovascular procedures across the LSC and Wigan network.

A collaborative, resilient, single vascular network service

This proposal creates not just a compliant model, but a genuinely collaborative single vascular service for LSC&W. Rather than multiple centres competing for the same scarce specialist workforce, equipment and elective capacity, the new structure brings all Trusts together under one network model that:

- Builds resilience, with a larger clinical team, shared on-call arrangements and consistent access to specialist expertise.
- Provides stronger governance and quality oversight, with consistent standards and reduced variation.
- Enables faster diffusion of innovation, modern techniques and best practice across all sites.

- Creates a more attractive environment for recruitment, retention and training, supporting long-term sustainability.

Benefits for patients

The benefits for patients are substantial and directly linked to improved outcomes and experience. A single high-volume arterial centre will provide:

- Better survival and reduced complications, as high-volume centres consistently deliver superior outcomes for AAA, carotid and major arterial surgery.
- Faster access to urgent and time-critical interventions.
- Specialist care delivered in a centre of excellence, with immediate access to critical services such as major trauma, stroke, cardiology, critical care and IR.
- Improved rehabilitation and follow-up, with clearer pathways and reduced delays.
- More consistent clinical standards, ending the unwarranted variation that currently exists between sites.
- A fairer and more equitable model, ensuring every patient—regardless of geography—receives the same high standard of care.

Patients across our region deserve access to a modern, safe and nationally compliant vascular service. This proposal finally addresses the long-standing gaps that have persisted for years and ensures that our population can benefit from a recognised centre of excellence backed by a strong, unified network.

Final thoughts

Option 2 is a clinically robust, financially responsible and operationally deliverable solution that corrects historic inequalities, meets national standards and creates a modern, sustainable and resilient vascular network. It ensures no significant change to bed numbers, minimal capital investment with no requirement for external funding, and a projected £1.8m annual system-wide financial improvement — with all assumptions to be fully refined in the DMBC.

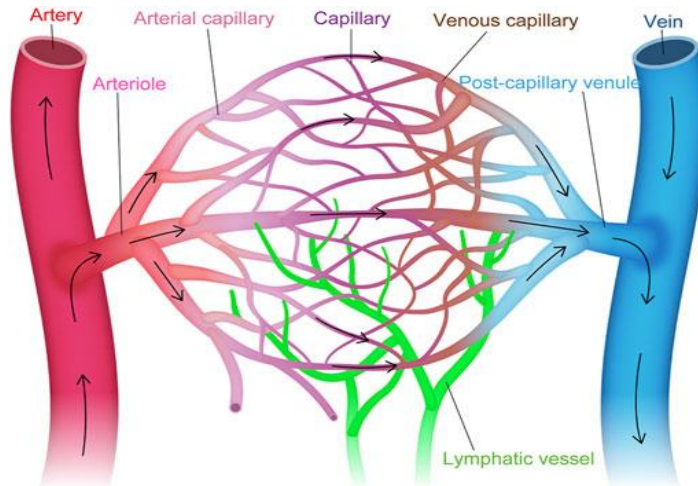
By adopting this option, Lancashire, South Cumbria and Wigan will deliver a fully compliant, future-proof, collaborative vascular service capable of supporting workforce sustainability, ensuring equitable access, and providing high-quality care for all residents.

1. A Brief Introduction to the Vascular Specialty

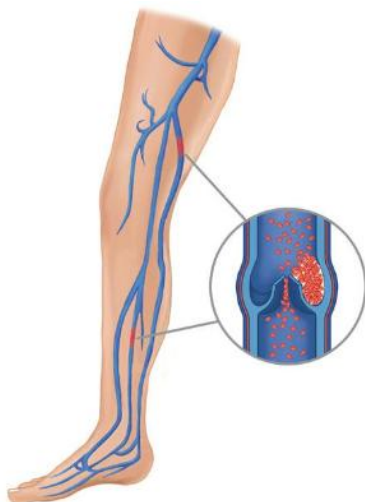
Vascular surgery covers a range of surgical procedures undertaken on veins and the lymphatic system – but the most important part of the vascular surgeon's work is to reconstruct, unblock or bypass arteries.

In undertaking these precision procedures, vascular surgeons restore blood flow to organs of the body helping to reduce sudden death, preventing strokes, restoring movement, and reducing the risk of amputation.

Simplified image of the main components of an animal's vascular system – showing arteries that generally bring oxygen rich blood from the lungs via the heart to organs of the body, and veins with blood in need of oxygen to the lungs.



In many cases, when first diagnosed, blocked, or narrowed arteries are treated with medication; surgery only takes place when blood flow is dangerously restricted. As such vascular surgery is predominantly an urgent/emergency response service and must be organised so that patients can get timely access to effective care.



Deep Vein Thrombosis

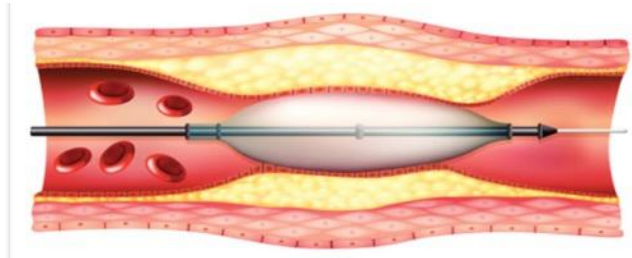
Some procedures are led or overseen by Vascular Interventional Radiologists – crucial in increasing the availability of vascular procedures. Interventional Radiology can be divided into different subgroups, including:

The majority of patients receiving vascular surgery are often very frail, with the surgery urgently needed to repair an aneurysm, improve blood flow to an organ (e.g. the brain) to prevent a stroke, or to a limb to avoid the need to amputate.

Compared to some other surgical disciplines, there is little room for delay to surgery, as whenever major surgery to arteries is required, there is always a risk to life or limb.

Vascular surgeons also provide expert advice and care for patients of other major specialties e.g. trauma, neurosurgery, cardiac surgery, dermatology, clinical laboratory services, nephrology, plastic surgery, and other disciplines.

- Vascular Intervention (Arterial) – procedures involving the arteries throughout the body such as angioplasty (balloon dilatation of narrowed blood vessels – as shown in this image to the right) or embolisation (blocking off blood vessels to tumours or when someone is bleeding internally).
- Vascular Intervention (Venous) – procedures involving the veins such as inserting lines into veins, inserting filters to prevent clot travelling around the body or using devices to suck clot out of blocked veins (thrombectomy).
- Non-vascular Intervention – procedures not involving the blood vessels such as unblocking kidneys (nephrostomy) or the liver.



Overall, the vascular service comprises the following elements:

- Diagnosis and assessment of vascular disease (including the input of the Vascular Laboratory and diagnostic imaging).
- Outpatient management of patients with peripheral arterial disease.
- Inpatient spells, emergency, and elective activity.
- Day case activity.
- Outpatient follow-up of patients receiving vascular surgery/endovascular interventions.
- Rehabilitation services (particularly for post amputation care).



That service is provided by a specialist Vascular Team which comprises Vascular Surgeons, Vascular Interventional Radiologists, Vascular Anaesthetists, Vascular Scientists, Vascular Specialist Nurses, Podiatrists, Radiographers, Physiotherapists, ward Nurses, theatre staff and rehabilitation specialists.

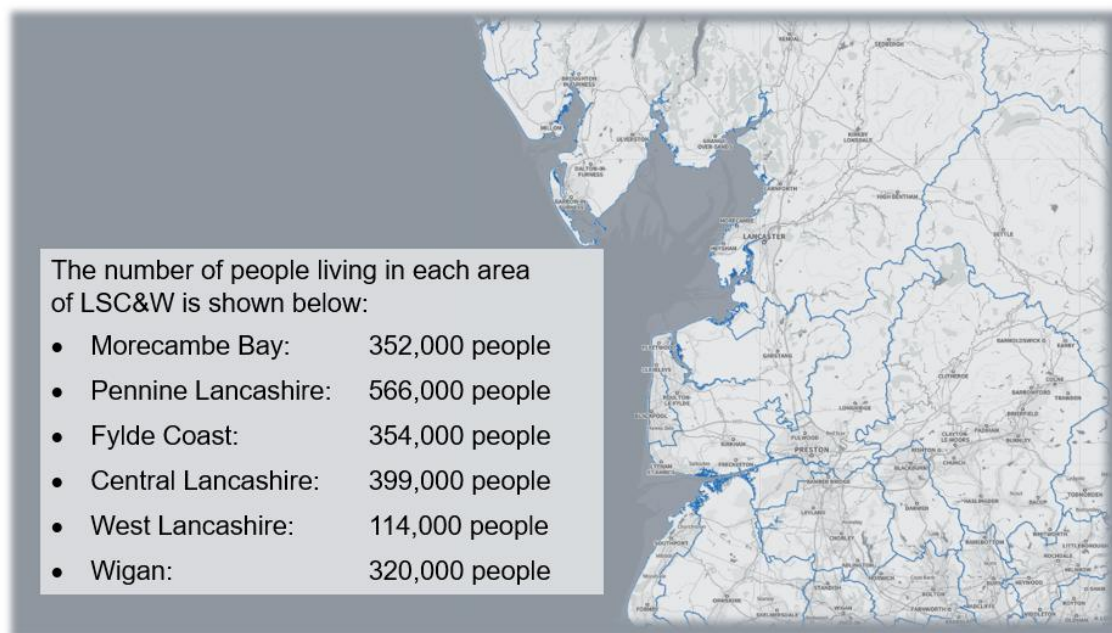
2. The Strategic Context

2.1 The Population's Health and Wellbeing

The 1.8 million people who live in Lancashire and South Cumbria have very different needs, opportunities, assets, views, and experiences.



The more we learn about our residents the more it is realised that they have different day to day lives, different factors contributing to their health and wellbeing and unfortunately even different life expectancies.



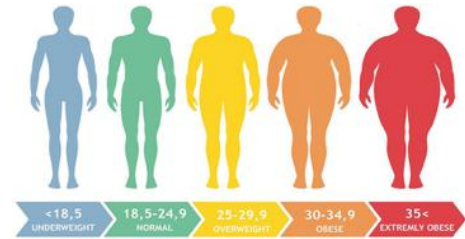
There are many challenges that our population faces.

Nearly a third of those residents live in some of the most deprived areas across England. 13% of people living in L&SC live in fuel poverty, unable to afford to adequately heat their homes, higher than the national average of 10.6%.

A significant proportion of children experience adverse living conditions leading to significant variation in their development and school readiness. The percentage of children living in poverty ranges from 12% to as high as 38% in L&SC, the national average is 30%.

Life expectancy in LS&C is lower than the national average. There is a significant level of unwarranted variation in the number of years people can expect to live a healthy life across Lancashire and South Cumbria. Healthy life expectancy and disability-free life expectancy is predicted to be less than the expected state pension age of 68 years for children born today. In some neighbourhoods, the average healthy life expectancy is as low 46.5 years.

Research suggests that around only a fifth of adults are meeting the recommended levels of physical activity. This is even less in some children with just 15% of young people aged 15 in Lancashire meeting recommended levels of physical activity, 14.1% in Blackpool and 12.4% in Blackburn with Darwen.



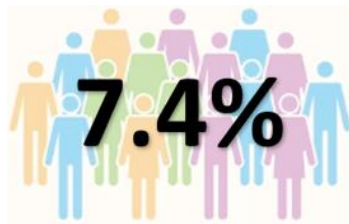
Of the 1.8 million in L&SC over 21,000 people have five or more long-term health conditions. The main causes of ill-health include cancer, cardiovascular and respiratory conditions. Data suggests that approximately 40% of all ill-health in LS&C is due to smoking, physical inactivity, obesity, and substance misuse. The percentage of adults who smoke in L&SC (18.5%) is above the national average for England (at 17.2%).

Two of those long-term health conditions are Diabetes and Hypertension. Damage to the Vascular system and the need for subsequent Vascular surgery can occur when such diseases are poorly managed.

Trends in the prevalence of both Diabetes and Hypertension in L&SC (according to Public Health England) show year-on year increases. Between 2010/11 & 2020/21 L&SC population prevalence rates for Diabetes increased by 1.3% (to 7.4% of the population in 20/21) and Hypertension increased by 1.2% (to 15.5% of the population in 20/21).



HYPERTENSION



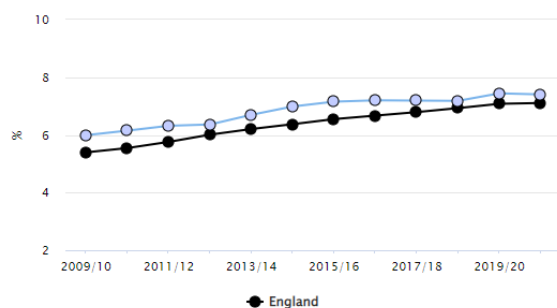
Lack of exercise and poor diet (often linked to the level of deprivation of the area that a person lives in) are all associated with an increasing incidence of Type 2 Diabetes.

Increases in the prevalence of obesity in the LSC population will likely have the biggest impact on the prevalence of diabetes in the next decade (11.7% of L&SC adults aged over 18 years were deemed obese from data collected in 2019/20, above the English average of 10.5%).

Trends in the prevalence of both Diabetes and Hypertension in Lancashire & South Cumbria (according to Public Health England¹) are shown in the charts below).

¹ <https://fingertips.phe.org.uk/>

Table 2.1 Diabetes: QOF prevalence (17+ years)

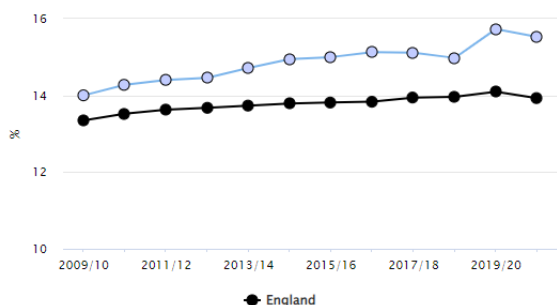


Recent trend: ↑ Increasing

Period	Lancashire and South Cumbria				England
	Count	Value	95% Lower CI	95% Upper CI	
2009/10	40,281	6.0%*	5.9%	6.0%	5.4%
2010/11	42,247	6.1%*	6.1%	6.2%	5.5%
2011/12	43,833	6.3%*	6.3%	6.4%	5.8%
2012/13	88,006	6.4%*	6.3%	6.4%	6.0%
2013/14	92,752	6.7%*	6.7%	6.7%	6.2%
2014/15	97,051	7.0%*	6.9%	7.0%	6.4%
2015/16	100,017	7.2%*	7.1%	7.2%	6.5%
2016/17	101,623	7.2%*	7.2%	7.2%	6.7%
2017/18	103,459	7.2%*	7.2%	7.2%	6.8%
2018/19	105,846	7.2%*	7.1%	7.2%	6.9%*
2019/20	107,447	7.4%	7.4%	7.5%	7.1%
2020/21	107,883	7.4%	7.4%	7.5%	7.1%

Source: Quality and Outcomes Framework (QOF), NHS Digital

Table 2.2 Hypertension: QOF prevalence (all ages)



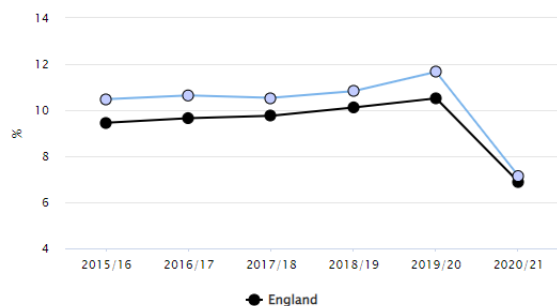
Recent trend: ↑ Increasing

Period	Lancashire and South Cumbria				North West	England
	Count	Value	95% Lower CI	95% Upper CI		
2009/10	200,011	14.0%*	13.9%	14.1%	13.8%*	13.4%
2010/11	204,754	14.3%*	14.2%	14.3%	14.0%*	13.5%
2011/12	209,324	14.4%*	14.3%	14.5%	14.1%*	13.6%
2012/13	228,412	14.5%*	14.4%	14.5%	14.2%*	13.7%
2013/14	232,384	14.7%*	14.7%	14.8%	14.2%*	13.7%
2014/15	237,836	14.9%*	14.9%	15.0%	14.3%*	13.8%
2015/16	240,806	15.0%*	14.9%	15.1%	14.4%*	13.8%
2016/17	263,602	15.1%*	15.1%	15.2%	14.5%*	13.8%
2017/18	268,279	15.1%	15.1%	15.2%	14.6%*	13.9%
2018/19	272,802	15.0%*	14.9%	15.0%	14.5%*	14.0%*
2019/20	280,203	15.7%	15.7%	15.8%	14.8%*	14.1%
2020/21	278,769	15.5%	15.5%	15.6%	14.6%	13.9%

Source: Quality and Outcomes Framework (QOF), NHS Digital

Factors related to obesity do contribute to the development of hyperlipidaemia and hypertension, both strong risk factors for vascular disease. Childhood obesity has also been linked to the development of diabetes and hypertension in later life.

Table 2.3 Obesity: QOF prevalence (18+)



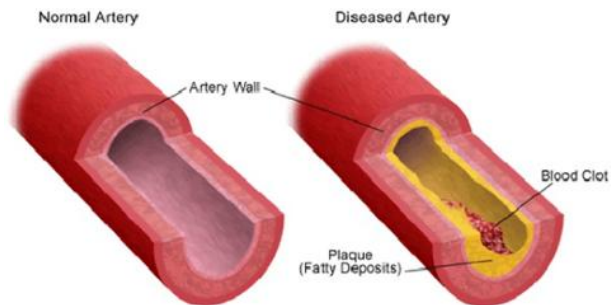
Recent trend: → No significant change

Period	Lancashire and South Cumbria				North West	England
	Count	Value	95% Lower CI	95% Upper CI		
2015/16	133,819	10.5%*	10.4%	10.5%	10.3%*	9.5%
2016/17	147,947	10.6%*	10.6%	10.7%	10.7%*	9.7%
2017/18	149,352	10.5%	10.5%	10.6%	10.7%*	9.8%
2018/19	157,489	10.8%*	10.8%	10.9%	11.2%*	10.1%*
2019/20	166,055	11.7%	11.6%	11.7%	11.7%*	10.5%
2020/21	102,509	7.1%	7.1%	7.2%	7.2%	6.9%

Source: Quality and Outcomes Framework (QOF), NHS Digital

It is also unfortunate that evidence not only suggests inadequate disease self-management in Patients with Diabetes during the COVID-pandemic response, but that the incidence rates of Type 1 Diabetes in children and adolescents were higher after the start of the COVID-19 pandemic than before.

Vascular disease is the major cause of ill health in Diabetes and the risks of vascular disease getting worse are higher in those Patients with Diabetes. It is likely that the great increase in the number of patients with diabetes over the next decade will have the biggest impact on Vascular services. Many of these Patients present as an emergency and are at high risk of amputation. Prompt treatment of an infected diabetic foot can reduce the risk of a subsequent amputation.



Increasing age is also associated with an increasing risk of Diabetes and hypertension. Although all population projections are subject to uncertainty, the Office of National Statistics (ONS) predicts that the population of the UK is projected to increase over the coming years.

Office for National Statistics Population Predictions

The population of the UK is projected to increase over the coming years. Although all population projections are subject to uncertainty, using predictive analysis supplied by the Office of National Statistics (ONS)² the following table and chart presents data supporting a proposed increase in the patient activity across the Vascular Network.

The table breaks the population of Lancashire & South Cumbria (in the Northwest of England) in 2019 into five-year age bands and applies a percentage change (increase or decrease) to each age band cohort to describe a suggested population size in 2030 and 2040. Using the same percentage difference the combined vascular surgery patient count for LTHT and ELHT is used to give an estimated future 2030 and 2040 spell count. Trust SUS data from 2019/20 was used as the baseline.

² National population projections: 2020-based interim

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2020basedinterim>

Table 2.4 - Analysis of patient activity from 2019/20 and predictions for 2030 and 2040 using L&SC ONS data.

Source	Office for National Statistics (ONS)			ONS		NHS SUS	Estimated NHS SUS	
Age Bands	Population Count L&SC	Predicted Population Count L&SC	Change in Population of L&SC (%)	Predicted Population Count L&SC	Change in Population of L&SC (%)	Actual Spell Count	Estimated Spell Count	Estimated Spell Count
Years	2019	2030	2019 to 2030	2040	2019 to 2040	2019/20	2030	2040
15-19	94,307	109,907	14.2%	99,416	5.1%	2	2.3	2.1
20-24	100,856	104,282	3.3%	102,654	1.8%	15	15.5	15.3
25-29	103,332	89,756	-15.1%	104,009	0.7%	16	13.6	16.1
30-34	99,323	95,881	-3.6%	100,574	1.2%	18	17.4	18.2
35-39	98,139	104,690	6.3%	92,531	-6.1%	33	35.1	31.0
40-44	91,912	105,612	13.0%	100,893	8.9%	46	52.0	50.1
45-49	111,407	103,825	-7.3%	109,688	-1.6%	68	63.0	66.9
50-54	122,765	97,441	-26.0%	110,552	-11.0%	110	81.4	97.8
55-59	119,302	110,828	-7.6%	108,704	-9.8%	141	130.2	127.3
60-64	103,133	122,826	16.0%	100,359	-2.8%	222	257.6	215.9
65-69	94,628	118,388	20.1%	108,989	13.2%	267	320.6	302.2
70-74	97,254	97,592	0.3%	114,354	15.0%	320	321.1	367.9
75-79	67,193	78,716	14.6%	101,426	33.8%	325	372.6	434.7
80-84	48,235	70,258	31.3%	72,503	33.5%	254	333.6	339.0
85-89	28,070	37,284	24.7%	44,627	37.1%	116	144.7	159.0
90+	15,791	19,351	18.4%	29,876	47.1%	35	41.4	51.5
All ages	1,395,647	1,466,636	4.8%	1,782,686	21.7%	1988	2084.2	2419.6

NB Although the All Ages data in the table above includes those of the population under 15, the analysis was only undertaken and presented on patients aged 17 years and above as per the scope of the programme.

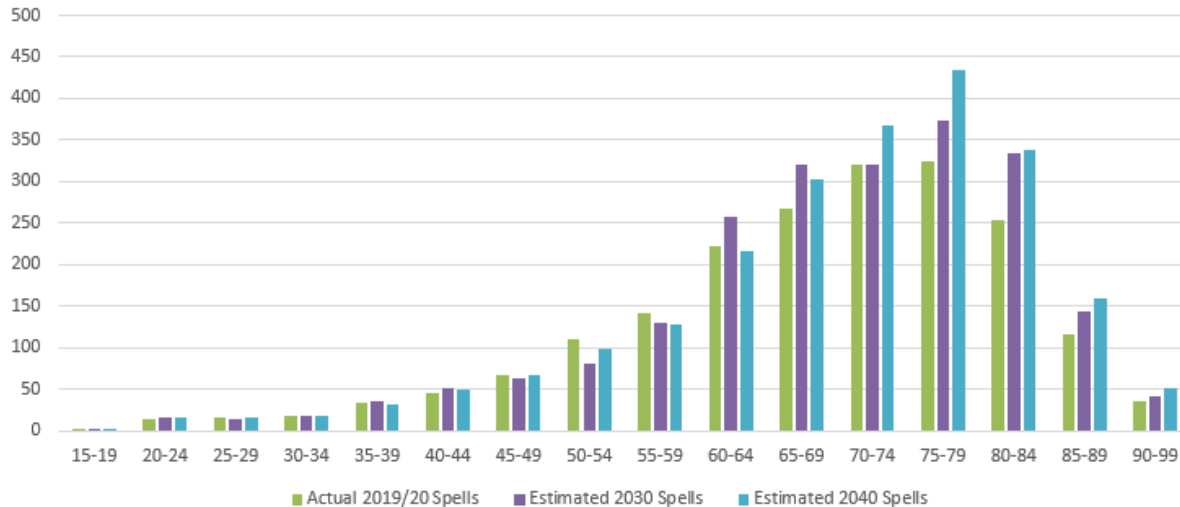
The change in the L&SC population size overall (all age groups) is proposed to be 4.8% by 2030 and over 21% by 2040 according to the ONS. However, the ONS analysis suggests a disproportionate growth in the number of older people. There is a 26% increase in the population size for those in the population who will be aged 65 years or more in 2040 (compared to a decrease of 1.5% in the 2040 population of those aged between 15 and 64 years).

Using the acute trusts' (2019/20) dataset it can be seen that of all the patients those admitted for vascular surgery 66% are aged 65 years or over. This group are at greater risk of having multiple comorbidities and more complex health needs.³ By 2040 this 65-years and over group account for 72% of the vascular surgical spells.

The chart below shows visually the change in patient count from the 2019/20 data to the predicted 2030 estimates and the disproportionate increase in older age bands.

³ Multi-morbidity predicted to increase in the UK over the next 20 years. National Institute for Health and Care Research (2018) <https://evidence.nihr.ac.uk/alert/multi-morbidity-predicted-to-increase-in-the-uk-over-the-next-20-years/>

Chart 2.5 Age distribution (5-year bands) for patient spells in Vascular Surgery at LTHT & ELHT (annual spells from 2019/20) with predicted spell activity for the Vascular Network in 2030 and 2040 (according to ONS trends).



As described further in this document without change the current and predicted trends in disease prevalence, population health, levels of deprivation, and an ageing population suggest that the impact on Vascular services could be significant.

2.2 A National View of Vascular Services

In recent years, Vascular surgical services have evolved into a predominantly urgent care service (according to the national Getting It Right First Time programme - GIRFT). Advances in technology and treatments have increased the options for vascular patients with specialist resources being required, for example, previous 'open' surgery techniques can now be carried out through minimally invasive procedures (which are technically more complex). England is also seeing an increasingly ageing population, a growing incidence of diabetes, and an increasing complexity of both patient comorbidity (two or more health conditions at the same time) and an increased necessity for intervention. Better outcomes have also been recorded from earlier service delivery, and nationally recommended timescales for interventions have been reduced.

There is also the increasing positive reliance on Vascular Interventional Radiology as the optimal intervention to arrest procedures such as acute haemorrhage (bleeding), rather than the historical open surgery options (particularly relevant in major trauma, pelvic/post-partum [obstetric] bleeding and gastrointestinal haemorrhage). In fact, after the development of specialist hybrid theatres, complex aortic artery interventions increasingly cross the boundaries between vascular surgery, Vascular Interventional Radiology, and Cardiothoracic surgery.

2.3 National Strategic Context

Evidence has been growing for more than a decade that vascular surgical units that carry out high volumes of specialised procedures have better patient outcomes.

In line with this evidence, the Vascular Society of Great Britain and Ireland published recommended standards (most recently in 2021 through *The Provision of Services for Patients with Vascular Disease*) that include vascular services being organised into what has previously been called 'hub and spoke' networks.

This network configuration ensures that patients have local access to a vascular specialist in all areas of the network, but that emergency and complex arterial work is centralised into fewer centres of excellence, known as 'Arterial Centres'

NHS England also published a national specification (2013) requiring specialist commissioned vascular services to be organised into networks with dedicated high volume Arterial Centres. The key requirements of NHS England's service specification for Vascular Networks are that:

- They serve a minimum population of 800,000 to generate the required volume of procedures at the arterial centre.
- They have a single central hospital providing arterial surgery and complex endovascular interventions – in this document called the 'Arterial Centre'.
- Each high-volume arterial hospital should:
 - Provide 24-hour access to specialist care including vascular surgeons, interventional radiologists, and specialist nurses, including sustainable on call rotas of 1:6 or greater.
 - Have at least one endovascular (hybrid) theatre.
 - Have specialist clinicians undertaking adequate volumes of core index procedures to ensure consistent safe quality care i.e., a minimum of:
 - 60 AAA (abdominal aortic aneurysm) per annum
 - 40 carotid procedures per annum
 - Submit cases to the National Vascular Registry (NVR) and publish their outcomes.
- The other Network Hospitals will continue to provide outpatient clinics and diagnostics; renal access; varicose vein procedures; review of in-patient vascular referrals; and rehabilitation.
- Patients should travel to the Arterial Centre only for specific arterial and complex endovascular interventions. The pre- and post- procedure care related to these interventions should be delivered, whenever possible, at the Network Hospital local to them.

NHS Improvement's national Getting It Right First Time (GIRFT) is a programme of work designed to improve the treatment and care of patients through in-depth reviews of services, benchmarking, and the presentation of evidence backed by data to support transformation.

GIRFT has also made similar pivotal recommendations for vascular services. The National Specialty Report on Vascular Surgery (published by Professor Michael Horrocks, 2018) set out seventeen recommendations to improve the delivery of vascular surgery in the NHS in England.

The recommendations (developed from visits to all 70 NHS English trusts that conduct vascular surgery) focused primarily on the way that vascular surgery is organised and delivered. The central goal was to enable patients to receive urgent surgery sooner - which, it was suggested, would deliver better surgical outcomes for seriously ill patients, reduce length of stay, cut re-admissions, and make

better use of scarce surgical resources. The report calculated that 100 additional lives a year could be saved by creating vascular networks across the NHS.

Central to this case for change, it recommended that all vascular surgical units operate within a 'Network Model', as defined by the national service specification, emulating the most advanced network models that exist currently.

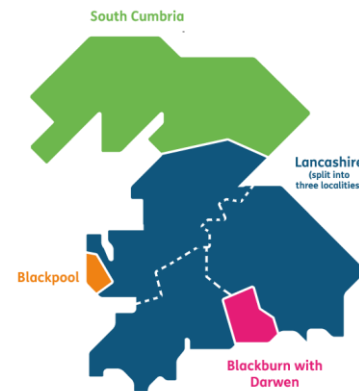
Any proposed change to the services in L&SC must meet or exceed the standards published by:

- NHS England - *Service Specification 170004/S. Specialised Vascular Services (Adults)* (2016).
- Vascular Society of Great Britain & Northern Ireland – *The Provision of Services for People with Vascular Disease* (2021).
- British Society of Interventional Radiology (BSIR) - *Provision of Interventional Radiology services* (2014).

2.4 L&SC Collaboration

Lancashire and South Cumbria (L&SC) Health and Care Partnership covers a large and complex geography with many NHS Providers that until recently had worked collaboratively only on discrete pieces of work, driven by a shared ambition to do the very best for patients, its staff, and the local communities.

Collaboration during the COVID-19 pandemic response demonstrated what could be done together at scale and as a result the acute Trust Boards decided to form a 'Provider Collaborative' to enable more consistent closer working.



Formalised in July 2020 the L&SC Provider Collaborative Board (PCB) consists of all NHS Trust Chief Executives and Chairs.

By collaborating and working across single, larger, more resilient teams, the intention is that L&SC will be able to standardise service quality and ensure more effective leverage within the various transformational programmes across the system. A network approach will also give opportunities to develop specialist expertise associated with centres of excellence while continuing to deliver local services. Benefits from such a networked approach, include:

- offering system-wide resources to deliver improved quality and financial outcomes while still maintaining L&SC-wide access to services.
- creating resilience which allows organisations and staff to withstand greater stresses than they could if working on their own in isolation.
- improving patient care by offering better access to services which are better coordinated and offer consistent support and advice.
- offering a more attractive working environment across a range of different domains, meaning that the system is better able to recruit into vacancies and retain staff.

2.5 Service Review: Initiation of the Vascular Network Programme

The Lancashire and South Cumbria Integrated Care System (ICS) undertook a wide-ranging review with local communities and NHS provider organisations to prioritise which clinical services were considered fragile and potentially required transformation.

L&SC NHS Providers and Commissioners came together in July 2018 to discuss the vascular service at the time and identified key areas where there is was underperformance against the national clinical standards and recommendations.

A summary of these 'drivers for change' from that meeting are shown below (and explored in greater depth in the following sections):

- the centres are not working within recommended network configuration.
- neither Vascular Centre is achieving Below Knee: Above Knee ratio target.
- the population size of ELHT does not meet minimum requirements ($\geq 800k$).
- repatriation and rehabilitation services are challenged across the region.
- variation in services provided at the local sites.

3. Case for Change

3.1 Centres Not Working to NHSE Service Specification

The key requirements of NHS England's service specification for vascular networks are that:

- They serve a minimum population of 800,000 to generate the required volume of procedures at the arterial centre.
- They have a single (hub) hospital providing arterial surgery and complex endovascular interventions. Each high-volume arterial hospital should:
 - Provide 24-hour access to specialist care including vascular surgeons, interventional radiologists and specialist nurses, including sustainable on call rotas of 1:6 or greater
 - Have at least one endovascular (hybrid) theatre
 - Have specialist clinicians undertaking adequate volumes of core index procedures to ensure consistent safe quality care: a minimum of 60 AAA and 40 carotid procedures per annum. Each surgeon should undertake at least 10 AAA procedures per annum.
 - Submit cases to the National Vascular Registry (NVR) and publish their outcomes
- The other network hospitals continue to provide outpatient clinics and diagnostics; renal access; varicose vein procedures; review of in-patient vascular referrals; and rehabilitation.
- Patients should travel to the arterial centre only for specific arterial and complex endovascular interventions. The pre- and post- procedure care related to these interventions should be delivered whenever possible at the local non-arterial centre.

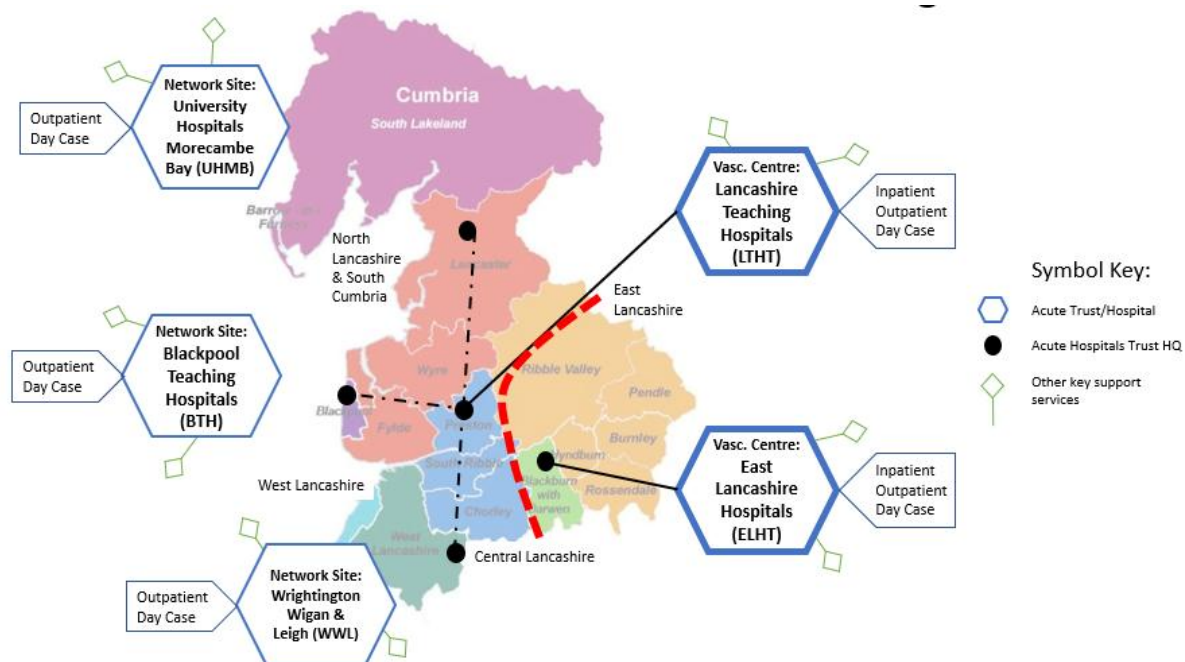
Current Services in Lancashire, South Cumbria, and Wigan

The current vascular service structure was commissioned in 2013 following a Cardiac and Stroke Network review of vascular services which started in 2011⁴.

Lancashire Teaching Hospital NHS Foundation Trust (LTHT) and East Lancashire Hospital NHS Trust (ELHT) provide vascular inpatient and outpatient services for L&SC (as Vascular Centres).

Following the reconfiguration of services in 2013 LTHT provides vascular services to North, Central and West Lancashire, South Cumbria, and Wigan. Inpatient surgery is carried out at Royal Preston Hospital (RPH) with outpatient and day case services provided at Blackpool Teaching Hospital NHS Foundation Trust (BTH), University Hospital Morecombe Bay NHS Foundation Trust (UHMB) and Wrightington, Wigan, and Leigh NHS Foundation Trust (WWL).

ELHT provides vascular services to East Lancashire and whilst providing some community-based services it is not part of a network, nor does it currently partner with another acute trust.



As such, the system is non-compliant within the NHSE Service Specification for Vascular (with ELHT providing services separately to a 550,000 population) does not meet the recommended clinical network structure that has been given in national service specification from NHSE, GIRFT recommendations, or indeed locally from the recent service reviews, nor the L&SC ICB Strategy.

⁴ Improving Vascular Services: A Case for Centralisation of Vascular Services in Lancashire and Cumbria, authored by Natalie Park. http://www.csnlc.nhs.uk/uploads/files/FINALmodel_may2011.pdf

Table 3.1 Information on the L&SC Trusts

Trust ⁵	East Lancashire Hospitals NHS Trust	Lancashire Teaching Hospitals NHS Foundation Trust	Blackpool Teaching Hospitals NHS Foundation Trust	University Hospitals of Morecambe Bay NHS Foundation Trust	Wrightington, Wigan, & Leigh Teaching Hospitals NHS Foundation Trust
Estate	There are two acute hospital sites, Royal Blackburn Hospital & Burnley General Hospital providing the main support to vascular surgery services. There are three community hospital sites: Accrington Victoria Hospital; Clitheroe Community Hospital & Pendle Community Hospital. The trust also provides services from community sites across East Lancs.	There are two acute hospitals delivering acute services which include vascular services: Royal Preston Hospital & Chorley & South Ribble Hospital, plus a Specialist Mobility & Rehabilitation Centre.	Blackpool Teaching Hospitals NHS Foundation Trust (BTH) comprises Blackpool Victoria Hospital (Trust Headquarters) & two smaller community hospitals Clifton and Fleetwood. BTH is also one of four tertiary cardiac centres in the Northwest of England providing specialist cardiac services to heart Patients from Lancashire & South Cumbria. The Trust also provides a wide range of community health services to the 445,000 residents of Blackpool, Fylde, Wyre & North Lancashire.	University Hospitals of Morecambe Bay NHS Foundation Trust (UHMBT) operates from three main hospitals: Furness General Hospital (FGH) in Barrow, the Royal Lancaster Infirmary (RLI), & Westmorland General Hospital (WGH) in Kendal, as well as a number of community health care premises.	Wrightington, Wigan, & Leigh Teaching Hospitals NHS Foundation Trust (WWL) provides acute clinical services from five main sites: Royal Albert Edward Infirmary, Wrightington Hospital, Leigh Infirmary, Thomas Linacre Centre & Boston House. It also has a number of community services across a range of locations within the borough. Wigan, town & metropolitan borough is classed as part of the metropolitan county of Greater Manchester. Other specialist services are provided to a wider regional & catchment by WWL.

⁵ <https://www.cqc.org.uk/>

Trust ⁵	East Lancashire Hospitals NHS Trust		Lancashire Teaching Hospitals NHS Foundation Trust		Blackpool Teaching Hospitals NHS Foundation Trust		University Hospitals of Morecambe Bay NHS Foundation Trust		Wrightington, Wigan, & Leigh Teaching Hospitals NHS Foundation Trust	
Vascular Services	Provides routine & complex elective & emergency vascular surgery interventions & diagnostics, including arterial & carotid artery surgery (endarterectomy), leg ulcer repair, general vascular surgery, abdominal aortic aneurysm (AAA) repair & treatment for varicose veins. The Trust provides regional specialist care for hepatobiliary, head & neck & urological cancer services.		Provides routine & complex elective & emergency vascular surgery interventions & diagnostics, including arterial & carotid artery surgery leg ulcer repair, general vascular surgery, abdominal aortic aneurysm (AAA) repair & treatment for varicose veins. The Trust is also a regional specialist centre for services such as cancer, disablement (e.g. artificial limbs & wheelchairs), major trauma, neurosurgery & neurology, plastics & also for renal disease.		Routine day case & outpatient vascular services are provided to the local patient population by LTHT at Blackpool Victoria Hospital. BTH Patients are provided complex elective & emergency vascular surgery & interventions at Royal Preston Hospital. The Trust provides tertiary cardiac, haematology & adult cystic fibrosis regional services, & hosts the National artificial eye service, which provides services across England.		Routine day case & outpatient vascular services are provided to the local patient population by LTHT at UHMBT. Local UHMBT Patients are provided complex elective & emergency vascular surgery & interventions at Royal Preston Hospital (LTHT).		Routine day case & outpatient vascular services are provided to the local patient population by LTHT at WWL sites. Local WWL Patients are provided complex elective & emergency vascular surgery & interventions at Royal Preston Hospital (LTHT).	
Population Served	Serves a population of approximately 550,000 across East Lancashire & Blackburn with Darwen & a range of specialised services to an estimated 1.5 million Patients in L&SC.		Serves an estimated population of 390,000 people in the Preston & Chorley areas & a range of specialised services to an estimated 1.5 million Patients in L&SC.		Serves a population of approximately 330,000 residents across Blackpool & the Fylde coast & a range of specialised services to an estimated 1.5 million Patients in L&SC.		The acute trust serves a population of approximately 352,000 residents across South Cumbria.		The acute trust serves a local population of 326,000 (a Lancashire & Greater Manchester footprint). Specialist orthopaedics services are provided to a wider regional, national & international population.	
		550k		1.5m		330k		352k		326k

Table 3.2 Summary Activity

The current configuration of the two Vascular Centres sees vascular inpatient activity for Blackpool and Morecambe Bay Hospital sites (and a small number of Wigan hospital's patients) undertaken at LTHT. Thus, the inpatient day case, elective (planned, EL), and non-elective (emergency/unplanned, NEL) activity coded to vascular services is recorded within LTHT, figures accordingly. The activity figures shown in the table below for 2024/25 is derived from SLAM income data.

Organisation	Day Case Spell Totals	Elective Spell Totals	Non-Elective Spell Totals
East Lancashire Hospital Trust	893	305	349
Lancashire Teaching Hospital Foundation Trust	651	677	356
Total	1544	982	705

Table 3.3 Current Estate

The following table presents an overview of the current infrastructure for the two Vascular Centres (as of April 2024).

Item	East Lancashire Hospital Trust	Lancashire Teaching Hospital Foundation Trust
Hybrid Theatres	0	1
Dedicated Theatre sessions (per week)	13.5	20
Acute beds (dedicated to vascular patients)	20	33
Additional bed usage	0	11
Acute Critical Care beds	1	4

3.2 Trust Catchment Populations

The *Provision of Services for People with Vascular Disease* (published in 2021 by the Vascular Society)⁶ is a guidance document that aims to assist commissioners, providers, and clinicians to deliver the ambition of world class care for patients with vascular disease.

POVS advocates the GIRFT recommendation of a 'hub and spoke' model and provides a framework for delivering regional vascular networks. The guidance states that *eight hundred thousand people has become the established minimum population for UK Vascular networks* (aligned to figure from the AAA screening programme and based on the number of patients

⁶ https://www.Vascularsociety.org.uk/_userfiles/pages/files/Resources/FINAL%20POVS.pdf

needed to provide a comprehensive emergency service, maintain competence among vascular specialists and nursing staff; the most efficient use of specialist equipment, staff and facilities, and improvement in patient outcome associated with increased caseload)⁷.



Across most of the UK, a network population size of greater than 1.2 million people is needed to provide the volume of potential aortic cases to drive better outcomes. LTHT provides district general hospital services to 390,000 people in Preston and Chorley. Following the 2013 reconfiguration it also provides vascular services to Blackpool (BTH), South Cumbria (UHMBT) and Wigan (WWL) – an additional 1m people across those catchment areas of Lancashire and South Cumbria (above the recommended 1.2m).

ELHT serves a population of 550,000 across East Lancashire and Blackburn with Darwen, which on its own is well below the recommended 1.2m population.

Table 3.4 – Trust Populations

ELHT		LTHT		<i>BTH</i>		UHMBT		WWL	
	550k		390k		330k		352k		326k

An Arterial Central across Lancashire and South Cumbria alone would cover around 1.8 million people (the estimated population of L&SC), plus the potential population within the WWL catchment area (estimate at 326,000) – an approximate total of 2.1 million people.

3.3 Repatriation and Rehabilitation Challenges

Most vascular surgical patients are fit to be discharged from hospital relatively soon after treatment with minimal issues for a safe repatriation. A follow up outpatient appointment at the Patients' local hospital with their vascular specialist should enable a satisfactory episode of care.

A proportion, however, will require prolonged rehabilitation and/or attention to social issues (e.g., following an amputation).



The preferred solution, wherever possible, is for more complex cases to be repatriated directly to either intermediate or community care without the need for repatriation to a local hospital.

If repatriation is deemed the most appropriate course of action, then it is usual that care be transferred to an appropriate non-vascular specialist e.g., Stroke, Care of Elderly, General Surgery, etc.

ELHT and LTHT both have Therapists working as part of a larger surgical team, covering six ward areas and in the region of 130 beds. ELHT have a weekend service, for which the rota utilises

⁷ [specialised-Vascular-services-service-specification-adults.pdf \(england.nhs.uk\)](https://www.england.nhs.uk/publication/specialised-vascular-services-service-specification-adults/)

therapists from all specialties, resulting in potentially less specialist input over a weekend (LTHT do not have a 7-day provision). ELHT have a small pre-operative service (LTHT do not have this option).

The LTHT Therapy service on the 33-bedded vascular ward receives between 550-650 referrals per year. Since 2019 the service has assessed and rehabilitated an average of 152 major amputation Patients each year. The ELHT Therapy service receives on average 390 referrals per year, 36 of these being major amputations (through the 20-bed vascular ward at Royal Blackburn Hospital).

Patient discharge from acute settings can be highly complex given the nature of vascular surgery. There are various discharge pathways for both Trusts, which can be complicated, with varying processes and referral routes (that can be highly time consuming for clinicians).

Across L&SC there are no formal repatriation agreements for vascular Patients, further adding to the discharge complexities and negatively impacting length of stay.

There are varying degrees of rehabilitation service offers across the system, creating inequalities for patients. Rehabilitation is further complicated by not having repatriation agreements and no direct referrals from LTHT to some settings, meaning some Patients experience significant delays in accessing rehabilitation. There is a similar picture for community and outpatient therapy services, while a lack of standardisation and access is creating inequalities and increasing the long-term burden on health and social care. Other key issues include:

- Access to equipment. Delays to provision are experienced, with limited bariatric equipment available and delivery unavailable to LTHT from some regional stores.
- Increasing complexity of patients. A greater patient acuity requires more therapy time and a greater number and diversity of therapists per intervention.
- Estate: Currently LTHT has an aging estate and small bed spaces, with no clinical therapy ward space. Both Trusts have limited access to outpatient gyms and specialist equipment.

Both Trusts are working on improvement projects and have identified future aspirations for their services. There are projects of work that will commence to improve inequalities for Patients across L&SC, including repatriation agreements, standardised rehabilitation offers and referral process.

3.4 Network Hospital Site Variation

Guidance from the Vascular Society states that:

a Vascular Network should provide equity of access to specialist vascular care irrespective of where a person lives, or the hospital to which they first present.

maintaining access to a vascular service close to where people live is central to the success of the network.

The guidance also goes on to say in outline that each hospital trust within the network should provide for the Vascular service:



- Outpatient clinic rooms with appropriate staff
- Diagnostic imaging
- Day case lists
- Interventional radiology facilities
- Diabetic footcare services
- Work up for intervention (cardiology, respiratory and renal)

As has been identified in previous sections although quality vascular services are provided at the Vascular Centres and partner Hospitals within Lancashire, South Cumbria, and Wigan, too many examples exist of underperformance and improvements being required to give parity of access and continuing high quality care to patients across the geography.

NHS Trusts are also mandated to publish data against the national quality standards, The table below shows the status of vascular services in LTHT and ELHT against the key metrics that have been shown to deliver improved outcomes and meet national requirements. A number of the metrics to not meet national clinical standards.

Table 3.5 Vascular Centres: Performance Against National Standards

Key Metrics	LTHT	ELHT	Comments
24/7 access to specialist care including vascular surgeons, interventional radiologists, and specialist nurses, including sustainable on call rotas of 1:6 or greater	Yes	Yes	Data May 2023
6 Vascular Surgeons.	Yes	Yes	Data May 2023
Consultant on call rota (1:6)	1:11	1:6	Data May 2023
On call Vascular Interventional Radiology	Yes (1:10)	Yes (1:8)	Data May 2023
At least one endovascular theatre	Yes	No	
Have specialist clinicians undertaking adequate volumes of core index procedures to ensure consistent safe quality care ⁸	No	No	Data 2021
o Elective infrarenal AAA repairs	56	26	April-23 to Mar-24
o EVAR (Endovascular Aneurysm Repair)	68% (38)	31% (8)	April-23 to Mar-24
o Performed within 8 weeks of assessment (NSAASP target 80%)	24%	23%	April-23 to Mar-24
o Total Aortic Procedures	96	35	April-23 to Mar-24
o Carotid endarterectomy (CEAs) for symptomatic disease (target =>35)	88	30	April-23 to Mar-24
o Performed within 14 days of symptoms (NICE guidance 50%)	31% (27)	57% (17)	April-23 to Mar-24
o Total carotid procedures	90	32	April-23 to Mar-24
o Non-elective CLTI (Chronic Limb-Threatening Ischaemia) cases	168	57	April-23 to Mar-24
o Total lower limb revascularisations	447	385	April-23 to Mar-24
o Major amputations	106	68	April-23 to Mar-24
o Proportion that were Below Knee Amputation (BKA) - target >50%	54%	53%	April-23 to Mar-24

⁸ https://rcs-ceu.shinyapps.io/NVR_dashboard/

Key Metrics	LTHT	ELHT	Comments
Submit cases to the National Vascular Registry (NVR) publishing outcomes	Yes	Yes	Data May 2023
Part of a comprehensive Vascular Network	Yes	No	Current
Risk adjusted survival rates; AAA (NVR data) ⁸	98.7%	96%	Data 2019-21

For note, the full list of quality and clinical standards can be found in Appendix E (National Quality Standards and Guidance).

3.5 Scope of Lancashire, South Cumbria & Wigan Vascular Network Programme

The scope of the programme includes emergency and planned inpatient specialised vascular treatment, excluding heart disease, heart surgery or the management of the common types of stroke.

It includes patients (aged 17 years or over) treated within the following Trusts:

- Blackpool Teaching Hospitals NHS Foundation Trust (BTH)
- East Lancashire Hospitals Trust (ELHT)
- Lancashire Teaching Hospitals NHS Foundation Trust (LTHT)
- University Hospitals of Morecambe Bay NHS Foundation Trust (UHMB)
- Wroughton, Wigan, and Leigh Foundation Trust (WWL)

It does not propose any major change to outpatient, diagnostic process, or day case provision across those Trusts in LSC&W.

3.6 Interdependencies with other Services and Providers

Vascular surgery has links to a wide range of other clinical specialties and services (whether in support to or requiring support from).

*The Clinical Co-Dependencies of Acute Hospital Services*⁹ is a national reference document that guides decisions on which acute hospital services need to be co-located. Produced independently by the South East Clinical Senate, it updates and builds on the 2014 version, drawing on an extensive evidence base including NICE guidance, Royal College standards, national clinical reference groups, published literature, and wide clinical consensus. It provides an impartial, system-wide framework for commissioners and providers, ensuring that service reconfigurations are informed by best practice and patient safety considerations rather than local preference.

The report sets out a co-dependency grid which defines, by service, the degree of inter-relationship required. Categories distinguish between services that must be on the same site (purple), those requiring urgent visiting/in-reach support (red), those where strong transfer protocols are sufficient (amber), and those that can operate through established referral pathways (green). This framework is widely recognised across the NHS as the evidence-based standard for determining acute service configuration and underpins the case for ensuring that vascular arterial centres are co-located with the critical specialties identified within it.

⁹ The Clinical Co-Dependencies of Acute Hospital Services (Dec 2014 - updated Jan 2024) [South East Clinical Senate | Independent, clinical and strategic advice for health systems in the South East](#)

The co-dependencies set out in the document give a strong rationale for the proposed location of the single arterial centre.

The full table can be found in Appendix A, with the most relevant specifics given below. The specialties which a Vascular Surgery Arterial Centre is reliant upon and should be colocated in the same hospital are:

- General Surgery – upper and lower GI
- Critical Care
- General Anaesthetics
- Comprehensive Stroke Centre
- X ray and diagnostic ultrasound
- CT/ MRI scanning
- Interventional radiology
- Occupational therapy
- Physiotherapy

In addition to this, we can use the document to see other specialties which are reliant upon a vascular arterial centre to be on the same site, these are Major Trauma Centre and the Hyper Acute Stroke Centre.

The following gives a brief summary of relevant specialties within LSC:

Lancashire Teaching Hospital Foundation NHS Trust¹⁰ houses the region's Major Trauma Centre (based at Royal Preston Hospital) which also provides regional specialist renal, plastics and burns, and neurosciences services. The Specialist Mobility and Rehabilitation Centre, also in Preston, provides care for people with disabilities including amputees (many following vascular surgery). It is also the location of the system Comprehensive Stroke Centre.

One of the current LTH-partnered Network Hospital sites, Blackpool Teaching Hospitals NHS Foundation Trust, is one of four tertiary cardiac centres in North West England, providing specialist cardiac services to heart patients and is also a provider of specialist tertiary care for Haematology services across the region.

Network Hospital sites, although transferring acutely ill/emergency patients to the Arterial Centre and generally caring for patients of lesser acuity, will still need co-location with an Intensive Treatment Unit, general surgery and anaesthetics, and access to on-site interventional radiology (even if not an out-of-hours service).

The availability to perform non-urgent angiography and angioplasty and vascular investigations will exist at the Network Hospital, reducing the need for transfer of patients for investigations and ensuring care is delivered closer to home.

General surgery or orthopaedics input for patients at the Network Hospitals (to aid both in triage before referral to the Arterial Centre and to perform, for example, simple foot debridement surgery under the guidance of the vascular surgery team) is already in place.

In moving to a single Arterial Centre for LSC, we need to take account of where these other services are locating in determining the location for the future centre.

In addition to this, the VPB has undertaken work which identifies the day to day working relationships between relevant specialties – the detail of this is given in appendix A

¹⁰ <https://www.nhs.uk/Services/hospitals/Overview/DefaultView.aspx?id=907>

3.7 Risks Associated with Doing Nothing

Maintaining vascular services across the five hospital sites has become more challenging in the past three years, for example with difficulties from recruiting and retaining staff, and the impact that this has upon sustaining adequate rotas.

This paper has demonstrated evidence to suggest that changes to vascular services are needed to meet national standards and also to support the continued provision of high-quality care. If change is not implemented there are risks to the safety and the sustainability of vascular services in LSC&W. Table 3.6 below shows the risks of failing to take action to change the current position.

In summary, there is a risk that if the vascular inpatient services remain unchanged, Patients will continue to receive variable care, with surgeons who are unlikely to meet the national minimum count for procedures per annum and continue to have underperformance in some service areas. This would ultimately affect the quality of care for patients. [OBJ]

Table 3.6 Risk Assessment for Doing Nothing

Key Risk Description	Cause/Current position	Consequence	Level
Risk to the provision of consistent, high quality patient care and treatment across L&SC	The L&SC system is not compliant with the NHSE Vascular surgery standard specification. LTHT is working within the recommended network configuration; ELHT is not. There has previously been limited formal collaboration & standardised care pathways between ELHT & LTHT.	Inconsistent treatment pathways pose a risk to patients by introducing variability, fragmentation, and potential errors into their care journey. When healthcare providers follow different procedures for the same condition, it breaks down continuity and can impact patient safety, health outcomes, and trust in the system.	High
Risk to timely and high quality patient care due to challenging, limited, or a lack of joint working with other services.	Repatriation and rehabilitation services are challenged across the region, with limited formal commissioned pathways for patients to be referred to and care provided at.	L&SC ICB system data ¹¹ for length of stay (LoS) following admission (for both emergency & elective) remains disproportionately high compared to peer and national average values. Both Vascular Centres ¹² also exhibit areas of above average LoS for patients following emergency and elective admission. Poor pathway links with community providers increases the patient repatriation time following surgery	High

¹¹ [LSC ICB Inpatients Vascular - Model Health System Data November 2025](#)

¹² [ELHT Inpatients Vascular - Model Health System Data November 2025](#)

Key Risk Description	Cause/Current position	Consequence	Level
		(increasing the risk to patient care and reducing the availability of acute beds for other admissions). Poor coordination between different care providers can leave gaps in patient care.	
Risk that under-performance against key clinical standards may impact upon consistent, high quality patient care.	LSC ICB system treatment waiting times have been significantly above the 18-week waiting time target. Limitations from workforce, bed and theatre capacity, and IR facilities across the two Vascular Centres.	Data from the National Vascular Registry ¹³ identifies that both acute Trusts have areas of practice where they are underperforming against core clinical metrics (e.g., LTHT Major amputations; ELHT Abdominal Aortic Aneurysm repair. Failure to meet standards can lead to higher rates of major amputation, strokes, complications, and poor patient outcomes. Data suggests that this can also lead to higher litigation rates, particularly in cases involving delayed treatment (resulting in costs to the NHS).	Medium
Risk that mortality and morbidity rates do not improve	The current service configuration makes it difficult to make improvements to survival rates following hospitalisation. Surgeon volume is a critical factor (ELHT does not meet the minimum volume for AAA and carotid patients, for example).	High-volume centres are evidenced to have better outcomes (lower death rates) for abdominal aortic aneurysm (AAA) repairs, for example, due to more experienced surgeons, specialised teams (anaesthetists, nurses), and structured post-operative care, which reduces the chance of death after complications. Research data demonstrates that centres that meet the AAA volume guidelines are associated with improved 1-year and 30-day all-cause survival ¹⁴	High
Risk that the fragility of the workforce does not improve and that the lack of sustainable workforce numbers, capacity and skillsets	Workforce, recruitment, and retention issues are the responsibility of the individual providers (often with intra-Trust competition). The thin spread of the specialist workforce (Consultant surgeons, IR Consultants, and specialist nurses, and the wider multi-disciplinary	Evidence suggests that consultants performing more procedures have better outcomes. It is challenging to recruit and retain high quality specialist staff across the two Vascular Centres performing lower average numbers than elsewhere in the country. Without a single LSC&W network staff are more	High

¹³ [NVR Dashboard - Reporting time period: October 2022 - September 2025](#)

¹⁴ [Surgeon volume and established hospital perioperative mortality rate together predict for superior outcomes after open abdominal aortic aneurysm repair - Journal of Vascular Surgery](#)

Key Risk Description	Cause/Current position	Consequence	Level
may impact upon the provision of consistent, high quality patient care.	team) across the system can create sustainability issues. NB This is a challenge to both sites and in the UK as a whole.	incentivised to seek employment at larger networks in Manchester, and Cheshire.	
Risk to a consistently well staff on-call rota.	The specialist workforce (Consultant surgeons, IR Consultants, and specialist nurses, and the wider multi-disciplinary team) across the patch is spread thin and creates sustainability issues.	There are continuing challenges at the hospital sites for maintaining 24/7 on-site vascular surgery and interventional radiology on-call rota staffed by the right number of staff.	Medium

4. Critical Success Factors

The Critical Success Factors (CSF) shown below are the attributes essential to the successful delivery of the Vascular programme, against which the following options will be assessed. The CSF are derived from the underpinning principles narrated out in the Case for Change, the options for consideration in this business case will be assessed using these criteria.

Critical Success Factors

Development of the preferred model was informed by a series of Critical Success Factors that define the requirements for a successful solution. The future model must:

1. **Align with national strategy and policy** by delivering services that meet NHS England's Specialised Vascular Services Specification.¹⁵
2. **Address the identified business need**, including reducing variation and improving patient outcomes.
3. **Provide safe, efficient and sustainable services** with high standards of clinical quality and long-term viability.
4. **Deliver sufficient capacity and capability** to meet current and future demand.
5. **Be deliverable** within realistic timescales and implementation constraints.
6. **Represent affordability and best value** by delivering measurable quality, productivity and system benefits.

¹⁵ Specialised Vascular Services service specification, Adults,
<https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-a/a04/>

5. Anticipated benefits

Delivering the core recommendations of the national vascular service specification, GIRFT programme, and mitigating the current risks outlined in the drivers for change above are expected to offer significant improvements in the quality of patient care.

Although some services and staff may experience a change in the location in which they work and deliver patient care, without vascular surgery service reconfiguration there are ongoing risks to the provision of high-quality patient care and treatment. Care pathways and treatment practices will vary across LSC&W and the risk from a fragile and thinly spread workforce will not improve.

The benefits of the service reconfiguration will be evidenced over time through better collaboration and networking, and for example by a reduction in unwarranted variation of service delivery, and consistent achievement of clinical and quality standards (which underpin the delivery of the best patient experience).

Collaboration of the Providers across LSC&W, rather than competition, will facilitate the equitable implementation of new technologies, techniques, treatments, and innovations, while consolidation the surgical workforce will improve resilience and a capacity to absorb increased patient demand (without negatively impacting on the quality of care).

Improved coordination between Providers, with consistent advice, care, and prevention, will also see a timelier percolation of information and resources across the network allowing ideas to spread and for feedback to be generated and acted upon more rapidly. Collecting and reporting performance in a singular fashion will also help enable quality improvement of the LSC&W Vascular Network.

From a quality perspective, the case for change is a signal of the Provider Collaborative's ambition to develop the capability to meet and surpass good standards of care and create the opportunity to improve services and pathways. This will help to address the inequality of outcomes for patients living in different areas of LSC&W.

The following table lists key benefits that the model of care will enable.

Table 5.1 Key Benefits from the Implementation of the Vascular Network

Key Benefit Description	Main Beneficiaries (Recipient/Stakeholder)	Benefit Type	Key Performance Indicator (Measurement Source)	Benefit Target
Reduced variation in access times	Patients Carers and family	Quantifiable	National guidelines state that no patient will wait more than 18 weeks from referral to initial treatment (RTT) other than for medical reasons. (Provider/NHSE)	92% of patient cohort
Improved performance against core quality metrics	Patients Workforce	Quantifiable	Abdominal Aortic Aneurysms (AAA) repairs per year [elective and emergency] (Provider/National Vascular Registry)	>60 patient procedures per year
Improved performance against core quality metrics	Patients Workforce	Quantifiable	Carotid Endarterectomies Procedures undertaken. (Provider/National Vascular Registry)	=>35 patient procedures per year
Improved performance against core quality metrics	Patients Workforce	Quantifiable	Lower Limb Peripheral Arterial Disease. Timely intervention. Above Knee (AKA) to Below Knee Amputation (BKA) ratio (Provider/National Vascular Registry)	<1
Achieving the Vascular PSS Mar-22 CQUIN: revascularisation standards for lower limb ischaemia	Patients Trust/Programme funds (0.25% annual contract - equal to approximately £109.5k at ELHT and £199.5k at LTHT)	Quantifiable income increasing	Revascularisation standards for lower limb ischaemia (treatment <5 days from non-elective admission) (Provider/NHSE)	<5 days
Reducing length of stay for Vascular surgery	Patients Trust/Programme funds	Efficiency gain Quantifiable	Reducing length of stay for the LTHT Vascular surgery. (Provider/Model Hospital)	<9 days

Key Benefit Description	Main Beneficiaries (Recipient/Stakeholder)	Benefit Type	Key Performance Indicator (Measurement Source)	Benefit Target
Reducing readmission rates for the Vascular surgery [Model Hospital basket of procedures]	Patients Trust/Programme Funds	Cost avoidance Quantifiable	Reducing ELHT readmission rates for the Vascular surgery (Provider/Model Hospital)	<12%
Enhanced workforce resilience - improved recruitment & retention	Workforce Vascular service	Cost avoidance Qualitative	Recruitment & retention rates Sickness/unplanned absence rates (Trust HR systems)	TBC
Enhanced workforce resilience - Improved staffing of on-call rotas.	Workforce Vascular service	Cost avoidance Quantifiable	Monitor on call arrangements – Staff on call ratio (Provider)	=>1:8 on call
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Abdominal Aortic Aneurysms Mortality in hospital (Provider/National Vascular Registry)	=<3.5% of patients
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Abdominal Aortic Aneurysms - time to treat of those listed, % surgery within 56 days. (Provider/National Vascular Registry)	=>80% of patients
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Carotid Endarterectomies - Stroke rate 30 days after surgery (Provider/National Vascular Registry)	<2% of patients
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Carotid Endarterectomies - Mortality 30 days after surgery (Provider/National Vascular Registry)	<1% of patients
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Carotid Endarterectomies - Referral symptoms to treatment (Provider/National Vascular Registry)	>7 days
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Number of carotid procedures >40 per annum. (Provider/National Vascular Registry)	>40 patient procedures per annum

Key Benefit Description	Main Beneficiaries (Recipient/Stakeholder)	Benefit Type	Key Performance Indicator (Measurement Source)	Benefit Target
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Lower Limb Peripheral Arterial Disease - Mortality 30d after surgery (Provider/National Vascular Registry)	<5% of patients
Improved performance against core quality metrics	Patients Carers and family Workforce	Quantifiable	Lower Limb amputation outcome: Rate of amputation revision to higher level (Provider/National Vascular Registry)	<10% of patients
Equitable and standardised Vascular services across Lancashire, South Cumbria, and Wigan.	Workforce Patients Carers and family	Quantifiable	Equitable and standardised services for all patients across LSC&W (patients being seen closer to home as appropriate to their intervention) (Providers/Patient Feedback)	TBC
Timely and equitable access to Vascular services across Lancashire, South Cumbria, and Wigan.	Patients Carers and family	Qualitative	Patient access to Vascular services (Providers/Patient Feedback)	TBC
Consolidation of equipment and consumable procurement (making the most of economies of scale of purchasing power)	Acute Trusts	Quantifiable	Equipment and consumable annual costs	Reduction in overhead costs to maintain the services.

Key Benefit Description	Main Beneficiaries (Recipient/Stakeholder)	Benefit Type	Key Performance Indicator (Measurement Source)	Benefit Target
Planned care triaging of referrals into appropriate clinics. There is currently minimal triaging of patients in secondary care. Supported by Nurse Practitioners.	Patients Acute Trusts	Quantifiable Efficiency gains	'Did Not Attend' [DNA] rate at clinics Patient experience	Reduction in patient DNA & appropriate use of clinic time.
Patients treated more appropriately through a greater number of available 'Hot Clinics' at LTHT rather than admitted.	Patients Carers and family Acute Trust	Qualitative, quantifiable, Efficiency gain, cost avoidance	Where appropriate and safe to do so, a reduction in patient admissions (diverted to care supported through a Hot Clinic).	Reduction of inappropriate patient admissions.
Consolidation of 'back office' support functions & processes e.g. recruitment, finance, payroll, IT, standardised role banding/salary, etc.	Acute Trust Workforce	Qualitative, quantifiable, and monetisable	Overall support service resource time and costs.	Efficiencies from reduced support staff time needed, staff salary bands.
Service resilience from having a second Hybrid Theatre at LTH and ELHT patients having access to a hybrid theatre environment (where currently there isn't a purpose-built facility).	Patients Acute Trust	Qualitative	Continuous theatre activity without consequence of downtime (either managed or unplanned) i.e., cancelled theatre slots and/or operations	Reduction in cancelled theatre slots and operations

6. Model of Care Development

6.1 Background

The *Improving Vascular Services: A Case for Centralisation of Vascular Services in Lancashire and Cumbria* review in 2011 set the foundations for the reconfiguration of services in 2013, but the subsequent 2018 service review again identified drivers for further change.

The review identified that the two providers of specialised vascular inpatient care in the L&SC (Lancashire Teaching Hospital NHS Foundation Trust and East Lancashire Hospital Trust), were unable to deliver against either the national specialised vascular service specification or the guidelines from the national Vascular Society for Great Britain and Ireland. Specifically, the trusts were unable to meet the required standards on:

- size of population to treat (ELHT)
- the centres not working within recommended network configuration (due to having 2 Arterial Centres)
- number of core index procedures

6.2 Vision

The programme vision is to create an integrated Lancashire, South Cumbria and Wigan Vascular Network that places patients at the centre of care and delivers services that are safe, effective, sustainable and equitable.

The future service model aims to:

- Improve patient outcomes, mortality, and morbidity.
- Reduce unwarranted variation in access and to treatment.
- Deliver care in line with national guidance and best practice.
- Create a resilient workforce and sustainable service infrastructure.
- Support equitable access to specialist vascular expertise across the region.

This vision aligns with the wider Lancashire and South Cumbria Integrated Care Strategy ambition of enabling people to live longer, healthier and happier lives.

6.3 Establishment of the Vascular Programme Board

The inaugural Vascular Programme Board (VPB) took place in October 2018. Chaired by an independent Clinical Lead Mr Arun Pherwani (Vascular Surgeon at Royal Stoke University Hospital, Director of AAA Screening, Clinical Lead for Staffordshire & South Cheshire Vascular Network, and a member of the Vascular Clinical Reference Group (CRG) representing Midlands and East).

Attended by a large cross section of stakeholders the VPB committed itself to its mandate for developing a clinically led work stream to deliver improvements to support the sustainability of vascular services across LSC.

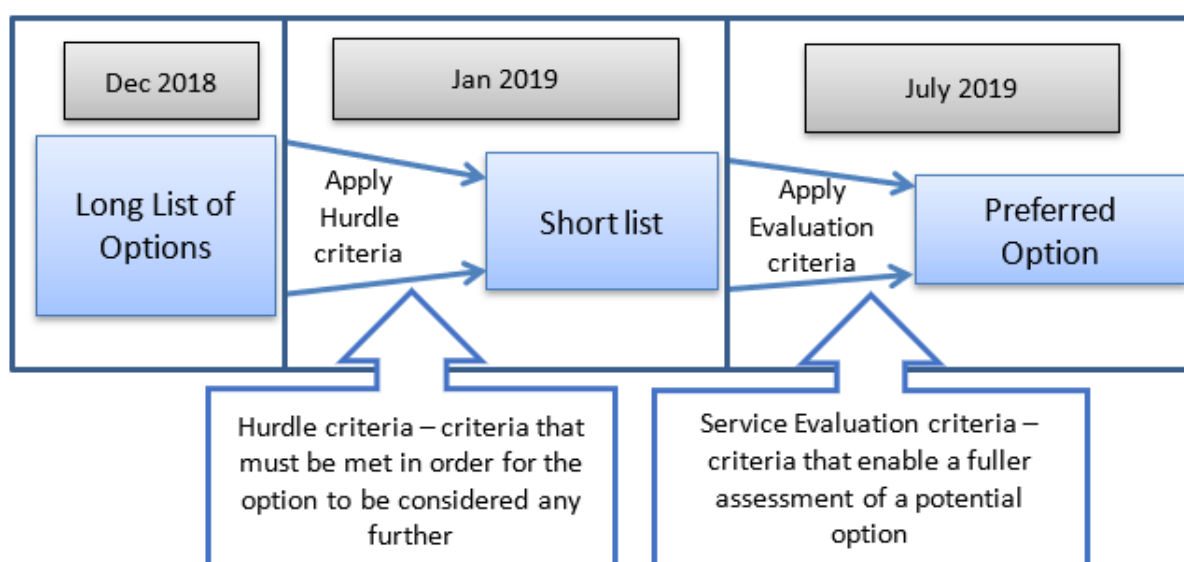
The vision to create an integrated Lancashire, South Cumbria and Wigan Vascular Network of community and acute services that places patients' health & well-being at its centre. The programme aims of implementing a model of care that has as its foundations the following critical success factors:

- is safe, efficient & sustainable
- reduces variation in access
- improves patient diagnosis & treatment
- improves mortality & morbidity
- is consistent with national guidance & best practice.

A programme of work was determined by the VPB that included developing an outline model of care and a structure for delivery.

6.4 Arriving at the Preferred Model Option

The diagram below conveys the stages and timeline through which the VPB progressed to arrive at the preferred service model option, which is detailed further below.



Long List of Options

Service model options were submitted by members of the VPB and combined into a common list. Members of the VPB took part in a workshop in December 2018 to review and amend this list, adding and removing options in order to arrive at a long list of service model options to move forward to shortlisting stage.

This engagement work was undertaken by a cross section of stakeholders, shown in the table below. Table presents the long list of options outputted.

Table 6.1 Composition of Stakeholders.

Stakeholder Organisation	Nos.	%
Lancashire Teaching Hospitals NHS Trust	6	21%
East Lancashire Hospitals NHS Trust	6	21%
Patient representative	4	14%

Blackpool Teaching Hospitals NHS Foundation Trust	2	7%
University Hospitals Morecambe Bay NHS Foundation Trust	2	7%
Wrightington, Wigan, and Leigh NHS Foundation Trust	2	7%
Transport services (NWS & PTS)	2	7%
North of England Specialist Commissioning Team	1	3%
L&SC CCG representative	1	3%
Public Health England	1	3%
AHP Lead	1	3%
Rehabilitation Lead	1	3%
Total	29	100%

Table 6.2 Long List of Options Collated by Stakeholders.

Option		
Do nothing	1	Do nothing
Two Providers	2a	2 Providers, combined rotas
	2b	2 Providers, ELHT withdraws from Pemwortham, Blackpool & Garstang and becomes the single centre for screen detected AAA
	2c	2 Providers, equalise catchment population
	2d	2 Providers - Hot/Cold split
	2e	2 Providers - 1 Network Approach
One Provider	3a	1 Provider - Hot/Cold split
	3b	1 Provider - Arterial Centre + Non-Arterial spokes
	3c	1 Provider - Arterial Centre, all centralised
	3d	1 Provider - 2 Arterial Centres + Non-arterial spokes
	3e	1 Provider - 2 Arterial Centres, 2 centralised sites
Increased providers	4a	Vascular Surgery x5 (@ICP Level): Bay Health & Care Partners, Pennine Lancashire, Fylde Coast, West Lancs, Central Lancs
	4b	Vascular Surgery x8 (Every Acute)
	4c	Vascular Surgery x3
	4d	Vascular Surgery x4
Out of area provider	5a	Vascular Services in L&SC run by Cheshire and Mersey or GM Provider
	5b	No Vascular Surgery in L&SC – Export all to neighbouring economies

Shortlisting

To reduce the long list to a shortlist of options a set of hurdle criteria was applied and only those options which passed all of the hurdle criteria went forward for a more thorough assessment.

This second stage assessment involved scoring each of the service models against a set of evaluation criteria.

Table 6.3 Presenting the Criteria

Theme		Weighting
E	Maintains or improves quality	20.0%
B	How far does this option contribute to the ICS priorities	17.5%

G	Maintains or improves staff experience	15.0%
A	How far does this option deliver value for money?	15.0%
D	How far will this option improve access to care?	15.0%
F	How far does the model contribute to prevention of ill health and promotion of a healthy lifestyle?	10.0%
C	How well does the model support or promote workforce education and/or research?	7.5%
Total		100%

In February 2019 the VPB commenced an exercise to determine if any of the evaluation criteria were more important than others and as such had a weighting applied which would be used in the service model scoring process. The results of which are shown above against the criteria.

Once the scoring methodology and weighting was applied to each service model option the VPB ranked the shortened list of options. The highest scoring option (and thus the recommended model approach) after evaluation by the membership of the VPB is shown below:

Table 6.4 Ranked Order of Service Model Options.

Rank	Option	Score	Provider	Description
1	3dii	67.55%	LTHT	L&SC Vascular Network. Two Arterial sites, transitioning to one.
2	3bii	63.84%	LTHT	Single site
3	3di	52.69%	ELHT	L&SC Vascular Network. Two Arterial sites, transitioning to one.
4	2e	51.58%	ELHT + LTHT	Amend catchment, Collaborative Approach
5	3bi	48.51%	ELHT	Single site
6	2c	38.92%	ELHT + LTHT	Amend Catchment
7	1	31.70%	ELHT + LTHT	Do nothing

Recommended Model of Care

Table 6.5 Summary of the Service Model Option Ranked Highest.

Model		Sites	Arterial Centres	Networked Hospitals hosted by
3dii Establishing the Lancashire, South Cumbria, & Wigan Vascular Network with one Arterial Centre and Networked hospitals.	Initial	Royal Preston Hospital & Royal Blackburn Hospital in collaboration	2x RPH & RBH	3x BTH, UHMBT & WWL
	Transition to:	Royal Preston Hospital	1x RPH	4x ELHT, BTH, UHMBT & WWL

The VPB recommended model - the creation of a single Lancashire, South Cumbria and Wigan Vascular Network with:

- A single commissioned arterial centre hosted by Royal Preston Hospital.
- Network hospital sites at ELHT, BTH, UHMB, and WWL.
- Consistent clinical pathways and governance arrangements across all participating organisations.
- Centralisation of complex arterial and emergency vascular surgery at the arterial centre.
- Continued delivery of outpatient, diagnostic, ambulatory, and rehabilitation services closer to patients' homes through partner network hospitals.
- A coordinated vascular workforce operating as a single network service.

This recommendation fully aligns with both the National Service Specification¹⁶ and the POVS guidance produced by the Vascular Society of Great Britain and Ireland¹⁷ that describes the establishment of integrated vascular networks, each with a single arterial centre providing arterial surgery and emergency care, with vascular input to a group of partner hospitals.

Siting the Arterial Centre at RPH is also the only option that maintains the on-site requirements for co-dependent services – as outlined in Appendix A.

The recommendation was then taken forward in late 2019 to the following governance groups where it was endorsed and approved for implementation:

- the Provider Board,
- the Care Professionals Board,
- the System Leaders Executive and
- the Joint Committee of Clinical Commissioning

¹⁶ Specialised Vascular Services service specification, Adults, <https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-a/a04/>

¹⁷ The Provision of Services for Patients with Vascular Disease 2018, Vascular Society

7. Proposed Model of Care

7.1 Overview

NHS England published a national specification in 2013 requiring specialist commissioned vascular services to be organised into networks with dedicated high-volume centres. Evidence had been growing for many years that vascular surgical units carrying out high volumes of specialised procedures provide better patient outcomes. This principle has been supported further in more recent national publications from GIRFT and the Vascular Society of Great Britain and Ireland.

The Case for Change set out in section 2 presents a robust case that without change the current configuration of vascular services is neither compliant with the national specification, nor a resilient or sustainable service model supportive of high-quality future patient care.

7.2 Proposal

In order to ensure compliance with the national service specification this case proposes a model of care with the following features:

- Trusts working together as one Vascular Network across LSC&W.
- One main specialist hospital for inpatient surgery (the Arterial Centre) with partner Network Hospital across LSC&W.

Through collaboration and working as a single, larger, more resilient team, a Vascular Network across the acute trusts in LSC&W will deliver standardised patient care pathways, develop specialist expertise centrally, while continuing to provide care services in local hospital settings (where appropriate and safe to do so). Such a network will be able to standardise service quality and ensure more effective leverage within the various transformational programmes across the system.

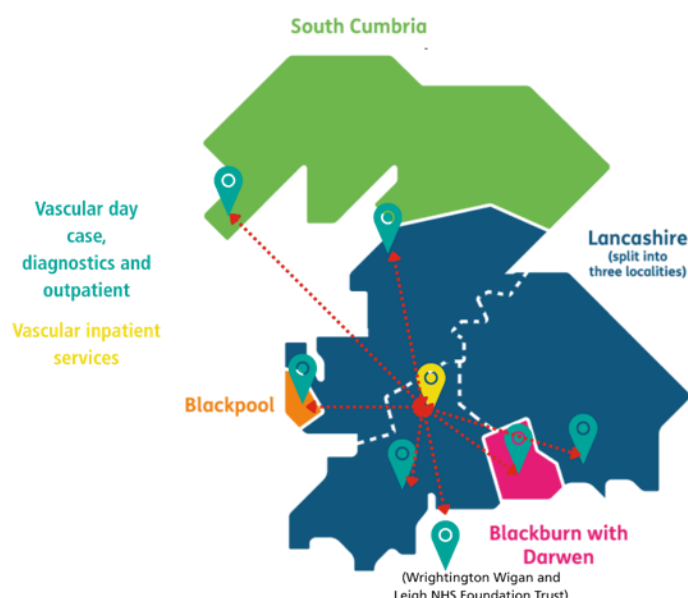
A LSC&W-wide network configuration will ensure that patients have local access to a vascular specialist in all areas of the network, but that emergency and complex arterial work is centralised where it can be best supported.

Previous reconfiguration work has seen the consolidation of vascular services across L&SC with LTHT as the lead provider. The next step, creating a more complete, networked model of care would see the following acute trusts as part of a single network, integrating vascular care within a single, centralised Arterial Centre:

- Blackpool Teaching Hospitals NHS Foundation Trust (BTH)
- East Lancashire Hospitals Trust (ELHT)
- Lancashire Teaching Foundation Hospitals NHS Trust
- University Hospitals of Morecambe Bay NHS Foundation Trust (UHMB)
- Wroughtington, Wigan, and Leigh Foundation Trust (WWL)

Clear pathways will be in place across the Vascular Network to ensure patients receive a seamless and timely service. The Arterial Centre, through the integrated network, will be responsible for coordinating vascular care across the region, ensuring good communications, and maximising the delivery of care at all hospital sites. All patients with vascular disease or vascular complications cared for outside of the main Arterial Centre must have access to the same high quality of care and the same opportunities and choices of care as those patients who are in the Arterial Centre hospital site.

If the proposal is supported it will establish a Lancashire, South Cumbria, and Wigan (LSC&W) Vascular Network hosted by Lancashire Teaching Hospitals NHS Foundation Trust.



Arterial Centre

To support the region-wide model a single network team, governance, and organisational structure would be created to deliver vascular services across LSC&W. This would be hosted by a single Arterial Centre at one of the hospital sites. A single commissioned provision of Network vascular services in LSC by the ICB.

Surgical & emergency vascular patients would be admitted to the Arterial Centre with a 24/7 consultant-led vascular team managing all acute [elective & emergency] vascular surgery on site.

Post-operative care would be provided until the patient is fit to either return home or be transferred for rehabilitation closer to their home/local hospital. Written transfer agreements will be signed off between all Network Trusts, to minimise transfer delays within the LSC&W Network.

Interventional Radiology services would support endovascular procedures through a single team, covering the LSC&W sites.

Comprehensive vascular diagnostic, outpatient, and ambulatory care services would be available to the local population of each [Network] hospital site.

Network Hospital

Medical Provision

The Arterial Centre would employ consultant vascular surgeons for the LSC&W Vascular Network and be responsible for delivering care in the Network hospital sites.

Care pathways will continue for the patient locally wherever possible e.g., out patient appointments, imaging and diagnostics, day case procedures. The Network would enable

parity of service provision at each of the Network hospital sites that complies with the national service specification standards (with as much of the patient pathway held locally).

Comprehensive vascular diagnostic, outpatient, and ambulatory care services would be provided for the local population, delivered by consultants employed by LSC&W Vascular Network. Some day-case vascular surgery will also be delivered locally. If required, additional on-site, ad-hoc vascular consultant support will also be planned, in advance (e.g., for individual complex surgical cases in other specialities).

Although it is proposed not to have dedicated vascular beds at Network Hospitals (such as ELHT), there will be a rota for the regular on-site presence by specialist vascular medical, nursing, and interventional radiology staff to support patients and other interdependent acute hospital specialties. Direct communication links to the Arterial Centre and staff will be in place for 24/7 support for vascular advice and patient management (even out of hours).

Interventional Radiology Provision

A regional consultant-led endovascular interventional radiology (IR) service will support patients across the Lancashire and South Cumbria and Wigan (LSC&W) network. For example, elective day-case endovascular procedures will be delivered at both LTH and ELHT by this IR network team. However, all inpatient endovascular work relating to vascular surgical patients will be delivered at LTH.

Interventional Radiology service support for non-vascular services will continue through the professional teams across both Trusts (NB this provision is not in the scope of this programme). Some inpatient, non-vascular surgical endovascular work will be considered at ELHT during standard daytime hours (where appropriate and safe to do so).

The regional on-call endovascular IR service will provide emergency endovascular procedures across the LSC&W network. Referrals to the on-call service will be made via established clinical pathways. The network will ensure that all Interventional Radiologists participating in the regional on-call rota will be appropriately trained and competent to deliver the core components of the emergency endovascular service safely and effectively.

Where patients initially present to other hospitals within the network, transfer to the hub site will be arranged where clinically appropriate to facilitate timely endovascular treatment – LTH will have appropriate facilities, theatre access, and multidisciplinary support services to support these patients. The service will operate in conjunction with existing emergency, vascular surgical, trauma, hepatobiliary, and critical care services across the region.

Other IR on-call work (e.g., nephrostomies, embolisation of bleeds) may be performed at each of the network sites as required. Non-vascular IR on call at ELHT is a key function to supporting the hospital's tertiary care (services such as Hepatopancreatobiliary) – this is out of scope of this programme but will continue to be supported by ELHT consultants.

Network Centralisation: Peer Reviewed Research

Centralising clinical services between multiple health organisations is not an uncommon process within regional areas. Vascular surgery itself has been the subject of many reconfigurations within Great Britain and countries around the world.

The following is a list of peer reviewed research to support the model of consolidation. In the first instance research papers from the European Journal of Vascular and Endovascular Surgery (multicentre/registry analyses & editorials):

- Tripodi, et al., 2020 (Catalonia): after centralisation, inflammatory Abdominal Aortic Aneurysm (iAAA) mortality fell from 4.7% to 2.0%; rAAA mortality fell from 53.1% (significant improvements).¹⁸
- Patterson, et al., 2018: showed improved outcomes for ruptured AAA through the centralisation of services.¹⁹
- Leighton et al., 2019 (South West England network): centralisation of AAA repair was safe with no immediate adverse impact; longer-term outcomes/finance need ongoing evaluation—useful when asked about “transition risk”.²⁰
- Loftus & Boyle, 2023 (“Decade of centralisation”): the UK decade-long perspective concluded that there were significant outcome gains—especially for aortic aneurysm care—after moving arterial surgery to high-volume centres. (Editorial but synthesises UK data and policy trajectory).²¹

With regard to pathway efficiencies for carotid endarterectomy (CEA) procedures UK data from the Annals of the Royal College of Surgeons found centralisation did not significantly impair overall efficiency of the CEA pathway.²²

Centralisation purportedly supports patients due to the ‘volume–outcome effect’ – with more highly trained staff within one area supporting not just patients but each other, for example:

- Carotid endarterectomy (CEA) meta-analysis: Higher hospital volumes are associated with significantly lower stroke/mortality, with suggested thresholds of ~70–80 CEA/year for optimal outcomes.²³
- AAA and lower-limb surgery: High-volume centres show lower mortality for both elective and ruptured AAA repairs; higher-volume hospitals are associated with reduced amputation and mortality after lower-limb vascular surgery.²⁴

¹⁸ [Impact of Centralisation on Abdominal Aortic Aneurysm Repair Outcomes: Early Experience in Catalonia - European Journal of Vascular and Endovascular Surgery](#)

¹⁹ [Improved Outcomes for Ruptured Abdominal Aortic Aneurysm Through Centralisation - European Journal of Vascular and Endovascular Surgery](#)

²⁰ [Immediate Impact of Centralization on Abdominal Aortic Aneurysm Repair Outcomes for a Vascular Network in the South West of England: A Retrospective Cohort Study - PubMed](#)

²¹ [A Decade of Centralisation of Vascular Services in the UK - PubMed](#)

²² [The effects of centralisation of vascular surgical services in the Bath, Bristol and Weston area on the carotid endarterectomy pathway | The Annals of The Royal College of Surgeons of England](#)

²³ [Meta-analysis and systematic review of the relationship between hospital volume and outcome following carotid endarterectomy - PubMed](#)

²⁴ [Comparative analysis of the outcomes of elective abdominal aortic aneurysm repair in England and Sweden | BJS | Oxford Academic](#)

8. Stakeholder Engagement

8.1 Engagement on the recommended option

During the shortlisting process there was significant stakeholder engagement on the proposed changes to LSC&W vascular services. Engagement events included dedicated discussions at the following stages:

- Developing the drivers for change in 2018
- Testing the proposed network model with a single arterial centre in 2018/19
- Feedback on the recommended model of care option (Arterial Centre at Royal Preston Hospital) in 2019.

At each stage professional, patient and public feedback was broadly supportive of the proposed model and changes. Specific feedback was used to inform the options appraisal process (both in agreeing to one arterial centre and in agreeing the preferred location for the Arterial Centre) and to identify issues that may need to be considered and mitigated if the preferred option is implemented. For note the VPB membership included representatives from patient groups, Acute trust medical and managerial professionals, General Practitioners (GP), and Commissioners (specialist and local) amongst others.

Programme Briefings

In addition to the programme stakeholder engagement above, briefings were given, and views sought from the following groups, shown in the table below.

Table 8.1 Stakeholders and Engagement

Stakeholder Group	Engagement Undertaken
Health Overview and Scrutiny Committees:	Blackpool – Briefing paper sent October 2018 Blackburn with Darwen – advised of the VPB establishment Sep-18 Cumbria – Briefing paper sent October 2018 Lancashire – Briefing paper sent November 2018 and presentation given to the Health Overview Steering Group November 2018.
Clinical Senate	June 2018 NW Clinical Senate Manager advised of the Vascular programme.
HR Directors	Regional HR Directors briefed on progress at the Cumbria and Lancashire Social Partnership Forum April 2019.
Patients	Three patient representatives were on the VPB, all of whom had received treatment from L&SC Vascular services. In addition, the Programme team undertook a survey of patients on site at vascular clinics (February and May 2019). The <i>Patient Feedback Report Spring 2019</i> report has a full list of visits. The results of the survey demonstrated what users of the service thought was needed to provide a good experience for the patient and their family and/or carers. This information was used to inform the scoring process by using the key points for consideration to evaluate whether a service model option would improve patient and carer experience. The following elements, in no particular order, were most identified from the survey as important to patients when receiving care:

Stakeholder Group	Engagement Undertaken
	• Being seen and treated quickly • Being kept appropriately informed • Being listened to • Clean environment • Good quality after care and pain management • Personalised care • Personalised information and advice • Receiving care close to home/where is convenient wherever possible • Having understanding staff Areas for improvement were also identified, for example, where possible to receive treatment locally, consideration of other health problems and reduction of waiting times in outpatient clinics. Cost of car parking was also an issue and some suggestions for improving communication were also received.
Wigan CCG	Contact with Wigan CCG was made in October 2018 and a meeting held with the Programme Manager and Spec Comm in April 2019. Full briefing paper including implications for Wigan residents and Wigan CCG commissioning responsibilities provided to the Director of Commissioning May 2019.
Wider staff groups	The VPB signed off a Communication's Strategy which defined the approach for communicating and engaging with the key stakeholders, including the wider staff groups working across the region. Following each VPB a 'Key Messages' document was circulated to the HR leads, each vascular related service within every Provider Trust and shared to a joint CCG forum. There was local responsibility for sharing the document further within their departmental/team meetings. Vascular Clinical Team Event - An event for vascular clinical team members to find out more about the work of the LSC&W Vascular Network Programme took place on 14th February 2019. The event provided an opportunity for teams to give feedback and ask questions. Information was provided around the background and history of the programme, the process undertaken and progress. 40 delegates attended, representing a variety of disciplines.
Vascular Society	The VPB Chair and Clinical Lead, Mr Arun Pherwani, was a member of the Vascular Society. Throughout the VPB stages of the programme he kept the society briefed on progress and sought advice regarding the shortlisted options. The Vascular Society confirmed their support for the short-listed options.
L&SC Clinical Commissioning Board	The CCB were provided with a position statement in October 2018. The discussion included the need for CCG representation on the VPB.

8.2 Impact of the Pandemic Response on the LSC&W Vascular Programme

In 2020 the Provider Collaborative Board reinforced the development of 'specialty-level strategies' across a number of disease groups looking to deliver new models of care for clinical services. This included the development of a networked model of delivery for a single vascular service across LSC&W.

However, in 2020 the global COVID-19 pandemic impacted on all NHS services and change programmes, including the Provider Collaborative Board portfolio of programmes. The Vascular Programme was paused in March 2020 given the need to focus all available resource on the pandemic response.

8.3 Vascular Network Board (2022)

The Vascular Programme began again in early 2022 with the formation of the Vascular Network Board (VNB), chaired by Martin Hodgson (CEO of ELHT and Senior Responsible Officer for the Vascular Programme).

An informal reassessment of the previous work and recommended option was undertaken by the VNB. In September 2022 the VNB and subsequently the Provider Collaborative Board (PCB), endorsed a refreshed plan for delivering against the previously recommended model of care option.

Table 8.2 Ongoing Programme Engagement with Stakeholders

Stakeholder Group	Engagement Undertaken
Vascular Network Board	Monthly LSC&W-wide membership, receiving updates and reviewing progress. Presenting constructive challenge to programme direction. Requested percolation by Board membership of agenda items and updates to relevant stakeholder groups within each organisation.
Directorate meetings.	Monthly Trust departmental meetings with staff led by Clinical Directors providing programme updates and seeking feedback.
Communication & engagement event	Face-to-face event hosted at a regionally central function room with invites to all Vascular staff (23 rd February 2023). Programme introduction (from ELHT/LTHT CEOs), updates (from ELHT/LTHT Clinical Directors), with audience participation, survey and question and answer session.
NHSFutures Engagement Platform	NHS-wide accessible NHSFutures platform available to all staff (with simple registration required) holding a repository of programme information, contacts, FAQs, and feedback (including 23/02/23 communications event). Link: https://future.nhs.uk/LSCandWVascularNetworkProgramme
L&SC ICB Engagement HQ platform	L&SC NHS-wide accessible communications platform available to all staff (with simple registration required) holding a repository of programme information, contacts, FAQs, and feedback (including 23/02/23 communications event). https://engage.lancashireandsouthcumbria.nhs.uk/hub-page/vascular
Newsletters	Two-page staff-focused newsletters have been circulated in October 2022 and March 2023 updating NHS stakeholders on the basis of the programme and also recent developments – such as the highlights of the February 2023 event and findings from the staff survey that was undertaken. Further newsletters covering steps in the preparation and implementation will be produced.

8.4 Developing the Case for Change

The Case for Change, finalised in October 2023, shows stakeholders why Lancashire and South Cumbria ICB seeks to change Vascular Surgery services across the system in line with the national specifications and standards.

To support the rationale behind the Case for Change a further period of patient engagement took place between September and October 2023. This included a series of listening events held with known patient groups, online, open invite focus groups, and surveys.

The purpose of these was twofold: Firstly, to check that patient experience reflected the issues in the case for change, for example long waiting times, variation in service etc. Secondly, to ascertain whether the proposed plans would raise any concerns or issues for patients that would need to be taken into consideration. Views around a more community-centric approach were also collected to see which services patients felt could be delivered nearer to home if possible.

The events were well attended and although still represent small numbers of people the feedback through lived experience is of high quality.

The main findings can be summarised as:

- Services in the community should be set up so that their catchment is wide enough to promote regular contact with other patients as this allows for better peer support.
- Services in the community should be based in one common venue so that services are able to work better together and be available as a 'one stop shop'.
- All services in the network, whether that be in community or in hospital should be connected. Preferably with regular meetings with all staff that a patient comes in to contact with but, at the very least, with access to each other's notes and shared patient records.
- Vascular network services should have close links and access to other specialties since many patients have other connected long-term conditions.
- A network model should support staff learning from each other but not allow them to be influenced by each other so that 'second opinions' remain independent. 6. Services should be mindful of the longevity of the condition following complex surgery making a patient 'a patient for life'.

The patient perception that services needed to be better joined up supported the case for change. The other findings gave a direction for future models of care associated with the programme.

Regular presentations and discussions have been undertaken with Health Overview and Scrutiny Committees throughout the review and members have been invited to the engagement events.

The engagement activity emphasised the importance of taking the patient's views into account and, as a result, the Vascular Network Board committed to including a Patient Advocate as part of its core membership. The patient groups, that had been approached during the engagement, were contacted to seek volunteers to fulfil this role. Following some informal discussions with the volunteers, a suitable representative with a wealth of experience was identified. They have since attended the monthly meetings and been involved in the development of the Business Case and pre-consultation planning.

Throughout the programme the role of staff and their feedback has been a primary consideration. At the beginning of the programme in 2022 a series of staff newsletters were

created which provided updates on the programme and gave the opportunity for departmental teams to have discussions internally.

The emphasis has been on programme leads within provider Trusts to have discussions with staff and to ensure their views and concerns are addressed in decision making at Vascular Network Board meetings. A generic presentation slide-set was produced to facilitate these discussions and to ensure consistency of message across all partners.

Subsequently, information has been shared on the 'Engagement HQ' platform which is promoted on Trust intranets and is used as a repository for information on the various programmes. A dedicated vascular page contains the latest updates on decisions and the decision-making process along with the Case for Change document and updated proposed models of care. This directs staff accessing the information to leave comments and start discussions or to speak directly with the relevant lead in their Trust. The utilisation of the platform and the number of visits to the site is low but it remains the best way to ensure consistency of message in a timely way.

The Listening to Communities Report, published in July 2025, describes a further period of engagement between May and July 2025, prior to the Case for Change being approved at the ICB Board in March 2026. The aims were to:

- gather opinions on the proposal
- highlight any issues with the model that would need to be mitigated against
- check what information was of interest to patients so that this could be properly communicated during the next phase of the process.

Engagement included drawing on previous relevant engagement, focus groups with community groups, and one-on-one interviews with patients attending out-patient clinics. The ICB communications and engagement team heard from 110 people during this engagement. The report drew on feedback from previous engagement, where relevant, bringing the number of views taken into consideration to 1,062. In summary, the main findings:

- majority of people supported the proposed new model.
- concerns raised about travel to be mitigated to avoid negative reactions.

Prior to Board approval of the Case for Change engagement also took place with the scrutiny committees as follows:

- 22 May 2025 – Cumberland HOSC (written briefing only)
- 2 June 2025 – Blackburn with Darwen HOSC (written briefing and offer to attend committee meeting)
- 4 July 2025 – North Yorkshire HOSC (written briefing only)
- 17 July 2025 – Blackpool HOSC (written briefing only)
- 24 September 2025 – Lancashire HASC (written briefing and scrutiny committee meeting attended)

9. Business Case Options

Business cases are used to evaluate different approaches to a problem, typically ranging from a 'do-nothing' scenario to a fully transformative solution (or solutions).

This business case considers the following options

- Option 1: Do nothing – maintain the current 'business as usual' approach.
- Option 2: Implement the national specification through the establishment of a Vascular Network, with capacity released for an Arterial Centre through the strategic LSC-wide reconfiguration or reduction through efficiencies of existing clinical services on the Royal Preston Hospital site.

9.2 Option 1: Do nothing

'Doing nothing' to change the current configuration of vascular services within Lancashire, South Cumbria and Wigan will not address the compliance issues, nor the risks and issues identified within the Case for Change. It will not provide additional benefits or opportunities to patient population, the workforce, or health care service provision.

A SWOT analysis undertaken for the 'do nothing' option is presented below. The Strengths and Opportunities of maintaining 'business as usual' are far outweighed by the Weaknesses and Threats posed through continuing with the status quo.

Table 9.2 SWOT Analysis

Strengths	Weaknesses
Patients and staff are accustomed and aware of the current configuration: service change can be confusing and can cause anxiety.	The centres are not working within recommended network configuration. ELHT population size does not meet minimum requirements in the specification (≥800k) There is no formal collaboration between ELHT and LTHT service providers. There is variation in the care services provided at the Network hospital sites.
Opportunities	Threats
Informal collaboration between Trusts (a legacy of the COVID-pandemic response 'Mutual Aid' process) is supportive of patient care	Patient care: Repatriation and rehabilitation are challenged across the region. Workforce, recruitment, and retention issues are the responsibility of the individual provider, where nationally recruitment to some posts is difficult (with new staff sometimes preferring to work at larger networks/centres in Manchester, Cheshire etc. There are staff capacity issues within service delivery in some acute providers. LSC treatment waiting times are significantly above the 18-week waiting time target. The service needs to be able to support an ageing population and one that is exhibiting increasing co-morbidity and complexity of care needs.

With respect to achieving the critical success factors, the 'do nothing' option, as shown below, meets a level of affordability within its scope of the achieving the status quo. However, as is shown this would not support other key factors such as 'best value', or more importantly 'sustainable service' delivery, nor 'strategic alignment'.

Table 9.3 Critical Success Factors

Critical Success Factors		Do Nothing - Option 1
Strategic Alignment	Is consistent with national guidance and best practice. The programme must align with and deliver vascular services that meet the 2013 National specification for Specialised Vascular Services.	Having two Vascular Centres in LSC with one serving a population of less than 800k does not meet the National Specification
Business Need	The programme must meet: the agreed investment, savings, and benefits objectives; the related population demographic needs, and the service requirements; with the requirements for significant public engagement. Key to this is that it: reduces variation in access; improves patient diagnosis & treatment; improves mortality & morbidity.	Funding towards the two Vascular Centres would continue in order to deliver ongoing patient services. However, changes in population demography would be addressed locally rather than regionally, and no transformational benefits would be drawn from wider network and collaborative working.
Is Safe, Efficient, & Sustainable	The programme must ensure patient safety, i.e., that patients do not come to harm because of the way services are delivered, and the programme must operate at a financially sustainable level for the foreseeable future.	The two Vascular Centres would continue to deliver ongoing patient services. Performance issues have been highlighted within both centres, which could continue and variation of service provision across LSC would not be addressed.
Capacity and Capability	The preferred option must meet the capacity requirements to meet demand, and capability of the staff to manage the expected conditions.	Known service resilience and staff recruitment issues would not be addressed, a two tier approach to services in the system would continue.
Deliverability	The programme needs to be deliverable against the service objectives within the required timeframe.	Doing nothing has no target timeframe – however, this may not achieve targets for wider quality, financial, and strategic objectives.
Affordability / Best Value	The programme needs to offer financial, productivity, quality, and system benefits that outweigh any investment & appropriate management structures to ensure that benefits are realised. Funding for the implementation will be considered within the envelope of available financial resources. Investment will be considered in line with wider system benefits.	No additional investment would be required through doing nothing, but equally transformational benefits (both in quality and financial terms) would not be realised from continuing with a 'business as usual' approach. We would continue to run service at a deficit as at present.

9.3 Option 2: Implement National Specification Through the Establishment of a Vascular Network

Delivering the reconfiguration of services, hosting the Vascular Network at Lancashire Teaching Hospitals NHS Trust (LTHT), and centralising inpatient vascular surgical activity at the Royal Preston Hospital (RPH) as the Arterial Centre will require bed, staff, and theatre capacity at that site.

Analysis of previous years activity data will identify the increased activity that will result from transferring East Lancashire Hospital Trust (ELHT) vascular inpatient surgery to LTHT (with the additional commensurate therapy, radiology, diagnostics, pathology, and other support service requirements needed for delivering high quality patient care).

System View

At a 'system' level the proposed reconfiguration of services does not change the overall activity undertaken across the two Trusts. It is intended that if there is an increase in the need for capacity (e.g., beds, theatres) at LTHT from the transfer of activity from ELHT there will be a commensurate reduction in that [bed/theatre] capacity needed at ELHT.

This is a transfer of market share from one provider to another and is not new activity to commissioners (outside of demographic growth and planning assumptions for future years that are discussed elsewhere).

For note, as has been identified in other parts of this document it is acknowledged that there is an anticipated predicted growth/change to the population size/demographics in the future, as well as a resulting demand for health care services. This business case focuses on the transfer of activity. Planning for service change(s) as a result of population growth (for example) will be addressed through the host Provider Trust-ICB annual planning process.

How to resolve the additional capacity needs at LTHT from the centralisation of services has been split into the following two options.

Option 2: Implement the national specification through the establishment of a Vascular Network, with capacity released for an Arterial Centre through *the strategic LSC-wide reconfiguration or reduction through efficiencies of existing clinical services on the Royal Preston Hospital site*. i.e. by freeing up the required physical space through efficiency improvements

Critical Success Factors

With respect to achieving the critical success factors, the following table shows the impact that Option 2 will have.

Table 9.5 Critical Success Factors

Critical Success Factors	Option 2 - Capacity released through <i>clinical service reduction – reconfiguration and/or efficiencies.</i>
Strategic Alignment	The proposed Vascular Network model of care looks to achieve delivery of the national service specification and guidance.
Business Need	The proposed Vascular Network model of care looks to achieve delivery of the national service specification which supports high-quality patient diagnosis and treatment, which should underpin improvements to patient mortality & morbidity. The model of care outlines an approach that supports the reduction in variation of care and access to care across the geography. Operational and clinical benefits as outlined will be achieved through Option 2.
Is Safe, Efficient, & Sustainable	The proposed model of care (through the Vascular Network, Arterial Centre, and Network Hospitals) would continue to deliver ongoing patient services. Performance issues have been highlighted within the Case for Change and this Business Case and the pre-implementation work would solidify the actions necessary to deliver a high-quality service across LSC.
Capacity and Capability	Capacity would be released through the reduction of other clinical services at LTHT – either through reconfiguration and/or efficiencies. There are interdependencies with the work to deliver that other system change programmes.
Deliverability	Delivery of the model of care is dependent upon the availability of operational, clinical, and programme personnel to support the work; site capacity being released from the reconfiguration of services (and the alignment with other change programmes); managing risk from the larger portfolio of system-wide change that needs to align to deliver this transition and Network creation.
Affordability / Best Value	This option would look to re-purpose released estate (and benefit from existing support staff in situ who contribute to the ongoing running of many specialties). Minimal investment is proposed to align the estate to the needs of the vascular service. There is a dependency upon the other services within the wider reconfiguration also being supported financially within their own transition at a portfolio level).

10. Implications from Implementing the Options

10.1 Planning Assumptions and Analysis Outputs

Modelling Outputs

The analysis was designed to provide outputs that included the following:

- Activity requirements
- Bed capacity requirements (ward and critical care)
- Number of theatre sessions required in order to inform theatre requirements
- The number of medical and support staff required

The above outputs have been utilised to prepare the cost model which identifies the total cost (revenue and capital requirements, and income) for the proposed model of care.

The key impacts identified fall into four categories:

- Service impacts:
 - 'infrastructure' - increases in theatre, ward and critical care bed capacity
 - changes in workforce to deliver services
- Patient impacts: travel time changes
- Impacts on other treatment services and providers.

Current Activity

The following tables provide data for activity within the vascular services across L&SC.

For note the anonymised activity data presented herein has been sourced by Midlands & Lancashire Commissioning Support Unit (ML CSU) extracted from the national SUS (Secondary Uses Service²⁵) repository (itself derived directly from NHS Provider *Hospital Episode Statistic* [HES] data) and also from Trust Provider SLAM (24/25) income data.

Unless otherwise stated the data reflects patient activity spells²⁶ within the named Trusts, where primary procedure data has been coded to Vascular Surgery (Treatment Code 107) for patients aged 17 years or over (in line with the scope of the programme that is looking at adult services).

It is recognised that the local procedure numbers differ slightly from the National Vascular Registry (NVR) activity; this is due to the way activity has been captured, recorded [coded], and submitted to SUS and NVR. It would be anticipated that any reconfiguration of services would look to improve data quality, consistency, and alignment across datasets and submission to the NVR.

Following the previous reconfiguration of services and the commissioned care pathways for patients to attend Royal Preston Hospital for vascular surgery (for example from UHMBT and BTH) the activity shown below for LTHT is an aggregation of inpatient activity across those Trusts, as well as at LTHT.

²⁵ <https://digital.nhs.uk/services/secondary-uses-service-sus>

²⁶ https://www.datadictionary.nhs.uk/nhs_business_definitions/hospital_provider_spell.html#:~:text=A%20Hospital%20Provider%20Spell%20is,Midwife%20Episodes%20in%20a%20WARD.

The basis of this analysis is therefore looking at the sum of inpatient activity at the LTHT and ELHT sites being used as a baseline for prospective patient activity that needs to be delivered on the single Arterial Centre site (as the new model of care). There will be an impact through the increased activity at Royal Preston Hospital and a commensurate reduction of activity at Royal Blackburn Hospital when it becomes a Network Hospital site.

Table 10.1

Activity Metric	LTHT	ELHT
Inpatient Elective (EL) spells (pa) per annum (pa)	677	305
Inpatient Non-elective (NEL) spells pa	356	349
Total Inpatient spells pa	1033	654
Total Day Case spells pa	651	893
Estimated Endovascular (EL) procedures pa	120	110
Estimated Endovascular (NEL) procedures pa	180	170
Total estimated Endovascular procedures pa	300	280

10.2 Service Impacts: Infrastructure

Bed Capacity Required for the Model of Care

At present (Q1 2024/25) the Vascular Centre wards (at ELHT and LTHT) that are designated to vascular surgery patients provide a total of 53 acute beds (as shown in the table 9.6 below).

Table 10.2	LTHT (Ward 15)	ELHT (Ward C18B)	Total
Vascular Acute Bed Total	33	20	53
Vascular Outlier Beds	11	0	11
Total	44	20	64

Analysis in Q4 2023/24 also estimated there to be a further 11 'outlier' beds per month (shown above) that support patients in wards outside of the dedicated LTHT Vascular ward. Vascular patients are placed within 'outlier' beds in different specialty wards when operational demand cannot support them within the Vascular ward.

ELHT has 20 dedicated acute beds (with no enhanced care beds). For note, if a patient needs enhanced recovery they go to critical care. If critical care cannot accommodate for the 6 hours, then the patients stay/return to the ward with additional nursing to support the patient.

There will be no vascular inpatient beds at Network hospital sites (mitigating serious implications for continuity of care and cover, both in and out-of-hours). Vascular review by visiting surgeons and locally based Specialist Nurses will continue to be a feature of care but vascular input will be minimal once a patient is deemed fit-for-transfer.

The POVS guidance recommends the following:

- A 'minimum standard' of 2.5 beds per 100k population. With a population of 2.1m across LSC&W (for the designate Arterial Centre / Vascular Network) an estimate of 52.2 beds aligns with the current bed stock.
- An 'achievable standard' of 3.1 beds per 100k population. With a population of 2.1m across LSC&W gives an estimate of 65.1 beds.

Thus, although the 'system' total of acute beds currently supporting vascular elective and non-elective patients is 64 the aspirational model of care is 65 beds for the Arterial Centre.

The proposed option is to split that bed number into 48 acute and 17 'step down' sub-acute beds (the latter to support the rehabilitation of complex vascular patients – more detail is shown below).

As rehabilitation services are developed in the system, these sub-acute beds may transfer to a single rehabilitation centre in the future in line with the system strategic direction.

This model is anticipated to deliver an improved acute length of stay, and the variability of standards of care across LSC mitigated. Input from the Specialist Mobility Rehabilitation Centre (SMRC) would be provided on a regular basis and the ward based on a therapy led

model. The location would allow patients to move into an active rehabilitation phase much earlier than at present and daily Vascular specialist nurses with dedicated ward time and input would be available. It is proposed that the sub-acute facility would lead to a reduction in the NEL admissions (repatriations) across the system for repatriations, non-specialist rehabilitation admissions and a reduction in excess bed days making it cost neutral to commissioners. All required ward bed capacity is available on the RPH site.

Therapies Provision: Rehabilitation and Repatriation

Most vascular surgical patients will be fit to be discharged home relatively soon after treatment with minimal issues for safe repatriation. An outpatient appointment at the local Network Hospital with their vascular specialist should enable a satisfactory episode of care with consideration of patient initiated follow ups (PIFU) where appropriate.

A proportion will require prolonged rehabilitation and/or attention to social issues e.g., following amputation. The preferred solution, wherever possible, is for these more complex cases to be repatriated directly to a sub-acute rehabilitation ward without the need for repatriation to a non-specialist ward at a Network Hospital site.

The LTHT Therapy service on the current 33-bedded vascular ward receives between 550-650 referrals per year. Since 2019 the service has assessed and rehabilitated an average of 152 major amputation patients per year. It is important to note, that the service also supports non-amputee vascular patients (both complex and less complex), and other [non-vascular] speciality patients.

The ELHT Therapy service receives on average 390 referrals per year, 36 of these being for major amputations (through the 20-bedded Vascular ward at Royal Blackburn Hospital).

As identified above the commissioning of a 'sub-acute ward' at the Arterial Centre would provide intermediary/step-down facilities within LTHT. The 17 dedicated 'step down' beds will provide complex/specialist support for post-operative vascular patients. While centralised medical & AHP access within the Centre (including specialists) will release Vascular acute beds.

Analysis to determine bed numbers for the sub-acute ward.

The average length of stay (LoS) for all vascular inpatients (EL and NEL combined) attending ELHT and LTHT is respectively 12.5 days and 12.8 days (2022/23 data). However, complex patients stay longer, and it is the intention for them to attend an acute ward post-surgery but then 'step-down' to a sub-acute ward bed. It is advised that on average complex patients would require acute ward care for on average 7 days before 'stepping down' to sub-acute care.

Table 10.3

Organisation	Sum of EL & NEL Spells	Sum of EL & NEL LoS (days)	Average EL & NEL LoS (days)
ELHT	672	8412	12.5
LTHT	1127	14394	12.8

The average length of stay for a vascular patient who has undergone a major amputation (i.e., excluding toe/phalange removal) at ELHT and LTHT is respectively 24 days and 28 days.

The tables below give a summary of data from across three years, averaged to provide an estimated length of stay for vascular patients undergoing an amputation as a primary procedure.

Table 10.4 LTHT estimated LoS for vascular patients undergoing an amputation

Lancs Teaching Hospital Trust Primary Procedures (Vascular Coded Treatment 107)	3-Year Sum of Spell Count	3-Year Sum of LoS	Average Spell pa	Av. Total LoS pa	Av. LoS per spell
X073: Amputation of arm above elbow	2	28	0.7	9.3	14.0
X093: Amputation of leg above knee	168	4793	56.0	1597.7	28.5
X094: Amputation of leg through knee	2	39	0.7	13.0	19.5
X095: Amputation of leg below knee	168	4849	56.0	1616.3	28.9
X108: Other specified amputation of foot	2	37	0.7	12.3	18.5
X121: Reamputation at higher level	18	423	6.0	141.0	23.5
X123: Shortening of length of amputation stump	3	29	1.0	9.7	9.7
X124: Revision of coverage of amputation stump	3	15	1.0	5.0	5.0
Grand Total	366	10213	122.0	3404.3	27.9

Table 10.5 LTHT estimated LoS for vascular patients undergoing an amputation

East Lancs Hospital Trust Primary Procedures (Vascular Coded Treatment 107)	3-Year Sum of Spell Count	3-Year Sum of LoS	Average Spell pa	Av. Total LoS pa	Av. LoS per spell
X075: Amputation of arm through forearm	1	73	0.3	24.3	73.0
X093: Amputation of leg above knee	60	1408	20.0	469.3	23.5
X094: Amputation of leg through knee	3	101	1.0	33.7	33.7
X095: Amputation of leg below knee	66	1656	22.0	552.0	25.1
X101: Amputation of foot through ankle	1	11	0.3	3.7	11.0
X108: Other specified amputation of foot	2	41	0.7	13.7	20.5
X121: Reamputation at higher level	4	77	1.3	25.7	19.3
X123: Shortening of length of amputation stump	2	8	0.7	2.7	4.0
X124: Revision of coverage of amputation stump	4	43	1.3	14.3	10.8
Grand Total	143	3425	47.7	1141.7	24.0

These figures are examples, a proxy for the anticipated length of stay for complex patients – therapists work with other vascular patients who are consider ‘complex’ in their care needs outside of amputations (e.g., recovery from ruptured aneurysms).

It is acknowledged that amputee rehabilitation is slightly different to other types of rehabilitation. There is often a ceiling or limitation of what rehabilitation can be delivered in the first few weeks after an amputation, as patient’s may need their stump to heal before they can progress to a decision about whether an artificial limb is going to be an option or not. Initial rehabilitation is often about getting 'transfers' effective and supporting patient's to be independent with personal activities of daily living, setting up their property to go home to live downstairs for example in a makeshift situation and to get carer support along with the psychological impacts of such a life changing event.

Further rehabilitation then starts again when they know if they are to be a permanent wheelchair user or will be able to progress to an artificial limb - and this is when social services step in looking at longer term adaptations and outpatient physiotherapy starts. Therefore, as well as inpatient rehabilitation and community rehabilitation, out-patient amputee rehabilitation is equally important.

In the absence of national guidelines for therapy workforce modelling in Vascular, a detailed capacity and demand exercise has been undertaken which informs the whole time equivalent (WTE) required to support activity. Professional judgement is then applied to

determine the skill mix of the WTE, to provide an attractive and sustainable structure and deliver the service. Using data collected over the course of a few months the Therapy Teams at both ELHT and LTHT determined the number of patients they supported based on three approximate categories 'Quick turnover', 'Routine/Typical', and 'Complex'. Extrapolating that data to a full year estimated that in total an Arterial Centre would be expecting to see on average 390 'complex' patients [ELHT 150; LTHT 240].

Were 390 complex vascular patients to attend the future Arterial Centre with an overall length of stay of on average 24 days (taking the practice and baseline of ELHT currently), with 7 days in an acute bed and subsequent step-down, then the 17 sub-acute beds would be anticipated sufficient capacity (assuming 90% bed occupancy) to support the patient throughput. As rehabilitation services are developed in the system, these sub-acute beds may transfer to a single rehabilitation centre in the future in line with the system strategic direction.

Current Acute Critical Care Bed Capacity

The general adult critical care bed base supports general and specialist activity at five hospital sites across a wide geographical area.

Level 1, 2 and 3 critical care beds are needed within an Arterial Centre for such circumstances as ruptured aortic aneurysm, acute aortic dissection and major arterial surgery. The majority of cases are likely to require level 1 and level 2 care with the occasional patient requiring short term level 3 care.

Bed modelling including at speciality and acuity level has recently been undertaken by the network using the operational model of critical care as a system resource approach alongside the imminent mobilisation of the Adult Critical Care Transfer Service.

The critical care units currently supporting Major Vascular Arterial surgery activity are:

- Royal Blackburn Hospital (RBH) has 28 critical care beds (serving a population circa 660,000)
- Royal Preston Hospital (RPH) has 34 beds (serving a population circa 400,000).

The beds at RBH and RPH also provide critical care for a number of system-wide specialist-commissioned services (including major trauma at the RPH site).

Current analysis at specialty level suggests that occupancy of beds on these sites for vascular patients is 1 at RBH and 4 at RPH. SLAM Income data suggested that ELHT had 365 vascular critical care patients in 24/25.

This demand has been accounted for in the current bed base modelling.

For note: POVS advises that for a population of 800,000 people a centre will require the provision of a minimum of 1.2 to 2 critical care beds (0.15-0.25 per 100,000 population) for its vascular service. Extrapolating that calculation to support the 2.1m population of LSC&W suggests a requirement of 3.2 to 5.3 critical care beds, supporting the analysis above.

Theatre considerations for the Model of Care

Vascular surgery and vascular interventional radiological procedures can be undertaken in 'normal' theatres and 'hybrid' theatre suites.

A hybrid operating room is a surgical theatre that is equipped with advanced medical imaging devices such as fixed C-Arms, X-ray tomography (CT) scanners or magnetic resonance imaging (MRI) scanners.

Hybrid theatres allow for surgery and radiological interventions to be undertaken at the same time in a single operating space. This means a team of vascular surgeons and interventional radiologists can work together to carry out endovascular procedures for example, treating blood vessels without the need for open surgery.

There are a variety of hybrid theatre types, e.g. those with X-ray equipment integrated with a surgical table, or X-ray table with and Angio table. The latter option with an Angio table would be better value for money and meet the needs of all combined cases without compromising diagnostic imaging (i.e. the position of the patient on table) but may not be suitable for some purely surgical cases. To support the efficient use of the technology in the hybrid theatre then the option with the Angio table would support this. Further work, drawing in specialist staff will be required to maximise the opportunity for any new estate transformation.

Considering the increased investment in advanced medical imaging equipment it will be important to ensure the efficient use of the hybrid theatre session time (otherwise the return on investment would be much reduced – ongoing maintenance of such equipment is a significant cost). Although it can operate as a normal theatre (supporting routine surgery) in addition to endovascular aortic procedures and ‘hybrid’ lower limb revascularisation the theatre sessions should be used for open surgical cases, percutaneous angioplasty, or stenting (under general anaesthesia) and deep vein interventions.

In addition, there must be flexibility in making sessions available to maximise the opportunities to support non-vascular emergency patients (in and out of hours), such as for gastrointestinal bleeds.

Current Theatre Capacity

Currently Royal Preston Hospital supports vascular surgery through two theatres, one hybrid theatre and one non-hybrid theatre. For note, Royal Blackburn Hospital is in the process of commissioning its own hybrid theatre.

ELHT has sessions coded as Elective and/or Emergency (at Theatres RBH 3 and RBH 4). Over a four-week period at RBH there are 18x Elective sessions (average 4.5 per week), 22x Elective/Emergency sessions (average 5.5 per week) and 16x Emergency theatre sessions allocated to Vascular (average 4 per week). Theatres BGH 5 and 8 at Burnley General Hospital account for an average 4.5 sessions per week over four weeks (18x in total coded as General and Local Anaesthetic and Procedure Room)

ELHT has identified that with any transformation or transfer of services upwards of 5 theatre sessions per week will continue to be needed to support vascular day case surgery. Each consultant has within their job plan a session allocation per week for undertaking ‘procedures under local anaesthetic’ [in a day case environment]. This then supports existing procedural work (such as fistulas, varicose veins, for example), but will be reviewed in pre-, and post-implementation as the model matures.

LTHT lists theatre sessions at RPH and Chorley District Hospital (CDH).

- Over a two-week period, there are on average 4x theatre sessions per week in theatre CDH 8 (supporting day case fistula and varicose veins procedures).
- There are 10 sessions each week in theatre RPH14 and 10 sessions per week in the Hybrid theatre RPH15.

In addition to the two dedicated theatres at LTHT 24/7 emergency theatres are also available to support emergency patients including vascular patients.

During 2023/24 118x emergency vascular patients were coded as requiring emergency theatres outside of the dedicated sessions. Assessing the data approximately one third of them had complex surgery requiring 2x sessions. Thus, an approximate analysis (below) suggests that:

- 40 patients required 2x sessions in 2023/24
- 80 patients required 1x sessions,

This equates to 160 sessions throughout that year – the equivalent of about 3.2 sessions per week. This has not been included within the analysis below as the activity can happen outside of 'working-hours' will continue to provide 24-hour access for emergency patient surgery, so will not be part of a dedicated vascular theatre listing.

Some amendments to the working model and capacity in the operational implementation plan will mitigate the current emergency theatre use and the additional emergency cases currently delivered in ELHT.

LTHT Theatre Capacity

In total therefore there are 20 sessions available for elective (EL) and emergency/non-elective (NEL) surgery between the two theatres per week at LTH.

LTHT also has partner site theatre sessions with 1x per week at Victoria Hospital (BTH), 1 afternoon session per week at Furness General Infirmary and 1 morning session at Westmorland General Hospital (both UHMBT), and then 1.25x per week at Royal Albert Edward Infirmary (WWL).

The following table gives a breakdown of the average number of theatre sessions for the vascular directorates at each Trust on a weekly basis for both hybrid and non-hybrid theatres (session list data for 2023/24).

Table 10.6

	LTHT	ELHT	Total
Vascular Non-Hybrid Sessions	10	18.5	28.5
Vascular Hybrid Sessions	10	0	10
ELHT Day Case Sessions	-	-5	-5
Vascular Total Sessions	20	13.5	33.5

As the table shows combining the currently available sessions equates to the current Vascular Centres supporting 33.5 EL and NEL surgical sessions per week.

The proposed single site for inpatient and emergency pathways would result in the transfer of 13.5 four-hour theatre sessions to the Royal Preston site (5 ELHT day case non-arterial sessions will remain at ELHT). In addition, the services would run dedicated theatre sessions across a 7-day period. This would be possible due to the expansion of consultants on the on-call rota and maintaining the current weekend commitments and would support improvements to achieve the quality standard of 5 days for revascularisation of chronic limb-threatening ischemia (CLTI). This has been demonstrated to reduce length of stay, in-

hospital mortality rates, readmissions and amputation rates (CQUIN). This would also mitigate the increased number of cases anticipated to go through the emergency theatres over the weekend.

The theatre available to facilitate this service transfer has previously been used for interventional radiology procedures (i.e., fully lead lined and suitable for conversion). The Trust has developed costed designs and timelines for modifying this theatre, the connecting corridor, and the equipment required to support the conversion into a second hybrid theatre at RPH.

Theatre Resilience

Planned and unplanned maintenance on theatres and IR rooms has been identified by workstreams as an ongoing risk to service provision. Any outstanding backlog or proposed work is acknowledged as a factor affecting capacity that needs to be incorporated within planning and risk mitigation.

The proposed additionality of estate to both the theatres and radiology suites will provide resilience and address the capacity issues.

Interventional Radiology, Diagnostic, and Imaging Capacity

LTHT provides regional specialist services in vascular and interventional radiology, diagnostic, and interventional neuro radiology, diagnostic and therapeutic nuclear medicine, and oncological imaging. Each of these sub-specialities are supported by close multidisciplinary teams working with the relevant clinicians and specialist equipment.

The Interventional Radiology (IR) department at Royal Preston Hospital currently has 8x substantive Consultant Radiologists, 9x Radiographers and over 15x Nurses within the team. Within the department it has a post-procedural recovery unit known as IRDU (interventional radiology day unit) which comprises 8 recovery beds, one ultrasound / biopsy room, and one pre op / consultation room. Within the unit they have two procedure rooms (rooms 9 and 10). Both rooms are equipped with fluoroscopy to allow the use of real time imaging during minimally invasive image guided medical treatment.

The Interventional Radiology suite will typically be used for both vascular and non-vascular work. Vascular case scheduling should be based around the time-critical nature of the intervention and staff available and facilitated by regular communication with the vascular consultant of the week.

The Interventional Radiology team provide a 5-day service Monday to Friday for outpatient and inpatient treatment alongside a 7-day on call service for any emergency cases.

POVS recommends that Arterial Centres should provide, as a minimum, a dedicated interventional radiology suite with day care beds. An adjacent recovery unit, or protected day care beds, deliver a better patient experience and is more cost effective than inpatient admission. In respect of dedicated day care beds for vascular Interventional Radiology within the Arterial Centre, POVS advises:

- a 'minimum standard' of 2 days/week
- an 'achievable standard' of 5 days/week

The LTH Radiology Department is currently in the process of designing, costing, and determining timescales for the development of an additional IR suite to support the future provision of Interventional Radiology services across LSC (facilitating the vascular reconfiguration). IR teams from the two Trusts immediately affected by the proposed service reconfiguration have collaborated extensively to develop a workforce and service frameworks.

The proposed model to consolidate endovascular IR services in the LSC system would see increased resilience, and be the best way for the system to approach the proposed changes to the vascular service.

Interdependent services at the trust sites are being involved in the decision making, taking into account the impact on their service and designing how this model will work in practice.

Hot Clinics

The Hot Clinic was designed to facilitate timely access to diagnostics and surgery for all patients across a wider geography within a network, irrespective of the distance from the central service: enabling local care closer to a patient's home.

They can deliver time-critical patient assessment by the vascular MDT without the need for hospital admission. In fact, anecdotal analysis suggests that the use of Hot Clinics reduces inpatient admissions (and thus bed days). As with Same Day Emergency Care (SDEC), patient referrals can be received directly from GPs and from emergency departments.

The ambition for the reconfigured Vascular Network is to run a hot clinic daily (5x) at the Arterial Centre (RPH) and at least one hot clinic a week at each of the Network Hospital sites. In summary the aspiration is:

- LTHT 5x hot clinics per week,
- At least 1x hot clinic at ELHT, BTH, UHMBT and WWL per week each,

The hot clinic will be held in the outpatient suite at the Arterial Centre or Network Hospital sites. Patients may be booked into the hot clinic following review in a vascular outpatient clinic for expedition of investigations, or if referred to the on call vascular service and deemed suitable for hot clinic review.

Patients that are unsuitable for hot clinic will include those that are:

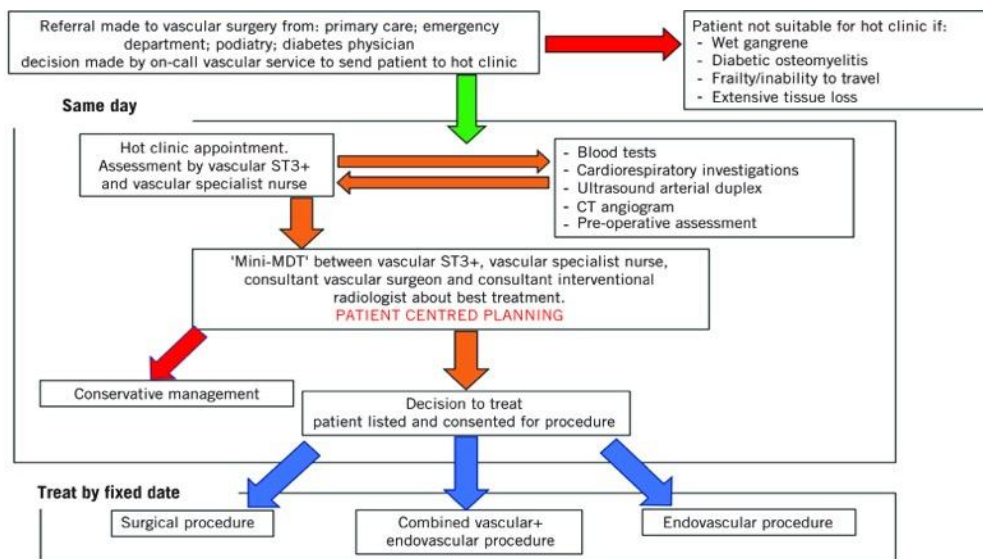
- referred with acute limb ischaemia,
- suffering from diabetic foot sepsis or wet gangrene,
- a residential/nursing home resident.

Such cases may necessitate emergency admission instead.

Suitable patients will have their hot clinic appointments arranged by the Trust's Booking and Scheduling team, who can help with transport arrangements.

Afterwards, the imaging will be reviewed by a consultant vascular surgeon and a consultant interventional radiologist, resulting in jointly agreed treatment plans and procedures. The patient will be informed of the result, consented (if intervention is necessary), and given a date for the procedure prior to discharge from that clinic.

Schematic showing a typical Hot Clinic pathways.



To be effective, a hot clinic requires adequate resourcing and adequate capacity to meet demand:

- Consultant review for decision making
- Nursing support for advanced wound care
- Podiatry support for foot wound care
- Clinical vascular scientist support for non-invasive vascular imaging
- Agreed timely access to:
 - Cross-sectional imaging (CTA/MRI)
 - Physiotherapy
 - Occupational therapy
- Administrative support

Referrals suitable for review in a Vascular Hot Clinic include:

- People referred with CLTI and minor tissue loss or managed rest pain
- Acute limb ischaemia with no threat to the limb (Rutherford grade 1)
- Digital ischaemia
- People diagnosed with TIA or minor stroke and a significant carotid stenosis
- Asymptomatic aortic aneurysm above threshold for repair (>5.5cm)
- Venous leg ulcer or venous bleed
- Ilio-femoral or upper limb DVT for consideration of thrombolysis
- Wound care, including management of post-operative complications.

Vascular Laboratory

Vascular laboratories (often affiliated with Radiology departments) mainly perform non-invasive investigations evaluating blood vessels, arteries, and veins, in the neck, arms, abdomen, and legs of patients. Many of the exams involve imaging of specific blood vessels with duplex ultrasound, for example, to check for the possible causes of symptoms that patients are experiencing.

These tests can help with early diagnosis and then treatment of vascular conditions, including peripheral arterial disease (PAD), stroke, aneurysms, and deep vein thrombosis.

It is important to note that Vascular Laboratories support vascular and non-vascular clinical specialties and also contribute to clinical research.

The aspiration is for each hospital site within the Network to have one Vascular Laboratory facility available for the 5 working days per week. It is understood that WWL currently has a lab run by 1 person; ELHT has a lab which will need to continue to run to support clinic requirements (even beyond the proposed service transition); Morecambe Bay Hospitals (Westmoreland and Royal Lancaster) have access to laboratory facilities.

Currently, BTH contract a Vascular Laboratory service (and with that the personnel as well) through a private company and service level agreement.

The aspiration is that the laboratory facilities at RPH need to support the additional inpatient demand and increase, for example, from the proposed growth in Hot Clinic availability (to which the laboratory is an important part of the pathway).

A number of options have been reviewed to support the proposed Network and this work will continue to be included within the Decision Making Business Case.

Doing nothing and looking to the existing capacity at LTHT to support the demand is not feasible within the limited estate offer at LTHT and would not be considered an improvement to the service offer for patients (with variation in the care offered across the geography).

The preferred option being considered is to:

- expand the services at LTHT to meet demand (proportionally growing to accommodate the increase in elective and non-elective patient admissions).
- ensure one facility at each of the Network Hospitals
- develop a workforce network (e.g. of Clinical Vascular Scientists) where staffing would be supported through the distribution of existing personnel across that Network, ensuring cover, resilience, and consistent service delivery.

10.3 Service Impacts: Workforce

Summary

Overall Lancashire Teaching Hospitals NHS Foundation Trusts employs circa 9,000 staff while East Lancashire Hospital NHS Trust employs approximately 8,000 staff. Like all NHS Trusts both face considerable workforce challenges which can undermine the resilience of clinical services, staff satisfaction and wellbeing.

A key 'driver for change' within the Vascular Programme is the known difficulty for recruiting staff, and the potential fragility and resilience of the services. In respect of the staff who are employed directly within Vascular services or support the vascular surgical pathway, there would be a formal review and consultation to ensure the skills and knowledge transferred with the specialist work.

Staffing that is not dedicated to Vascular services

It is worthy of note that a number of the roles and staff types detailed in this work support specialties and clinical services outside of just Vascular (e.g., Therapist staff, Business Managers, Radiologists, etc.). It is not within the scope of this business case to determine the individual redistribution of those specific personnel between the Trusts, merely looking to model the requirements for adequately delivering Vascular Network services.

The National Service Specification and Workforce

The National Service Specification²⁷ sets out the following standards for Vascular teams which are important considerations in developing a future model of care:

- Patients with vascular disorders will be cared for by specialist vascular teams. These teams will include vascular surgeons, consultant anaesthetists, interventional vascular radiologists, vascular scientists, nurses, radiographers, physiotherapists, occupational therapists, and rehabilitation specialists.
- A vascular multidisciplinary team (MDT) will be hosted by the Arterial Centre. Clinicians providing emergency care will be part of the vascular services MDT and be delivering both in- and out-of-hours care in the network arterial centre.
- Care of patients will be managed through regular multi-disciplinary team meetings which will occur at least once a week. The membership requirements for the MDT meeting will include a range of clinical disciplines and be formalised. The documentation will include statements on minimum levels of attendance for individuals and quoracy. It is expected that all clinicians will attend MDT meetings on a regular basis.
- POVS recommends MDT quoracy with $\geq 50\%$ vascular surgeons, ≥ 2 interventional radiologists, 1 vascular anaesthetist, 1 vascular nurse specialist, 1 clinical vascular scientist, and MDT coordinator in attendance.
- The specialist vascular team will also support the care of patients under the management of other specialties.

²⁷ ²⁷ Specialised Vascular Services service specification, Adults,
<https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-a/a04/>

Workforce Challenges

As presented within the Case for Change there are local and national shortages to the supply of vascular medical and nursing staff. In L&SC it could be considered that through having two Vascular Centres currently demand for these roles is potentially increased due to the duplication of dual site running (the number of staff required is disproportionately increased and affects each Trust's ability to attract and retain clinical professionals).

This puts significant pressure on the need for bank and agency staff (in 2023/24 spending on medical and nursing agency/bank staff was approximately £140k) and results in a risk of less specialist input to patient care.

The workforce challenges that have been highlighted in the Case for Change section above will mainly be addressed through the reconfiguration of clinical services across the two hospital sites. The future network model will centralise that inpatient surgery to one site which will maximise the opportunity to strengthen workforce efficiency, resilience, and sustainability.

Any risks associated with specific staff groups will be picked up within the Risk Register.

Human resource requirements

A HR [Human Resource] 'task and finish' group supports the reconfiguration work specifically with the workforce in mind. A formal HR-led consultation process to understand staff aspirations and concerns will be undertaken and the workstream will lead on any work (including processes to support Transfer of Undertakings (Protection of Employment) Regulations 2006 (TUPE) if/where they apply).

It is recognised that change resulting from the reconfiguration can cause anxiety for colleagues. Whilst plans for the transfer are being developed and finalised support will be offered to colleagues from their current managers. As much information as possible is being shared, however, it is acknowledged that information is limited at times. While plans are being pulled together. Informal communication from management at ELHT has started and this will be more structured once there is confirmation that the service will transfer. The consultation process will include the opportunity for one-to-one meetings with their managers and there will also be the opportunity to meet with managers from LTH.

Clinical Leadership

Centralisation of the two sites' Vascular departments into one, will also see an inevitable consolidation into a single Vascular department and management team.

The POVS guidance recommends there should be staff appointed to network roles to provide the vascular service with leadership and management. Vascular networks should have a strong leadership team to provide a shared purpose and to engage all network staff in decision making.

Medical Consultant Workforce

The national POVS document gives the guidance on vascular workforce planning – the process should look to *achieve the right number of people with the right knowledge, skills, and behaviours; in the right place; and at the right time.*

The current LTH establishment is:

- 13 WTE vascular consultants operating a 1-in-12 on-call rota.
- These staff are distributed across the partner Trusts:

- Blackpool: 3 consultants
- Morecambe Bay (Barrow/Lancaster): 5 consultants
- Wigan: 3 consultants supported by a fourth clinician to deliver five-day cover.

The current ELHT establishment is:

- 6 WTE vascular consultants operating a 1-in-6 on-call rota.

The POVS guidance suggests that there should be an ‘aspiration’ for Vascular surgeons in a Network to number 1 for every 100,000 population. With a population of 2.1m across LSC&W (for the designate Arterial Centre / Vascular Network) this equates to 21 staff.

Strategic approval has been granted to expand the vascular service to 21 consultants.

These staff will undertake a 1-in-10 on call rota (first on call will manage initial calls, while second on call will support/back up the first on call consultant).

In every 60-week cycle it is proposed that there will be:

- 3x instances of Consultant of the Week 1 (Monday to Friday days, ward/on call days)
- 3x instances of Consultant of the Week 2 (Monday to Friday days, ward/on call days)
- 6x weekend on calls (Fri/Sat/Sun)
- 12x nights midweek first on call (Mon- Fri)
- 12x nights second on call (Mon-Fri)

Zonal Teams will be set up to cover each of the network partner hospital sites (BTH, ELHT, UHMBT, and WWL) and regular theatre days will be planned for surgeons during the week within Royal Preston hospital theatres.

The LTH Vascular unit is recognised for successfully supporting specialty doctors through the CESR route to consultant level, supported by international recruitment links, particularly with Egypt. This has been highlighted as supporting workforce sustainability.

Currently there are 3 National Training Number (NTN) trainees (increasing to 4 from August 2026). There is a 1-in-9 registrar rota. ELHT has 1 NTN and 5 WTE specialty doctors. LTH employs 4 specialty doctors and has 2 senior clinical fellow posts (currently vacant).

The middle grade resident doctors, through a combination of training post and locally employed clinical fellows would be on 1-in-11 24/7 full shift rota, ensuring that there is an appropriate level of response to the emergency demand and to prevent a high predictable and unpredictable allowance in the roster and risk of cancelled activity and unplanned rest days. This roster falls in line with expectations to provide an immediate visit to theatre 24/7.

Sustainable Working Arrangements

The risk of Lancashire Teaching Hospitals (LTH) becoming overwhelmed during peak periods is one that is taken very seriously and has been raised following the proposal to take on more patients from ELHT. Such a situation is already addressed through established Trust-wide and regional mechanisms. These will continue to apply in the new vascular model.

1. Surge and Escalation Policies (already in use across LTH):

- LTHT operates under NHS England's Operational Pressures Escalation Levels (OPEL) framework, which provides a structured response to fluctuations in demand, including winter pressures.
- At times of high demand, escalation policies include flexible bed management, redeployment of staff, and use of dedicated escalation wards.
- A Clinical Site Management Team monitors capacity in real-time, coordinating actions such as opening additional capacity or diverting patients when necessary.

2. Specific Vascular Mitigations:

- Dedicated hybrid theatre capacity is protected for vascular surgical activity, ensuring emergency access is not lost during peak periods.
- The step-down criteria currently in development (rehabilitation ward protocols, agreed with nursing teams) will allow safe and timely patient transfers, freeing up acute capacity.

3. Learning from Previous Winter Pressures:

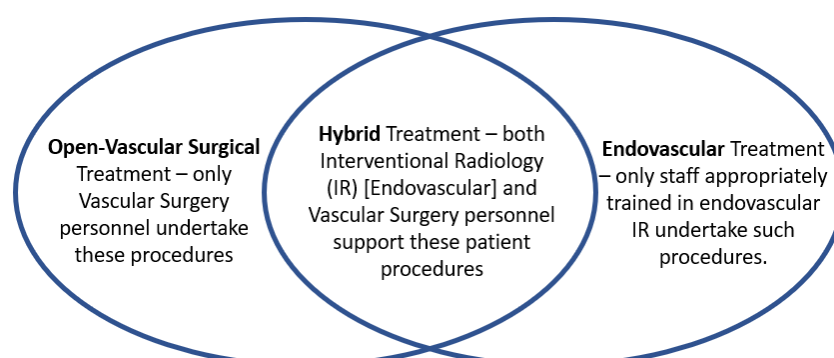
- LTHT has demonstrated resilience in managing increased emergency admissions during winter surges. These same escalation and patient-flow practices will apply to vascular care.
- We will continue to monitor demand closely through the Vascular Programme Board, adjusting workforce, elective scheduling, and inter-hospital transfers as needed.

The proposed vascular model has been designed to strengthen resilience, not weaken it. By concentrating complex arterial work at a high-volume centre while retaining non-arterial hospitals as network partners, the service is better placed to manage surges. LTHT operates escalation policies which will underpin how vascular services respond to demand.

Interventional Radiology Services

In all cases Interventional Radiology- and Vascular Surgical personnel will be jointly involved in patient diagnoses, imaging reviews, and MDT (multidisciplinary team) work. In respect to a patient's vascular treatment there are three general occurrences (listed below and represented in the Venn diagram):

- 'Hybrid' treatment involving both IR and Vascular surgical professionals,
- Open vascular surgical treatment requiring Vascular Surgeons, but not IR teams,
- Endovascular treatment only involving staff appropriately trained in endovascular IR (which in some cases includes Vascular Surgeons).
-



For note: This is true for elective and non-elective emergency points of delivery. Also, no Vascular surgeons undertake those IR procedures outside of these treatment groupings (e.g., embolisations, IR procedures relating to hepatobiliary care, etc.).

The aspiration is to consolidate Vascular Consultant personnel under one Network, likely contracted by the host Trust of the Arterial Centre. This would see the L,SC&W elective and non-elective vascular surgical provision fall under the responsibility of the proposed Network. However, there are nuances to applying the same approach to the Interventional Radiologist (IR) staff that have a more diverse role in patient care across multiple clinical specialties.

Table 10.7 Provision of Interventional Radiology (IR) Patient Care

The table and text below provide an outline of the core procedures and patient groups within the scope of the changes to Vascular Interventional Radiology service in the proposed Network.

Patient Group 1 Vascular IR	1A – Vascular Surgical Patients
	1B – Patients of other specialities
Patient Group 2 General IR	

Service Distinctions

Group 1. Vascular IR - this group should be split into 2 subsections:

Subgroup 1A. Vascular IR relating to Vascular Surgical Patients (e.g. peripheral angioplasties, EVAR, treatments for ischaemic legs, endovenous work etc.)

Subgroup 1B. Vascular IR relating to All Other Specialties (e.g. renal medicine lines and fistuloplasties, gynae embolisations, trauma IR, GI bleeds, etc.)

Vascular IRs are the only clinicians that can treat All Group 1 patients (both A & B subsections). The whole group is within scope of the reconfiguration.

Group 2. General IR (e.g. percutaneous drains, radiologically inserted gastrostomies, biopsies etc.). Non-vascular IR is not within the remit of this reconfiguration as it is performed largely by other Radiologists (although it remains an issue for the ICB as there is no provision for on-call).

It is proposed that any work for:

- Patient Group 1 VIR (1A and/or 1B) that can be done as a day case in theory can be performed in a Networked Hospital site (subject to adequately trained staff, dedicated IR day case beds, and requisite equipment).
- Patient Group 1 (subgroup 1A) that requires the patient to be an inpatient under vascular surgery will need to be performed at the Arterial Centre.
- Group 1 (subgroup 1B) that requires the patient to be an inpatient under any other clinical speciality could be done in a Networked Hospital site that has inpatient beds in that particular specialty.
- Group 2 (General IR) is not within the scope of this programme.

Various models and options have been considered for how to deliver interventional radiology services across not just the proposed vascular network, but also for ELHT considering its General IR provision and support to other secondary and tertiary clinical specialties.

Maintaining the status quo through 'doing nothing', with two separate L&SC Vascular Centres being supported by two separate IR Teams is not an option. The risks identified within the case for change will not be mitigated or resolved without change.

With reference to the patient cohort categories above, one option was to centralise the treatment of Group 1A patients (in respect of radiology services) across the network with ELHT maintaining radiology services [and Group 1B patients] separately. This approach fragmented the IR services.

Centralising all of the treatment for Group 1A and 1B patients (in respect of radiology services) within the Network is the preferred option. The proposed model comprises:

- Elective day-case endovascular services delivered at both the hub (LTHT) and ELHT
- All inpatient endovascular work relating to vascular surgical patients delivered at LTHT
- A single regional out-of-hours emergency endovascular service based at LTH

The service will consist of 16 Endovascular Interventional Radiologists operating a sustainable 1-in-16 single-tier regional on-call rota based at LTH.

All patients requiring emergency endovascular intervention out of hours will be transferred to Lancashire Teaching Hospitals (LTH).

Having two dedicated endovascular IR suites at LTH supports the management of emergency and inpatient activity (in one), and elective endovascular procedures (in the other).

The rationale to this proposed model is that it:

- provides clear accountability for all endovascular activity
- ensures equitable access across the region
- concentrates inpatient vascular surgical patients and their treatment at the hub (LTH)
- maintains appropriate local access for elective care at ELHT (as a key partner site)
- improves workforce sustainability
- provides a platform for developing advanced and emerging endovascular therapies
- supports LTH's status as the regional Major Trauma Centre - centralising complex vascular, trauma and emergency intervention.

Interventional Radiology Operating Model

Elective day-case endovascular procedures will be delivered at both LTH and ELHT.

All inpatient endovascular work relating to vascular surgical patients will be delivered at LTH. Inpatient non-vascular surgical endovascular work (for example gastrointestinal haemorrhage) may be considered for treatment at ELHT during standard daytime hours (08.00-18.00), where appropriate and safe, if the patient is an inpatient under a non-vascular surgical specialty

The network will ensure that appropriate support, training and governance arrangements are in place so that clinicians participating in the on-call rota are supported in delivering safe and effective care

It is expected that all Interventional Radiologists participating in the regional on-call rota will be appropriately trained and competent to deliver the core components of the emergency endovascular service. Core out-of-hours endovascular procedures will include, for example: emergency vascular access-related interventions; emergency embolisation for other life-

threatening haemorrhage; endovascular treatment for acute hepatobiliary bleeding or postpartum haemorrhage; endovascular management of iatrogenic vascular injury, or emergency endovascular procedures relating to vascular surgery (including treatment of ruptured abdominal aortic aneurysm, acutely ischaemic limbs, etc.).

NB All non-vascular interventional radiology procedures, including percutaneous drainage and other non-vascular image-guided interventions, are outside the scope of this service.

Also for note: emergency nephrostomy insertion is a non-vascular interventional radiology procedure. The current LTH-based endovascular on-call rota provides emergency nephrostomy cover, and there is currently no commissioned regional non-vascular interventional radiology network to absorb this work.

The endovascular rota will therefore continue to provide emergency nephrostomy cover in the interim.

Emergency Interventions

The regional consultant-led on-call endovascular interventional radiology service will provide emergency endovascular procedures across the Lancashire and South Cumbria and Wigan network.

Referrals to the on-call service will be made via established clinical pathways, with direct consultant-to-consultant discussion where appropriate to ensure timely and appropriate patient management.

Where patients initially present to other hospitals within the network, transfer to the hub site will be arranged where clinically appropriate to facilitate timely endovascular treatment.

All emergency procedures undertaken as part of the on-call service will be delivered at the hub site (LTH) where appropriate facilities, theatre access, and multidisciplinary support services are available. The service will support the urgent management of patients requiring time-critical endovascular treatment and will operate in conjunction with existing emergency, vascular surgical, trauma, hepatobiliary, and critical care services across the region.

The service will also provide regional specialist interventional radiology advice to referring clinical teams across the network, supporting the assessment and management of patients who may require urgent endovascular intervention. This advice will frequently include review of imaging performed at the referring hospital, which will already have been formally reported locally, together with discussion of the patient's clinical status in order to guide appropriate management and determine whether urgent endovascular intervention is required.

Interventional Radiology and Radiology On Call

The proposed network model would see the centralised group of IR consultants taking part in the single on call for endovascular emergency work (Group 1A and 1B patients). They will be responsible for performing all elective and elective/day case endovascular treatments for this patient group across the entire network (in order to maintain clinical competences and reduce patient-risk). Equally, all operators performing elective endovascular work should also support the on-call acute work.

Other IR on-call work (nephrostomies/embolisation of bleeds etc.) may be performed at each of the network sites (e.g., LTHT, ELHT, BTH, etc.) as required. Non-vascular Interventional

Radiology on call at ELHT is a key function to supporting the hospital's care services however, is outside of the scope of this programme.

All consultants performing elective endovascular work must participate in the emergency on call cover for that group of patients. Staff who might be involved in the perioperative care of an emergency vascular patient should:

- be trained and competent in the aspects of patient care for which they are responsible,
- attend and assist in the daytime care of routine major vascular cases to update their skills and knowledge.

Wigan, Wroughtington and Leigh

Wigan is aligned to the Lancashire and South Cumbria vascular surgical network, and current endovascular services provided to Wigan relate to vascular surgical patients within that pathway.

Certain emergency endovascular pathways that do not relate to vascular surgical patients — for example emergency endovascular treatment of gastrointestinal haemorrhage — are not currently aligned to this regional model and may continue to require transfer via Greater Manchester pathways unless commissioning alignment changes.

Further operational dialogue, not immediately within the scope of this programme, is required to support the contracted work at Wigan by LTH staff.

Development of Advanced and Emerging Endovascular Therapies

Serving a population of approximately 2.1 million will increase exposure and case volume, supporting development of expertise in new endovascular techniques, examples given below:

- Treatment of arteriovenous malformations
- Prostatic artery embolisation
- Genicular artery embolisation
- Advanced embolisation techniques for complex pelvic and vascular conditions
- Increased scope for offering endovenous therapies, including catheter-directed thrombectomy and thrombolysis for acute deep vein thrombosis (DVT), and development of chronic venous intervention services

Diagnostics

The provision of high-quality diagnostics is a key component of vascular services. Central to the programme for delivering the new vascular model of care is ensuring that as much health care continues to be accessible (as is safe to do so) to patients in the hospitals local to where they live. This includes relevant diagnostic procedures.

Although inpatient elective and non-elective admissions are to be centralised within the Arterial Centre (at LTH), the care pathway will continue and be maintained for that patient locally wherever possible e.g. outpatient appointments, imaging and diagnostics, day case procedures.

Multidisciplinary Team Meetings

The scrutiny of any risks and/or benefits from a vascular procedure is often a complex undertaking and requires clinical assessment from key personnel within a Multidisciplinary Team (MDT).

National guidance, including POVS, recommends that there should be input from members of a vascular multidisciplinary team. This includes, but is not limited to (dependent upon the needs of the patient) the following specialist staff:

- Vascular surgeon
- Vascular nurse specialist
- Interventional radiologist
- Vascular anaesthetist
- Critical care
- Rehabilitation medicine
- Occupational and Physiotherapy
- With access to a
 - Pharmacist
 - Dietician

As part of any pre-implementation work it would be intended that through collaborative working between the Vascular Centre Trusts a joint MDT Meeting (MDTM) would be in place that has representatives from both ELHT and LTHT. Changes to job plans as the programme progresses through a preparatory phase and into implementation would allow for greater alignment of clinical working between the two Vascular Centre personnel. An Arterial Centre would see this 'joint' MDTM transform into a single Vascular Network MDTM, with the commensurate governance, coordination, audit, and structural changes. It would not cover emergency work as a separate short daily MDT will be undertaken at the Arterial Centre for emergencies, attended by a core network group of clinical staff.

It is recommended that some local MDTs at the network Trusts will continue supporting patients with lower limb vascular conditions. It is not intended that each network hospital will have a specific 'zonal' Lower Limb MDT but that patients from those Network sites will be supported by at least three meetings over the course of each week, attended by health care professionals with advanced capabilities in lower limb assessment. The importance of such MDTs is to have in place agreed prevention strategies, clinical referral pathways for assessment, and timescales for escalation if an ulcer is non-healing. POVS recommends that Lower Limb Ulcer MDTs comprise:

- Vascular services
- Podiatrists
- Tissue viability nurses
- Lymphoedema practitioners
- Medicine (Diabetologists and Dermatologists)

Anaesthetists

The Anaesthesia Teams at both Trusts support the respective Vascular Departments, relevant vascular surgical patients, and have rotas dedicated to vascular surgery and on call as part of that framework. However, they are not in themselves all dedicated 'Vascular Anaesthetists'. It is known that some Anaesthetists are experienced in dealing with vascular

patients and have a special interest in this area, but resource is drawn from the pool of personnel as required to facilitate the vascular service according to the rota.

Anaesthesia for patients undergoing major vascular surgery should be provided by, or directly supervised by, an anaesthetist suitably qualified, trained and experienced in vascular anaesthesia. Anaesthetic cover for emergency vascular surgery should ideally be available from a vascular anaesthetist 24/7.

Additional patient activity at LTHT from the transition of services from ELHT will increase demand on vascular surgery and theatre sessions, and thus requirements from the team of Anaesthetists at the Arterial Centre.

Currently LTHT has approximately 6-7 WTE Consultant Anaesthetists supporting the Vascular department (the information from the ELHT HR department gives 9 WTE). The business case modelling captures the activity directly related to the Vascular theatre sessions on the RPH site, with some time included for preoperative work and MDT input. This activity would be delivered by a wider team with other existing activity.

Pre-Operative Assessment and Anaesthesia

Following reconfiguration, the current LTH pathway will continue to support those patients that require surgery on the LTH sites. Some patients will though have day case surgery on the ELHT site.

Following a review, Pre-Operative Assessment, Anaesthetic and Medical representatives co-produced a model to support the future arrangements for patients at ELHT. Involvement from pre-operative assessment and anaesthesia teams is key for patients who require a general anaesthetic during a day case procedure (for example, varicose veins, or fistula surgery).

Centralising such provision could have separated clinical responsibility and pre-operative assessment and anaesthetic governance from the site of care delivery. The agreed preferred direction, a locally delivered ELHT pathway, supported by the [LTH contracted] network vascular surgeons will be formalised through a Service Level Agreement.

This approach was considered more operationally feasible, clinically safer, and likely to provide a more coherent patient experience whilst supporting the wider vascular reconfiguration programme.

Nurse Staffing

Vascular Specialist Nurse

The role of the VSN is an integral part of the vascular service. The VSN team ensure that high standards of care are provided to patients throughout their whole journey and are advocates for ensuring the delivery of person-centred care. They are highly skilled professionals who are able to provide nurse led clinics to ensure that patients get the best, evidence based, care in the most appropriate setting whilst also freeing up valuable capacity in consultant clinics.

The role of the Specialist Nurse will look to support consultant colleagues in out-patient clinics, facilitate the management of inpatient referrals and act as a link for patients being

both readied at Network Hospital sites and for the inpatient treatment at the Arterial Centre. Specialist Nurses will act as the patient's advocate and deliver front line care and may in the future become the principal point of liaison between the Arterial centre and Network hospital sites.

There is also a known role for the VSN to support the streamlining of referrals into secondary care by vetting primary care referrals that arrive at the hospital sites more effectively.

It is strongly suggested that the role of Vascular Specialist Nurse (VSN) will become increasingly more important in the delivery of vascular services generally, and especially at Network hospital sites within a wider Vascular Network.

A VSN can provide specialist vascular opinion to establish a diagnosis (including investigations) and formulate a treatment plan:

- Inpatient reviews (assessment, advice, arranging non-invasive imaging and liaise with the wider vascular MDT)
- Outpatient clinics (seeing patients either in an independent clinic or as an autonomous practitioner attached to a consultant clinic)
- Perform interventions (wound and lower limb ulcer care, endovenous procedures and/or surgical assisting)

POVS recommends that there should be at least 2 WTE Vascular Nurse Specialists at the Arterial Centre and one to two WTE per Network Hospital.

The proposed Vascular Specialist Nurse (VSN) staffing model assumes that there will be:

- 5 x hot clinics per week at LTHT
- 1 x hot clinic at ELHT, BTH, UHMB & WWL
- Continued outpatient activity
- ELHT to reflect current non-arterial model at BTH & UHMB

During this reconfiguration, it is anticipated that the role of the VSN will be reviewed and developed as required to support consultant colleagues in out-patient clinics, facilitate management of inpatient referrals and act as a link for patients being worked up for inpatient treatment at the arterial centre.

The collaborative Nursing Workstream within the pre-implementation programme work has developed a draft staffing establishment to support the reconfiguration using the WTE available from both ELHT and LTH. Further refinement is required, and this will be detailed within the Decision Making Business Case.

Inpatient Ward Nursing Staff

The proposal is to increase the current bed model at LTH from 33 in-patient beds to 65 – the same capacity that is in place currently across the two Trusts.

A triangulated multidisciplinary approach by the Chief Nursing Officer and deputy has been used to undertake the safe staffing reviews. The review included evidence-based tools, such as National Institute for Clinical Excellence (NICE) guidance, National Quality Board (NQB) safe staffing guidance alongside the professional judgement of those leading the services and a review of the key performance outcome measure for each area.

Advanced Clinical Practitioners come from nursing or allied healthcare professional (AHP) backgrounds and complete a master's level degree as part of their training. It is recommended that a team of ACPs work with junior doctor in support of the patient care. ACPs may work at the equivalent of a middle grade doctors' role. This will be further considered as part of the pre-implementation assessment and transformation work.

Tissue Viability Nurses (TVN) can complement the VSN service in providing complex wound advice and management. When TVN's are not available to support an outpatient clinic, Outpatient Nurses need to have the knowledge and skills in wound care and specifically be competent in compression therapy and wound care.

The collaborative Nursing Workstream within the pre-implementation programme work has developed a draft staffing establishment to support the reconfiguration using the WTE available from both ELHT and LTH. Further refinement is required, and this will be detailed within the Decision Making Business Case.

Theatre Nursing Staff

The collaborative Nursing Workstream within the pre-implementation programme work has developed a draft staffing establishment to support the reconfiguration using the WTE available from both ELHT and LTH.

Depending upon the theatre model that supports the Arterial Centre the staffing analysis that has contributed to this structure can be used as a platform to staff the theatre sessions accordingly. Current Associate for Perioperative Practice (AfPP) guidance on staffing ratios has been used to calculate the staffing requirements for each theatre. Additionally, 22.2% headroom has been included.

Further refinement is required, and this will be detailed within the Decision Making Business Case.

Recovery and Rehabilitation: Occupational- and Physiotherapist Services

The core MDT will include access to specialist physiotherapists and specialist occupational therapists, dependent upon the need of the patient. However, the physiotherapist, along with other professionals, should contribute to such things as the management of residual limb wound healing, pressure care, prediction of prosthetics and be responsible for the decision to start using the early walking aids.

Most vascular surgical patients will be fit to be discharged home relatively soon after treatment with minimal issues for safe repatriation. An outpatient appointment at the local Network Hospital with their vascular specialist should enable a satisfactory episode of care.

A significant proportion, however, will require prolonged rehabilitation and/or attention to social issues following amputation or surgery. The preferred solution, wherever possible, is for these more complex cases to be repatriated directly to either intermediate or community care without the need for repatriation to a Network Hospital. If repatriation is deemed the most appropriate course of action, then care will be transferred to an appropriate non-vascular specialist e.g., Stroke, Diabetes, Care of Elderly, General Surgery, Orthopaedic Surgery.

Staffing Analysis

The POVS documentation describes a team that would facilitate inpatient gym sessions, early provision of mobility devices, provision of psychological support, and early referral to a Prosthetic and Amputee Rehabilitation Centre. It advises that this would lead to improvements in the speed and efficiency of amputee rehabilitation and together with the service being placed within a centralised site, also lead to improved outcomes. Additional patient activity at LTHT from the transition of services from ELHT will increase demand on rehabilitation and repatriation support (and thus requirements from the team of Therapists) at the Arterial Centre.

Limb fitting services will continue to be delivered as is currently the case through the Specialist Mobility and Rehabilitation Centre based at Royal Preston Hospital.

The collaborative Allied Health Professionals (AHP) Workstream within the pre-implementation programme work has undertaken analysis on the patient pathway schedule and the duration at each pathway step for a series of patient types (approximately categorised as 'Quick turnover', 'Routine/Typical', and 'Complex' patients). The Appendix (*Joint LTHT/ELHT Therapies Position Statement May-23*) gives more information on the previous work undertaken.

Analysis also identifies the Therapist role/banding that is typically involved in the pathway steps. This has enabled the estimation of future demand with increased numbers of patients at the Arterial Centre (previously seen at ELHT). The workforce models are based on 2024 therapy activity data from LTHT and ELHT, with the following assumptions applied:

- Vascular surgery will be carried out at one Arterial Centre.
- There may be two distinct units within the centre, possible one acute and one sub-acute (dependent on agreed pathways).
- If two units are utilised, they would be co-located on the same site.
- Only acute/subacute therapy interventions would be provided by the team, they would not be delivering intermediate care or community rehabilitation.

The modelling also takes into account the following profession specific requirements and service deliverables:

- A higher WTE of specialist Occupational Therapists (compared to Physiotherapy), owing to the complexity of tasks and the time required to undertake these e.g. environmental visits, equipment ordering, wheelchairs and liaising with various providers.
- Appropriate leadership and clinical expertise (band 7 positions) within the structure for both professions, support workers and students, also enabling 2-unit oversight if this model is progressed.
- Introduction of an Assistant Practitioner workforce at LTHT, who can hold their own routine caseload and contribute to 'therapy minutes' in the pathway, allowing registered therapists to focus on the more complex patients.
- An attractive team structure, to aid recruitment, retention, and career progression.
- Ability to commence and deliver a pre-operative therapy service creating an efficient and supportive pathway for vascular patients.
- Ability to deliver a 7-day service (an increase from the current 5-day service), providing equitable therapy provision for patients undergoing surgery across 7 days.

Further refinement is required, and this will be detailed within the Decision Making Business Case.

Clinical Vascular Scientists

Clinical Vascular Scientists provide support for non-invasive vascular imaging and the POVS recommends that Arterial Centres have greater than three whole time equivalent (WTE) Clinical Vascular Scientists (or equivalent i.e., 'Vascular Sonographers'). Within that team a Lead would represent other vascular scientists from across network sites, having responsibility for at least staff rotas and the governance of non-invasive imaging surveillance.

Vascular scientists play a key role in running and supporting Vascular Laboratories and also support 'one-stop' clinical and perfusion assessments, with duplex imaging of patients with CLTI and/or diabetes. This approach can reduce pathway delay and the need for follow up appointments (and requires less administrative resource).

According to POVS the provision of high-quality vascular diagnostics is a key component of vascular services of which Clinical Vascular Scientist (CVS) play a vital role. Neither ELHT nor LTHT have the CVS role named within their workforce. However, there are 16 Vascular Sonographers who fulfil the same role depending. For note POVS makes the distinction that accreditation is a prerequisite for CVS roles. Nationally it is reported that there is 1 CVS per 253k population. For the LSC&W 2.1m geography this nominally equates to 8.3 staff.

The aspiration is for each hospital site within the Network to have a Vascular Laboratory facility (this will support both vascular and non-vascular services). Further refinement is required which will be detailed within the Decision Making Business Case.

Other Interdependent Clinical Services

Appendix A (*Service Dependencies Framework*) and Appendix F (*Detailed Model of Care*) lists in more detail those services that share inter- or co-dependencies with the vascular surgical services.

The pre-implementation phase of the programme will undertake more in-depth analysis of the patient pathways and the tangential work that those services provide to-, and/or are given by vascular personnel and resources.

The analysis will ultimately determine the direct or indirect impact upon the transition of services (likely reduction in demand at ELHT and commensurate increase in capacity requirements at LTHT – although this may be balance by a system-wide clinical reconfiguration, see below). How this is mitigated, and the costs attributed to supporting the resource change needed to adequately provide high quality patient care will also be an outcome of the analysis.

Further refinement is required for the following important groups. Activity analysis is being reviewed within the programme's workstreams that will be factored into the financial modelling which will be detailed within the Decision Making Business Case.

Microbiology

Direct microbiological input to ward patients for example, is essential for the management of sepsis. Early antimicrobial therapy with appropriate diagnostics is well established in wound management. In systematic analysis of ward rounds in ICUs the information most commonly missing from a patient's file concerned microbiology findings ²⁸.

The Arterial Centre plans to have a minimum of one ward round per week in addition to remote advice and input as required from a Microbiologist to enable diagnosis, treatment, and the prevention of infection.

Pharmacy

Programme representatives are working with the Pharmacy services to determine the impact from the changes resulting in the transfer of patients to LTHT. Crudely this can be outlined from the increase in proposed bed numbers (aligned with the fact that Pharmacists are key to delivering patient support at ward level).

Acute Pain Services

A growth of inpatient admissions at LTHT from the service transformation will result in an increased in the number of surgical procedures and with it a likely commensurate demand upon Acute Pain service provision.

The Acute Pain service provides support and advice in the management of acute pain for inpatients, including the management of patient-controlled analgesia, and local anaesthetic nerve and wound catheters.

As the LTHT elective and non-elective inpatient admissions will increase, there will be proportion increases given to Acute Pain Services to support that growth in patient activity.

Psychological Services

As has been detailed elsewhere (e.g., Therapy Spaces) it is strongly suggested that improved outcomes result for patients where they are given not only time to rehabilitate physically, but also psychologically (an amputation is a significant life-changing experience).

Psychologists work with people on a wide range of psychological difficulties in mental and physical health, that can include anxiety, depression, disabilities, and family or relationship issues following changes in life experiences. This is equally true for pre-operative support as it is post-operative. For note, there are approximately 200 recorded major amputations per annum that may require psychological support.

Feedback from patient-focused engagement sessions and also our Patient Advocate, has strongly extolled the well-being benefits that stem from contact with other patients who have themselves undergone vascular surgery or have 'lived experience' of the vascular care pathway. Further information can be found in the sections on engagement.

Being able to talk through their previous experiences or the prospective concerns from the care pathway have benefited them greatly. Such good practice will be looked upon to support the psychological needs of the future patient cohort and the service will be conscious to enhance such opportunities (at all hospital sites).

Transfusion Services

²⁸ Wilson L, Dempsey G. Medical microbiology ward rounds in critical care. Crit Care. 2007;11(Suppl 2):P75.

LTHT elective and non-elective inpatient admissions will increase with the transfer of patients from ELHT to the Arterial Centre – impacting the requirements and resources of support areas such as the Transfusion Service. Vascular patients attending the Emergency Department and undergoing surgery will require blood and blood products.

Analysis is being reviewed within the programme's workstreams to support additional Pathology resources and will be factored into the financial modelling.

Managerial, Administrative, and Secretarial Support

Medical Secretaries

The only clinical activity that will transfer to RPH is inpatient surgical activity. Outpatient clinics and diagnostics will continue to be delivered in local hospitals, but the correspondence and activity will be under the auspices of LTHT.

Medical secretaries undertake a variety of additional tasks beyond directly supporting their consultant group:

- They will have ownership and take responsibility for all their consultant's clinics ensuring that appointments and waiting lists are well maintained,
- Medical secretaries will be the point of contact for all non-routine enquiries, initiating and responding to correspondence and resolving enquiries, including:
 - Patients seeking answers about admissions dates (whilst many of these calls will be directed to the Booking and Scheduling team it is inevitable that some, in line with current practice, will be directed to Medical Secretaries), and follow up appointments (this is anticipated even though follow up appointments will occur at the patient's local hospital),
 - Hospital staff querying the contents of medical records (and on occasion to requesting the location of those records), and waiting times tracking queries,
 - GPs making contact for a variety of patient-level queries,
 - Other Medical Secretaries based at local hospitals to coordinate the booking of consultant annual leave,
 - The Booking and Scheduling team to co-ordinate the scheduling of theatre lists, (e.g. cancellation of lists for annual leave and the booking of 'orphan' lists).

Any vascular network workforce plan would take into account how best the new Arterial Centre would be supported by its admin teams. The establishment will be kept under review throughout the phases of implementation to ensure that the staffing level is appropriate. The proposal is to absorb the line management for this group of staff within existing managerial resources and this represents an economy of scale. Site agnostic opportunities due to advances in technology (video conferencing, for example) will be considered for back-office functions.

Booking and Scheduling

The booking and scheduling team/personnel at RPH will be responsible for administrating the admissions process for all patients receiving surgery at the Arterial Centre (and network hospitals for day case surgery for example).

The staffing levels to support the service, have been calculated according to the increased level of patient activity transferred from ELHT. The establishment will be kept under review throughout the implementation to ensure that the staffing level is appropriate.

MDT and NVR Coordinators

Roles already exist within the Vascular Centres for supporting MDTs and the contractually obliged reporting and submission of national datasets e.g., to the National Vascular Register (NVR).

Centralising activity will also require a consolidation of such support and data submission and so roles in respect of NVR coordination and MDT support will also be reviewed to support the new configuration.

Currently the LTHT MDT coordinators arrange for approximately 30 patient cases to be reviewed during the meeting(s). At a system level (combining ELHT and LTHT) the overall number of cases would not proportionally change following the transition – but the Arterial Centre overall would require the administration of around 60 patient cases within the Network approach.

Anecdotally, it is acknowledged that there is informal crossover and support within these roles and also from other admin staff in some cases. Such resilience is a positive collaborative benefit from a team but will be reviewed as this is not a formal arrangement.

Other Support Staff Not Covered

The additional vascular inpatients that will be admitted to the LTHT site will increase demand upon coding staff, portering services, and health records staff, for example.

The small increase in the staffing workforce at LTHT will also have a minor impact upon support services including Finance and Payroll, Human Resources, IM&T (Information Management and Technology), and catering for example.

Although difficult to quantify it should be recognised that there will be an additional resource requirement for those staff and departments. This would be captured as part of the indirect and overheads in the modelling.

10.4 Workforce Opportunities

Although there will be short-term challenges from the reconfiguration through changes in service delivery, staff location, and the inpatient service transition. There are significant anticipated workforce benefits for the vascular service associated with the proposed model of care, particularly the creation of a sustainable specialist clinical team that can recruit and retain key staff. from ELHT to LTHT.

Establishing an Arterial Centre and a Vascular Network across LSC&W will create a centre of excellence leading to increased opportunities for innovation, research, and training. The network will be an appealing place to work as the latest technology can be made available and patient case numbers will be of an adequate level to sustain clinical expertise. Practical experience can also be gained when surgeons work alongside more experienced colleagues on more complex procedures. This not only helps build a surgeons' knowledge and experience but also accelerates procedures, reducing the time that patients are under anaesthetic and thus reducing risk.

Recent research²⁹ has suggested that 'doubling up' doctor's rotas, has resulted in better supervision for trainees and care for patients. Similarly, some Centres have suggested that 'doubling up' doesn't reduce capacity or throughput but, conversely, increases it.

Consultants will also be able to build new pathways and models of care as the network develops, working with partner hospitals in the network. The specialist nursing team will also have better cross-cover for their roles as well opportunities to work across a broader network of hospitals, making these roles more attractive.

More sustainable on-call rotas can be achieved, and effective multi-professional training can be delivered. At present shortages of specialty doctors in the L&SC make on-call rotas difficult for those employed, and lack of exposure to sufficient number of training opportunities is a significant issue for trainees. Concentrating services will avoid the continuing low case volumes in aneurysm and carotid surgery, as recommended by the National Vascular Registry. Consolidating consultants into the one Arterial Centre will expand the overall out of hours on-call capacity, making the current rotas more sustainable. This will naturally make the role more appealing and offer a better work-life balance of out of hours and in hours work.

Collaborative working between the current vascular centres at Royal Preston Hospital and Royal Blackburn Hospital is underway where appropriate, and in many instances is occurring naturally following the 'Mutual Aid' process of clinical support, an ongoing positive legacy of the COVID-19 pandemic response.

Some staff members at East Lancashire Hospital Trust will be identified as having their jobs transferred to the Arterial Centre hosted at Royal Preston Hospital. Those vascular service staff remaining at Royal Blackburn Hospital will be being supported to maintain their skill sets as appropriate.

Other broader workforce groups at Royal Blackburn Hospital who may interact with the vascular service, such as ward nurses, and scientific and technical staff, will continue to support the day case, diagnostic and repatriation pathways for vascular patients, but will do more to support general-, or other specialist surgical pathways.

²⁹ Changes to doctors' working practices emerging from the pandemic (2022) https://www.gmc-uk.org/-/media/documents/cwp-research-findings-slide-deck_pdf-90440021.pdf

Administrative and secretarial support to vascular clinicians who have transferred to the centre may be considered for centralisation within the Arterial Centre, but equally the use of technology to work and engage remotely may provide opportunities for different ways of working.

A staff communications and engagement plan is proposed to support the transition and integration of staff in both organisations. An HR task and finish group will be established to derive, coordinate, and communicate the planning for any staffing changes including any Organisational Development needs.

To monitor the potential for improvement in staff wellbeing afforded to the teams from the transformation the following metrics are suggested. These could measure the workforce benefits of a centralised Arterial Centre through the reduction in staff turnover or sickness. A baseline from when the two Vascular Centres were in place (for example 2021/22) could be used in comparison to the year following post-implementation.

- The annual staff turnover within the Vascular directorate(s) as a percentage for Medical and non-medical staff
- Sickness absence rate for staff within the Vascular directorate(s)
- A 'vacancy rate', the times where the directorate(s) 'failed to recruit', or length of time to recruit – could provide an indication of whether recruiting to posts within the Vascular directorates is typically more or less difficult than previously.
-

Car Parking and Staff Travel to Work

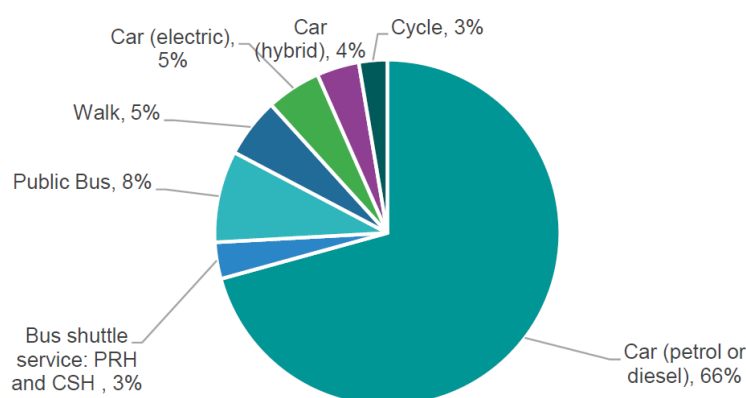
LTHT conducted a staff travel survey in July 2023 to understand current staff travel behaviour and to support travel and access to the three Lancashire Teaching Hospital NHS Foundation Trust sites. In total, 862 responses were received, providing a 20.5% response rate.

Replicating content that can be found more fully in the LTHT *Travel Plan* results from the engagement process can be summarised as follows:

Petrol/diesel car usage is the main method of traveling to work for staff, (66% of staff surveyed).

The next most popular modes of travel were:

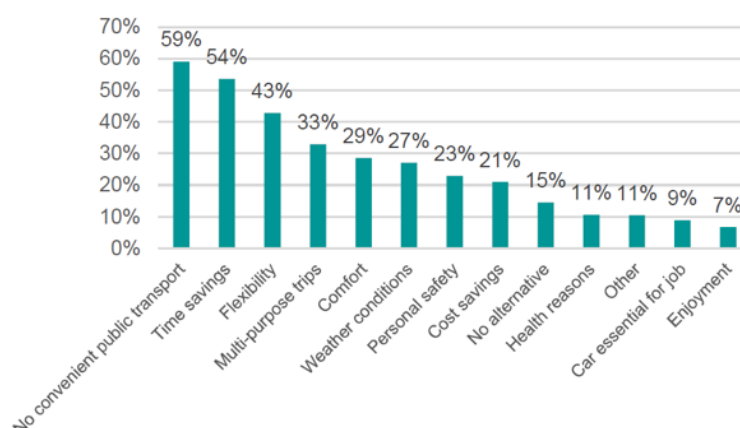
- 8% traveling via Public Bus
- 5% of staff walked
- 5% traveling via electric car



For those using a car - LTHT staff were also questioned: what the most important reason behind choosing to drive to work was.

The main reasons were:

- Lack of convenient public transport (59%)
- Time savings (54%)
- Flexibility (43%)



LTHT is keen to support staff in their travel- and access to the Trust's hospital sites and where possible encouraging a more sustainable and environmentally friendly method (e.g., through the car sharing scheme, with currently 10 priority parking spaces available only to car sharers; discounted bus fares/tickets).

It is very likely that colleagues at ELHT (impacted by the reconfiguration of services) will follow a similar pattern of travel style as detailed above; with the potential for a change of contracted base this will likely lean transferred staff towards utilising private transport for exactly the reasons LTHT staff answered: lack of convenient public transport, time, and/or flexibility.

To help mitigate parking issues that all hospital sites in England suffer, LTHT has put in place some mitigations. Additional parking is available for staff at the Sharone Green Business Park and Preston College site (10 minutes further along the road from the main site) – with 'Park and Ride' bus services available to staff.

Staff who are working a night shift are guaranteed on-site parking through formal agreement, but informal arrangements within Nursing Teams, for example, who finish late ward or theatre sessions mean that groups of staff collaborate in returning to the car parks together.

It should also be noted that TUPE transferred staff will benefit from the LTHT Travel Reimbursement Policy (4 years for those transferring to LTHT terms).

10.5 Patient Impacts: Travel Times

More detail can be found in section 13.4 under the Equality and Health Inequalities Impact and Risk Assessment (EHIRA) narrative. However, in summary it is acknowledged that under the new network model configuration patients who would normally have travelled to ELHT for their vascular inpatient surgical procedures will now attend the Arterial Centre hosted by Royal Preston Hospital (RPH).

Additional travel time will likely impact most for people from deprived areas and those who are older. Nearly a third of Lancashire and South Cumbria (L&SC) residents live in some of the most deprived areas across England. However, some mitigation may be considered from the improved clinical outcomes for vascular surgical patients from the centralisation of services. There is the expectation of better outcomes through the delivery of the mandated national standard specification.

Most people who need vascular service support do not need specialist inpatient care, and of those that do at least 50% will access this pathway as an emergency and likely to have been

transported to the specialist inpatient vascular service via ambulance. The Vascular Network will ensure that there are clear pathways in place to repatriate patients to their nearest centre when appropriate.

It should be noted that in the first reconfiguration of services patients in South Cumbria (e.g. Barrow) and the Blackpool and Fylde district were also presented with the same transformational issues that the East Lancashire public are now being engaged with (and at much greater distances from Preston). The pathway support to those populations has been successfully in place for over a decade.

10.6 Impacts on Other Treatment Services and Providers

The establishment of the Vascular Network will cover many inter-relationships between provider organisations. Examples of where agreements will be required or refreshed (as recommended by POVS) include:

- Ambulance bypass to arterial centre (rAAA, AD and ALI)
- Review of inpatients at network hospitals
- Inter-hospital transfers (including adult critical care transfers)
- Repatriation of patients no longer requiring specialist vascular inpatient care.

North West Ambulance Service (NWAS)

The reconfiguration and proposed future clinical model for the Vascular Network (with the centralisation of surgical services at the Arterial Centre in Royal Preston Hospital) has the potential to increase the number of patient contacts that NWAS will need to support across the LSC&W system, both from an emergency ambulance perspective and patient transport services.

Patients requiring urgent ambulance transport within the ELHT catchment area currently are taken to Royal Blackburn Hospital Emergency Department. These patients, like those from BTH and UHMBT, may then need onward transfer to LTH for intervention.

The Programme Team and NWAS representatives are working together to fully model and understand the full impact of the changes upon NWAS services and how they will support patients in the future vascular configuration without impact on their wider response to patients. This includes the business case proposal to provide both a dedicated vascular acute bed-base and 'step-down' sub-acute beds. The rehabilitation of complex patients will occur within the LTHT vascular sub-acute beds prior to discharge to home or a community setting, for example - leading to a potential for reduction in the non-elective admissions (repatriations) across the system.

Further refinement on the analysis will be included within the Decision Making Business Case.

Hepatopancreatobiliary Services

Hepatopancreatobiliary (HPB) surgery relies on Interventional Radiology (IR) to provide essential minimally invasive, image-guided procedures to diagnose, stage, and treat complex conditions of the liver, pancreas, and biliary tract.

As this partnership is a cornerstone of modern multidisciplinary HPB care, of which ELHT is a tertiary centre, any changes to the IR service could impact HPB service provision.

It was determined that the proposed IR workforce model and on call rota across ELHT and LTHT might have implications to the provision of HPB-related emergency endovascular interventions out-of-hours. Following a review of the ELHT activity data the IR & Diagnostics workstream identified that on average only a small volume of cases (circa 10 per annum) would require out-of-hours emergency intervention and transfer arrangements. During 2025/26 none of the identified cases required subsequent surgical intervention, although the theoretical need for specialist HPB surgical support remains a consideration and will be determined on a case-by-case basis during the patient's care pathway.

The workstream group considered how emergency out-of-hours HPB endovascular interventions would be managed. Clinical opinion strongly favoured a model whereby

patients requiring out-of-hours emergency endovascular intervention are transferred to LTHT for treatment. This was considered clinically appropriate, operationally realistic and more sustainable from a workforce and financial perspective (instead of maintaining a 24/7 onsite vascular on-call service at ELHT). The aim would be to offer cover all endovascular HPB support onsite at ELHT during working hours.

Looking at national data and hospital site arrangements, there is precedence for not having IR and HPB services co-located. This has been seen in acute Trust sites such as in Hull and Bristol during benchmarking exercise. Further pathway analysis will be required to mitigate potential issues, and this will be detailed within the Decision Making Business Case.

Trauma & Orthopaedic Services and the Diabetic Foot Pathway

Diabetic patients may require a toe, foot, or event leg amputation if the course of their disease becomes serious enough – this is primarily due to severe complications of unmanaged diabetes, either peripheral neuropathy (nerve damage) or peripheral artery disease (poor circulation).

Vascular surgeons at ELHT have historically supported such amputations, rather than the Trauma & Orthopaedic service that typically undertakes the surgery nationally.

Having consistent and aligned vascular consultant job plans across the network following service reconfiguration will require the trauma & orthopaedic surgeons to support these particular patients.

A business case at ELHT has been successful in supporting the recruitment of two additional Trauma & Orthopaedic surgeons. Further capacity and demand work and pathway analysis will be required to mitigate potential issues. This will be detailed within the Decision Making Business Case.

Primary Care

General Practitioners have had significant roles in the early determination of the service model for the Vascular network and the location of the Arterial Centre. Engagement with primary care has been ongoing and will be part of the formal public consultation.

The Vascular service at LTHT that will see ELHT inpatient services being transferred into is an existing mature and adequately governed Vascular Centre providing services to a 1.8 million population within L&SC. Robust, tried and tested pathways already exist to support patients within primary and secondary care Vascular services. Each workstream has reviewed its protocols and pathways and amended them to take into account changes – however, apart from the transfer of inpatient admissions from ELHT to LTHT, much of the process that is currently undertaken locally at ELHT will continue to do so.

General practice referral processes into both ELHT and LTHT will not be affected – there should be no change to the workload required from Primary Care.

LTHT has recruited to a Deputy Chief Medical Officer (CMO) position for Primary Care Interaction who is supporting the ongoing operational engagement and monitoring of such transformational work.

11. Enablers

11.1 Workforce

Despite national workforce challenges, the Network would ensure that the full range of professional skills and expertise required to respond to patient needs are in the right place. Following publication of the NHS workforce plan in July 2023, the ICB and Providers have developed a system-wide approach to supporting and retaining a workforce with the right skills, values, and behaviours in sufficient numbers and in the right locations.

Instead of thinking about workforce in terms of ‘cross-organisational boundaries’, the system workforce will become ‘as one’ through the *One LSC* approach.

Specific benefits from this proposal include:

- consolidation of the service to a single site will help expedite change management and new ways of working in the future.
- enhanced training and career development opportunities for staff, driven by centralised services and the opportunity for greater levels of supervision and collaborative working.
- a stronger sense of ‘team’ and ‘belonging’ for employees through the consolidation of services – a key lever for employee engagement and retention.
- a larger, more resilient workforce centred on one will support on call, rota, and leave arrangement, benefiting staff and their wellbeing.

Within the hospitals, safe, sustainable, and productive staffing will be prioritised. The proposed clinical reconfiguration consolidates the vascular service onto a single site.

Evidence shows that this would benefit patient care through increased workforce efficiencies, better rostering, matching work patterns to patient needs, and reducing dependency on costly agency staff. This in turn should improve staff engagement, enhance recruitment and retention of permanent staff, reduce sickness absence, and increase in-house training capacity.

Specifically in respect of recruitment, evidence³⁰ suggests that by managing the hiring of specialist staff from a single point in LTHT the process can be standardised, reducing the duplicated effort, and developing specialised recruiting expertise. This approach can lead to a better candidate experience, stronger talent pipelines, and more cost-effective and streamlined operations.

One of the benefits from centralisation is that staff (e.g. surgeons, specialist nurses, et al) will be working more closely together in one Arterial Centre, sharing experience and expertise. The opportunities for peer-to-peer skill enhancement and development will be beneficial to the patients’ experience and outcomes. It should be noted though that there is the potential risk that staff at ELHT may be ‘de-skilled’ in respect to vascular service provision. Vascular surgeons and specialist nurses will still be present on the ELHT site to support co-dependent services. However, this risk will be monitored through normal staff and service competency needs assessments and addressed accordingly (especially in respect of supporting co-dependent services).

11.2 Digital

³⁰ [Integrating recruitment services into a central team to deliver at-scale efficiencies](#)

The experience of the COVID-19 pandemic response demonstrated that NHS systems have the ability and willingness to embrace new and accessible ways of working. Through those lessons the system is learning to consider how to use digital technologies to unlock potential in the way that care is delivered in the future.

The programme of change will look to:

- building on and further developing virtual initiatives and applications for staff and patients, these include, but are not limited to:
 - Virtual Consultations (such that patients can be seen from anywhere)
 - Robotic Process Automation (RPA)
 - CoPilot (supporting more effective administration)
 - AVT – Ambient Voice Technology (Clinic Letters, MDT, Ward Rounds)
- streamlining IT and digital systems.
- develop clinical communications to ensure optimal patient flow, use of resources, estates, and facilities.

An ICB *Data Protection Impact Assessment* submission was made (13th May 2024) to the ICB Information Governance Team. After discussion and review the DPIA was supported in that no further action is required on the work – but that regular awareness and feedback should be undertaken as the programme develops. The outline proposal/submission and endorsement can be found in Appendix *ICB Data Protection Impact Assessment*.

As part of the pre-implementation work the Digital Team are supporting the programme through a detailed patient information and flow mapping exercise. The approach is to ensure that all points of the patient journey and equally importantly the patient information journey are understood along with the staff 'touch points' to ICT systems (and paper in some cases). From this work it is anticipated that the flow of information to support the consolidation of services between LTHT and ELHT will be made smoother and more efficient and/or determine areas that need further transformational work upon. The critical work to address clinical service provision will be undertaken in advance of implementation – but further 'business change' work will occur to improve 'business as usual' working with opportunities to streamline and enhance the workflow through digital solutions.

Personnel from the regional Clinical Systems Convergence workstream will also support the programme with a focus on standardising service workflows across Lancashire and South Cumbria.

This work also supports and is aligned to the main tenets of the L&SC ICB Digital and Data Strategy 2024-2029³¹ looking to have a unified, reliable digital foundation and core system platform (the LTHT patient record system being the central source of patient clinical information).

11.3 Estates

The estate that staff use and patients attend is an important part of any hospital environment - the quality of the physical workplace for staff is known to be important for workforce morale and retention and patients deserve to receive outstanding care in high quality and flexible accommodation.

The preferred option within this PCBC requires no significant capital expenditure. The estate supporting the reconfiguration, theatres, wards, office space, for example, will be adapted

³¹ [LSCICB Digital and Data Strategy 2024.pdf](#)

from existing infrastructure. The theatre space will be freed up from efficiencies made within LTHT - there will be minor work to support the installation of associated kit and equipment transforming a standard theatre into a hybrid theatre. Opportunities will be sought to transfer vascular-specific equipment from ELHT to the Arterial Centre as part of the reconfiguration of services.

11.4 Sustainability

The vision of the clinical reconfiguration includes the establishment of a sustainable healthcare system that values and protects people and the planet.

The implementation of a Vascular Network will ensure that there is parity of access and care provision for Vascular services within local hospital sites - this supports 'climate change vulnerable' patient groups with health service provision locally. Consolidation of a duplicated service, -care practice, -equipment, and -staffing within one Centre will ultimately benefit the patient (improving outcomes for patients).

However, consolidating services may require additional [short-term] travel for staff as some from ELHT will be contracted by LTHT (requiring a change of base) and some patients (carers and family) who would previously have travelled to ELHT may require further travel to LTHT for the purposes of a surgical inpatient procedure and recovery.

Adaptation in respect of estate and infrastructure will be covered local within the acute Providers' 'Green Plan'. However, there are positive aspects and mitigations that the programme can highlight.

Lancashire Teaching NHS Hospitals Trust commissioned a travel and transport study (Nov-23) which informed the development of a Trust Travel Plan with sustainability at its core. The study complements the programme *Sustainability Impact Assessment* within this business case and looked at travel and transport with regards to staff (access to and from work as well as movements during the day), patients, visitors and the wider public.

The main benefits that can be expected from implementing the Travel Plan are:

- A workplace that is easier to access by all forms of transport, reducing anxiety and frustration for all user groups,
- Reducing CO2 emissions to deliver on NHS England sustainability commitments,
- Being an environmentally responsible employer to help satisfy any planning requirements,
- Being a better neighbour to the surrounding community; and,
- Health benefits to staff and visitors via an increase in exercise from active travel and reduced conflicts.

LTH have recruited a Travel Coordinator. This role will support the mitigation of additional staff and patients by supporting the implementation of the LTH Travel Plan, supporting behaviour shift of both patients and staff towards sustainable travel options.

Where new infrastructure is required, it will include compliance with the *NHS Net Zero Carbon Hospital Building Standard*³² which involves using low-carbon materials, decarbonisation of primary heating and cooling systems and maximisation of on-site

³² Delivering a 'Net Zero' National Health Service (NHS England, October 2020)
<https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf>

renewable energy and adopting design that would provide flexibility for the delivery of healthcare in the future, minimise energy needs and be resilient to the changing climate.

Outside of the Provider Trusts other organisations have a role in sustainability. For example, the Northwest Ambulance Service will purchase only zero emission ambulances from 2030 in line with NHS England [NHS England » Net Zero travel and transport strategy](#).

12. Indicative financial modelling

12.1 Introduction

This section details the current financial modelling and confirms the affordability of the proposed Vascular Network Model, contrasting the preferred option (Option 2) with the financial risks associated with maintaining the current structure ('Do nothing').

The financial assumptions are based on 2024/25 activity and price levels, and the core principle is that this reconfiguration involves a transfer of activity—not the commissioning of new services.

12.2 Financial Modelling

Modelling assumptions

The Table below illustrates the assumptions and bases that have been used to calculate the financial impacts within the financial case. The activity and price levels represent the baseline data at 2024/25.

Assumption Type	Do Nothing – current service	Preferred Option: 2
Activity	Vascular activity levels are taken from 2024/25 data	Vascular activity levels are taken from 2024/25 data
	There would be no vascular activity movement between providers	Inpatient surgical activity physically transfers from ELHT to LTH
	There would be no change in ownership and reporting of this activity	All applicable activity will be owned and reported by LTH under the proposed option – OP, DC, IP
		The preferred option will not see a change in total vascular activity
Financial	Price levels are taken from 2024/25 data	Price levels are taken from 2024/25 data
	Prices include market forces factor (MFF)	Prices include market forces factor (MFF)
	The activity will continue to be funded by commissioners in line with 2024/25 contractual agreements	The activity will be funded by commissioners as outlined in this business case with no overall increase in commissioner spend

Commissioning Arrangements

A broad range of vascular activity has been commissioned by NHSE Specialised Commissioning NW and the L&SC ICB.

In respect of inpatient vascular surgery, NHS England Specialised Commissioning NW and L&SC ICB are the lead commissioner(s). Both have an absolute agreement to work closely together to support the delivery of safe vascular services in Lancashire, South Cumbria and within this programme scope Wigan.

A small element of activity is commissioned by other organisations on behalf of patients accessing the services in the region – the following presents patient flows from and to organisations out with L&SC.

Financial Comparisons

The financial implications for activity, funding, and workforce of the chosen option are compared against a 'current service' (do nothing) scenario which provides analysis against the current service framework continuing in situ.

12.3 Financial Opportunities and Efficiencies

The service delivers a £1.9m p/a reduction in running costs by utilising a more efficient service model with all inpatient surgery delivered from a single arterial centre, with a single network delivering all vascular services.

12.4 Cost/ income modelling

Cost Model	Current Service (Do nothing)	Service on Transfer (Option 2)	Target Service
Income	£21,071k	£22,598k	£22,598k
Costs	£26,923k	£26,568k	£26,568k
Contribution / (Loss)	(£5,852k)	(£3,969k)	(£3,969k)
Stranded Costs	£0k	£2,413k	£0k
Revised Contribution / (Loss)	(£5,852k)	(£6,382k)	(£3,969k)
Mitigations	£0k	£663k	£0k
Revised Contribution / (Loss)	(£5,852k)	(£5,720k)	(£3,969k)
Savings / (Pressure)		£132k	£1,883k

This table shows the cost and income modelling for the current service, for the service on transfer, and then for the target financial model once stranded costs have been completely mitigated.

12.5 Mitigations

Mitigation	Service on Transfer
Reduction in Critical Care Costs	£385k
Reduction in Stranded Costs	£277k
Total Mitigations	£663k

Reduction in Critical Care Costs

A review of costs based on PLICs indicates that the fully absorbed cost of Critical Care may be overstated when compared to direct costs and external benchmarks. While further detailed analysis is required, we have adjusted assumed costs to reflect direct medical costs and overheads

Premium Rate Pay Costs

The transfer model has been updated from budgeted costs to reflect current pay pressures within the service.

A single arterial centre incorporating the ELHT workforce is expected to demonstrate a reduction in the premium rate pay – as articulated in the benefits section.

Reduction in Stranded Costs

Our high-level review suggests opportunities to offset stranded cost pressures through vacancy management and reductions in premium pay. Any residual stranded costs at the point of transfer will be managed through a risk-share arrangement. For the Long Term model we assume that all stranded costs are mitigated and so are costed at £0.

12.6 Funding Arrangements

The proposed vascular service assumes no change to ICB contributions or overall system income. Funding is expected to follow activity; as vascular activity transfers to LTH, the associated income will also transfer.

The model includes a therapy-led ward to support rehabilitation and discharge of vascular patients. This activity currently spans multiple providers, and because patients will have completed their surgical episode, it is challenging to isolate this activity.

Consequently, the proposed funding model incorporates an adjustment to existing block contracts to reflect this change – this is why the figures in total income on current model and proposed model are slightly different – but overall commissioner spend remains the same.

The table below shows commissioner activity and income by provider based on 2024/25 tariff.

Org Setting	Current Model						Proposed Model	
	LTH Activity	LTH Income	ELHT Activity	ELHT Income	Total Activity	Total Income	LTH Activity	LTH Income
Inpatients	2,516	£11,296k	1,882	£6,524k	4,398	£17,820k	4,398	£17,820k
Outpatients	9,578	£1,652k	6,452	£1,071k	16,030	£2,723k	16,030	£2,723k
Other Income	4,701	£421k	501	£107k	5,202	£528k	5,202	£528k
Direct Income	16,795	£13,369k	8,835	£7,703k	25,630	£21,071k	25,630	£21,071k
Block Contract	0	£0k	0	£0k	0	£0k	TBC	£1,527k
Total Income	16,795	£13,369k	8,835	£7,703k	25,630	£21,071k	25,630	£22,598k

12.7 Capital requirements

Capital requirement at LTH which will be profiled into 26/27 plans, this has the support of LTH Executive team – and will be under £2m. This will be used to provide it and to convert existing theatre space at LTH into additional hybrid theatre capacity to ensure that all patients have access to this.

12.8 Assessment of Affordability

The programme is deemed affordable and represents best value. The "Do nothing" option offers no transformational benefits and risks continuing to run the service at a deficit.

Conversely, the preferred option provides robust financial, productivity, and quality benefits that significantly outweigh the minimal investment required, securing high-quality, sustainable vascular services for the LSC&W population.

13. Plans for consultation

13.1 Introduction

It is the intention of the Lancashire and South Cumbria Integrated Care Board (LSC ICB) to progress to public consultation pending endorsement of this PCBC and consultation plan by the ICB Public Board (17th September 2026)

This section summarises how LSC ICB, in partnership with the Provider Collaborative and NHS Provider Trusts plan to inform and involve stakeholders, patients and local people in proposed changes to vascular surgical service.

This proposed plan is based on the outcomes from the public scrutiny committee meeting with LCC in September 2025 which recommended consultation, and to align with the precedent set by NHS Greater Manchester (GM) ICB. GM has recently launched a public consultation for its vascular and cardiac services with a single arterial hub proposal for vascular services, which is the same proposed model in the Lancashire and South Cumbria reconfiguration, setting a precedent for consultation.

13.2 Planning for a Consultation

NHS Lancashire and South Cumbria ICB is committed to ensuring the proposals of the Vascular Programme Board are subject to a robust, open and transparent public consultation process.

It is proposed that an 8-week public consultation process is followed starting in October 2026, subject to ICB Public Board approval on 17 September 2026 when it receives this PCBC. This consultation process draws upon learning from the pre-consultation engagement conducted in July 2025, GM's consultation plans and feedback from stakeholders and SMEs.

All delivery methods will be focused on the most impacted areas geographically (Blackburn with Darwen and East Lancashire), with further demographically targeted engagement based on the EHIIRA. The consultation will, however, be open to all residents of Lancashire, South Cumbria and Wigan.

The final consultation plan will feature specific objectives that will fundamentally:

1. Inform and educate:
 - a. Provide clear, accessible information about the proposed changes.
 - b. Ensure all stakeholders understand the rationale, scope, and potential impact of these changes.
2. Engage and involve:
 - a. Create opportunities for meaningful engagement with a wide range of stakeholders, including patients, carers, healthcare professionals, community representatives, and the general public.
 - b. Facilitate a bilateral exchange of views and gather diverse insights.
3. Ensure inclusivity and accessibility:
 - a. Ensure that the consultation process is inclusive and accessible to all, particularly focusing on groups and communities identified by the EHIIRA as likely to be most impacted.
4. Build trust and transparency:

- a. Maintain transparency throughout the consultation process by adhering to best practice principles and ensuring due diligence.
 - b. Demonstrate that stakeholder feedback is genuinely considered in decision-making by providing regular updates and reports on the consultation's progress and outcomes.
5. Meet the ICB's legal duty to involve as cited in the [NHS Act 2006](#) and parts amended by the [Health and Social Care Act 2012](#) and [subsequently the Health and Care Act 2022](#).

In order to ensure the consultation meets best practice it will follow the principles and guidance set out in:

- [Cabinet Office: Consultation Principles \(revised January 2016\)](#)
- [NHS England guidance document: Planning, assuring and delivering service change for patients \(2018\)](#)
- NHS England: [Major Service Change Interactive Handbook 2023](#)
- [NHS England – Planning for Participation \(May 2015\)](#)

The plan follows the same stakeholder mapping as previous engagement as depicted below.

Type	Stakeholders
Primary Care	• Practices in East Lancashire •
Clinical	• Vascular consultants in all Trusts • Staff working in connected services such as interventional radiology
Councillors and Local Authority	• Ward councillors in Blackburn, Burnley, Pendle and Nelson • Ward councillors in Preston • Council leaders at Lancashire County Council and Blackburn with Darwen Council.
Health and wellbeing board	• Lancashire County Council • Blackburn with Darwen Council
Media	• Lancashire Evening Post • Lancashire Telegraph • Asian image • That's Lancashire • Radio Lancashire • Hits Radio
MPs	• Adnan Hussain MP (Blackburn) • Andy MacNae MP (Rossendale and Darwen) • Jonathan Hinder MP (Pendle and Clitheroe) • Oliver Ryan MP (Burnley) • Sarah Smith MP (Hyndburn) • Sir Mark Hendrick MP (Preston) • Sir Lindsay Hoyle MP (Chorley)
Overview and scrutiny committees (local authority)	• Lancashire County Council • Blackburn with Darwen Borough Council

Public	• Vascular patients • Those from ethnic minority communities • Those with low income • Those with mobility issues • Those at risk ◦ People with diabetes ◦ Smokers ◦ People with heart conditions • People over 65
PALS, Complaints and FOIs	• Teams in affected Trusts/ICBs
Regulators	• NHS England
Service users and carers	• People accessing Vascular health and care services and their carers
Staff	• Vascular ward staff in all Trusts • Consultants
Trusts and other healthcare providers	• East Lancashire Teaching Hospital (ELHT) • Lancashire Teaching Hospital NHS Foundation Trust (LTHT) • Blackpool Teaching Hospital NHS Foundation Trust (BTH), • University Hospital Morecambe Bay NHS Foundation Trust (UHMBT) • Wrightington, Wigan and Leigh NHS Foundation Trust (WWL).
Voluntary and third sector	• Healthwatch • ICB patient groups (Influence Panel and Influence Network) • Trust support groups ◦ Mobility Matters ◦ Cardiac rehabilitation groups • PPGs • Local charity groups ◦ Heartbeat • Community groups • Campaign groups • Local interest groups • CVS groups

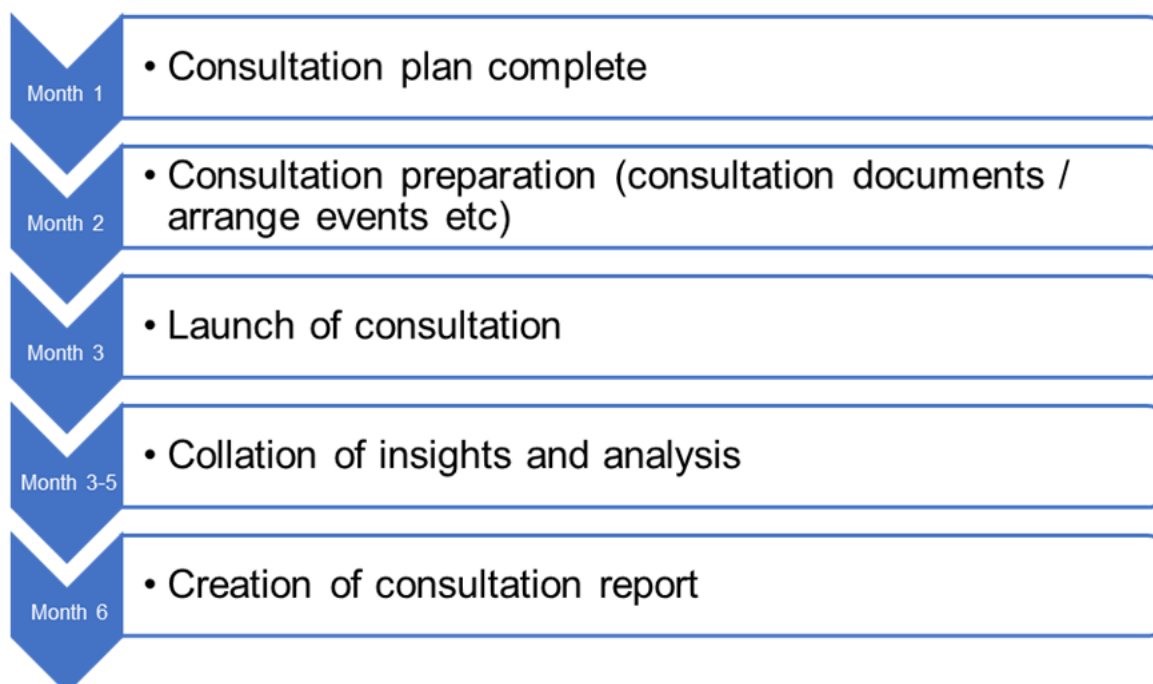
To complete the consultation a range of tactics will be used including, but not limited to:

- Engagement with Health Overview and Scrutiny Committees
- MP briefings
- Public listening/drop-in sessions
 - Designed to accommodate diverse needs. This will include offering different formats for engagement, such as in-person and virtual sessions, ensuring venues are accessible, and providing information in a variety of formats (e.g., easy-read, translated materials, and BSL interpretation upon request). The health inequalities impact and risk assessments (EHIIRA) will support this process by identifying and addressing potential inequalities, ensuring fair representation from all affected communities.

- Focus groups
 - With current/previous service user groups
- Questionnaire
 - Hosted online with paper copies available along with provision for returning completed questionnaires by freepost.
- Staff engagement
 - Carried out by Trust teams

Timeline

A full consultation plan is not yet complete, but the following is a proposed timeline.



The responses to the consultation will be independently verified and analysed with a report summarising the findings which will be made public on the ICB website.

The ICB's decisions will consider the consultation outcomes, any variations arising from the process and further clinical assurances.

Proposed Consultation Costs

All costs are estimated based on previous similar activity (e.g. Shaping Care Together). Costs are constantly subject to change so, after budget approval, firm quotes will be needed for all external spend; it is suggested that a 15% contingency be added to the costs below and have outlined the total cost at the bottom of the table.

Venue hire is dependent on size and location of venue (costs indicated are for community spaces).

The following activity is what may incur additional costs so a 15 per cent contingency is recommended in the budget:

- Increase to any costs outlined above, as these are based on a previous consultation (SCT) and will be subject to change.

- Additional printed copies of consultation document and summary consultation document.
- Additional translation into other languages of consultation materials.
- Additional printed copies of translation or accessible format materials.
- Additional printed copies of questionnaire and pre-paid envelopes.

Key

In-house activity (ICB and Trust)

External spend

Method	Activity	Delivered by	Budget required
Health Overview and Scrutiny Committees (HOSC)	Briefings	ICB public affairs team	None
	Attendance at meetings	Commissioning and clinical leads	None
	Briefings	ICB public affairs team	None
	Newsletter	ICB/Trust communications and engagement teams	None
	(Trusts should manage and create content for staff, governors, etc and then coordinate briefing them.)		
	Briefings	ICB/Trust communications and engagement teams	None
MP engagement Wider stakeholder engagement	(Trusts should coordinate briefings.)		
	Management and facilitation of meetings	ICB/Trust communications and engagement teams	None
	Consultation document – content writing	ICB communications and engagement team	None
	Consultation document – design	Trust communications and engagement team (<i>needs agreeing</i>)	None
	Print of 500 copies (based on 32-page document)	Print agency	£675
	Summary document copy writing	ICB communications and engagement team	None
	Summary document – design	Trust communications and engagement team (<i>needs agreeing</i>)	None
	Print of 1,000 copies (based on 12-page document)	Print agency	£375
	Easy read version creation	Agency	£1,800
	Translation to three most common other languages	Agency	£4,050

	(Additional costs may be incurred if a request for an alternative translation was received.)		(£1,350 per language)
	Print copies of translated summary document	Printer agency	£90
	(Recommended as identified need in the EHIIRA)		
	Accessible format materials, including BSL video	Agency	£8,200
Digital / Website	Creation of webpage	ICB communications and engagement team	None
	Organic social media	ICB communications and engagement team	None
	Creation of specific email inbox	ICB communications and engagement team	None
	Monitoring and responding to email inbox	ICB communications and engagement team	None
Media	Press releases	ICB media team	None
	Media enquiries	ICB communications and engagement team	None
		Relevant commissioning and clinical leads	
Community outreach	Meeting with ad hoc community groups	ICB communications and engagement team	None
		Relevant commissioning and clinical leads	
Promotion	Paid for advertising (e.g. newspaper adverts, radio adverts, large poster sites and others)	Media buyer agency	£2,000
	Targeted social media adverts	ICB communications and engagement team	£350
	Poster design	Trust communications and engagement team (needs agreeing)	None
	Print of posters (based on 100xA3 and 200xA4)	Print agency	£50
	Poster distribution (in local community locations)	ICB Place teams and Trust C&E teams (needs agreeing)	None

Drop in listening events	Venue hire	ICB communications and engagement team	£250
			(£50 per event - based on use of public venues such as libraries)
Focus groups – existing groups	Facilitation	ICB communications and engagement team	None
			Relevant commissioning and clinical leads
Questionnaire	Creation	ICB communications and engagement team	None
	Testing	ICB Influence Panel and Influence Readers Group	None
	Online set up	ICB communications and engagement team	None
	Print of paper copies	Printer	£180
Staff engagement and briefings	Pre-paid envelopes	Reception	£200
	Collection and input of paper copies to online system	ICB communications and engagement team	None
	Engagement log	Trust teams	None
		ICB and Trust communications and engagement teams	None
Reporting on insights	Analysis and report	Agency	£22,000

Total cost **£40,220**
Plus 15% contingency **£46,253**

14. Management, Governance and Assurance

14.1 Summary

The programme and transformation work to enable the delivery of new ‘models of care’ in L&SC is delivered through clinically led groups, whether this be a board, a network, or collaboration, etc.

Clinically led programmes are the way that the Provider Collaborative Board and ICB have designed and delivered change to L&SC services – this ensures engagement, buy in, and a successful service. This includes the following:

- Standard approach is a monthly meeting with representation from all trusts (clinical and managerial), as well as from commissioning colleagues,
- An active approach to communications and engagement is central to ensuring that plans can be developed and implemented,
- Networks are:
 - allocated a provider executive as the SRO (Senior Responsible Officer)
 - asked to nominate a clinical lead from one of the trusts,
 - allocated project management resource – this is required in order to administer meetings, progress actions, ensure engagement, provide reporting, develop project products (case for change, business case, risk register, financial trajectories, etc), keep project running to agreed schedules, manage risk, etc.
- Programme documentation standardised across all areas, and monitored by the Clinical Programme Board

The purpose of this section case is to describe the systems and processes that are in place and will be established to ensure the successful implementation of the proposed clinical network and services. This is the structure across the following areas:

Programme Management and Governance: how the programme will be managed including reporting and accountability arrangements and the use of special advisors

Programme Timeline: the key phases of work and the programme plan

Risk Management: the approach to management of risk and the risk and issue register

Benefits Realisation and Post-project Evaluation: arrangements for ongoing review of benefits.

14.2 Management and Governance

The management and governance of the programme will be aligned with best practice described in the Treasury recommended methodology for programme management i.e. Managing Successful Programmes (MSP). The over-arching programme management will focus on the delivery of the key financial and non-financial benefits and outcomes associated with the establishment of the Vascular Network.

The underpinning project life cycles from start-up to closure will equally be aligned with the best practice guidance of PRINCE 2 project methodology. This will look to ensure project planning and monitoring are carried out rigorously. The project management will focus on delivery of the key enabling actions and outputs that support achievement of the overarching programme benefits and outcomes.

The Vascular Network Programme is one of the 'Clinical Reconfiguration' programmes in a wider portfolio of clinical transformation work.

Provider Collaborative Board

The Provider Collaborative **Clinical Portfolio Board** (CPB) will oversee the delivery of the programme and associated projects. The CPB will hold programmes to account for delivery,

act as an escalation point for issues, and manage independencies between reconfiguration programmes and wider transformation work.

The CPB will seek assurance from the Senior Responsible Owner and Vascular Programme Board on any aspect of the programme that may pose a risk to successfully achieving the objectives and realisation of the expected benefits.

The programme's **Vascular Programme Board** is chaired by the Senior Responsible Officer (SRO) who will lead the programme implementation. It reports to the Provider Collaborative Board (PCB) Clinical Portfolio Board.

The Programme Board has senior managers, medical- and nursing-staff from the Acute Trusts and organisations that will make up and support the Vascular Network within the Lancashire, South Cumbria, and Wigan (LSC&W) geography. This includes representatives from NHSE, L&SC ICB, NWAS, ELHT, LTHT, BTH, UHMBT and WWL.

Public and patient representatives will support the programme through a 'Patient Advocacy Group' meeting. Led by the ICB Communications and Engagement Lead and supported by the PCB Programme Transformation Lead the group will offer views and scrutiny upon progress of the programme, feeding back into the Board.

Through the implementation process the Programme Board will approve and manage the programme plan and sign off the key outputs and decisions at each stage of the schedule including:

- patient and staff communications and engagement
- review of all the key deliverables and the activities required to deliver them
- the activities required to validate the quality of the deliverables
- the resources and time needed for all activities and any need for people with specific capabilities and competencies
- the dependencies between activities and any associated constraints when activities will occur
- the points at which progress will be monitored, controlled, and reviewed
- the provision of regular reports, updates and assurance to the PCB, L&SC ICB and/or NHSE
- maintenance of a detailed risk register and mitigation of risk factors affecting the successful delivery of the project
- maintenance of a benefits realisation register and monitoring of delivery
- considering and recommending to the PCB and/or L&SC ICB any changes to the project scope, budget or timescale if required
- broker relationships with stakeholders within and outside the programme to maintain positive support
- maintain awareness of the broader strategic perspective advising the SRO on how it may affect the programme

The programme team will support in

- Developing, maintaining, and implementing project plans
- Co-ordinating working groups and evaluation teams as required
- Monitoring progress and reporting to the Vascular Programme Board
- Managing risks and issues as they arise, escalating where necessary to the Vascular Programme Board
- Managing change control

- Ensuring effective development and delivery of the Communications and Engagement Plan

Key Stakeholder Groups: the Network Leadership Team will proactively work to ensure the engagement, involvement and coordination of key stakeholder groups input to the programme. Communication and engagement have taken place over the last three years, and the programme will continue actively engaging with stakeholders through the next phases and during implementation. This will include, for example:

Patients, Public and local Healthwatch – ensuring that patients are well informed about what changes are proposed, have a say in how they are to be delivered and, ultimately, are fully aware of which services will be delivered from which locations in the future.

Other Providers – communication and involvement of other providers that are impacted by the changes and/or are critical to implementation (e.g. North West Ambulance Service, primary care, and neighbouring region acute hospitals).

NHS staff – actively engaging with staff to ensure they are fully aware of the implementation plans and able to contribute to the plans promoting their central role in making these changes happen.

Clinicians – will be actively involved in the planning and implementation of service change to ensure patient safety is not compromised as changes are made.

Project ‘task and finish’ groups and work streams will have a senior sponsor who will report through to the Vascular Programme Board. Whilst the sponsor will remain accountable for the work stream, it is expected that they will delegate responsibility for the day-to-day management of, and delivery against, the work stream plan and critical path, to a work stream lead.

The Programme Transformation Lead (and other members of the Programme Team) will support and monitor progress of the work streams against agreed milestones and report this to the Vascular Network Board.

Senior Responsible Owner (SRO)

The Senior Responsible Owner for this programme and the Vascular Programme Board’s Chair will ensure strong leadership for the implementation. The programme will be supported by the Executive Lead and Clinical Leads. The programme will be managed in line with best practice ensuring that roles and responsibilities are clearly defined. Decision making will be transparent and will be documented to ensure a robust audit trail is maintained.

The SRO is accountable for the success of the project ensuring that the programme meets its objectives and delivers benefits. The SRO will ensure that the project maintains business focus in a changing healthcare context and that risks are managed effectively.

Clinical Executive Lead

The Clinical Executive Lead works with the SRO to maintain high standards for clinical and operational delivery of the network programme.

Programme Transformation Lead

The Programme Transformation Lead will coordinate the activities of the programme on a day-to-day basis and is responsible for ensuring that:

- the implementation and engagement run smoothly
- requests for information, issues, and changes are managed appropriately
- project standards are maintained
- the programme plan and deliverables are monitored effectively and any deviation escalated.

14.3 Integrated Impact Assessment

Quality Impact Assessment

A Quality Impact Assessment has been co-produced with the ICB Quality Panel. It has been used to assess and document the quality impact of this programme with regard the commissioning decision resulting from this business cases.

The QIA has examined the impact on patient experience, patient safety, clinical effectiveness, and staff amongst other areas.

Equality Analysis

An internal Equality Impact and Risk Assessment (EIRA) Stage 2 was commissioned in 2018 as part of the preliminary stages of the programme review. The assessment looked to identify which (if any) of the protected characteristic groups were more likely to be affected by the recommended model of care. That assessment has been subsequently refreshed in February 2023 Equality and Health Inequalities Impact and Risk Assessment (EHIRA). The full impact analysis is available.

The work identified a number of groups who have protected characteristics who are considered to have a disproportionate need for vascular services and are therefore more likely to be impacted by the proposed service changes.

The groups and the potential impacts of this change along with any considerations for ongoing engagement to ensure these groups can input their views on the proposals are outlined in Table 13.1 below.

Most vascular patients do not require major vascular interventions and will therefore continue to have choice in receiving care locally at the Networked hospitals as there will be no change to these through this programme. This care includes local assessment, diagnosis and less complex interventions alongside outpatient provision. The NHS Ten Year Plan strategy looks to reduce service fragmentation. A single network will have a unified approach to coordinating services across L&SC, consolidating complex surgery onto one site with access to a single team of specialists.

Interestingly in the paper *Deprivation Impact Analysis*³³ commissioned by Merton, Sutton, and Surrey Downs CCGs in 2018 it is noted that *decisions about the major acute service locations ... are likely to only have marginal impacts on addressing health inequality in the population. A greater impact on health outcomes for deprived communities ... would be more likely to come from [a] concerted effort earlier in the health and care service pathways prior to [the] need for major acute services. It is also likely to require involvement of wider partners on the wider social determinants of health.*

³³ <https://www.improvinghealthcaretogether.org.uk/wp-content/uploads/2019/05/Deprivation-impact-assessment-August-2018.pdf>

The intention is for the LSC&W Vascular Network to be established with the appointment of a Clinical Network Lead. The network will have a role in ensuring that the local services continue to meet the national standards and requirements for Networked Hospital sites as set out by the Vascular Society which will include details of emergency cover, consultant presence, laboratory and diagnostic support and clear written arrangements for the transfer of emergencies out of hours.

It is also recognised that whilst patients within these groups may be disproportionately impacted by this service change because of their disproportional need for these services, they will also disproportionately benefit from the changes in relation to improved outcomes compared to the general public. The programme understands the vascular service broken down into age, IMD, inclusion health, etc. This data is being used to support the programme, identify unequal access and then support the future delivery model. Clinics in network hospitals such as ELHT will support patients and ensure equity for those in the most deprived and rural isolated areas.

Table 14.1 Equality Analysis Summary

Protected Characteristic	Disproportionate Need for Vascular Services	Engagement Considerations
Age	Advancing age is associated with structural and functional alterations of blood vessel walls and over time the vascular system can deteriorate which can lead to the furring of arteries and weakening of the aortic wall. This means that older people have a disproportionate need for vascular services.	Older people may be more likely have impairments which may affect engagement such as eyesight and hearing impairment, so this will need to be considered as part of the communications plan. There should be meaningful representation from the older age groups in engagement activities. Further work will be carried out to minimising the impact of increased travel.
Disability	Disabled people with mobility problems are likely to have reduced levels of physical activity, which is a key factor that can lead to an increased need for vascular services. People living with long term conditions such as diabetes also have a higher likelihood of complications from their condition that require vascular service support.	Engagement activity should take into account the most appropriate methods to involve people with a disability.
Gender Reassignment	Individuals who are transitioning are at a greater risk of developing vascular diseases if they are taking hormone treatments with oestrogen. Patients who have legally reassigned their gender are also at higher risk of being missed from screening programmes linked to gender, e.g. AAA screening.	
Pregnancy and Maternity	Pregnancy can lead to the blood clotting more easily, which increases the risk of developing thrombosis and therefore a disproportionate need for vascular services.	
Race	Certain cultural and hereditary factors, such as a propensity for high blood pressure and developing diabetes, are associated with an increased risk of developing vascular disease. People from black and minority ethnic communities are six times more likely to develop diabetes, suffer from a 50% increased risk of heart disease and have much higher	Engagement work will need to involve different communities. Communications will have to explain the rationale for the change. The most effective methods to do this will be explored. Links with BME networks within

Table 14.1 Equality Analysis Summary

Protected Characteristic	Disproportionate Need for Vascular Services	Engagement Considerations
	levels of kidney disorders - all of which can require vascular interventions. The care of people with diabetes can also be complex with 25% of people suffering from three or more other long-term conditions.	Lancashire have already been made for this reason.
Religion or Belief	No specific impacts identified	
Sex (Gender)	Vascular disease is more likely to affect men than women.	There should be appropriate representation from both genders in engagement activities.
Sexual Orientation	There may be a link with prevalence for vascular disease and lesbian, gay and bisexual groups due to lifestyle and risk factors – these groups appear to have higher rates of tobacco and hazardous alcohol use than heterosexual groups. Research from Stonewall suggests members of the LGBT community have poorer experiences of healthcare due to prejudice towards them and a general lack of understanding of their health needs.	Responses received should be representative of the community, although some ethnicities may not disclose their sexuality.
Marriage and Civil Partnership	Whilst there is a link between having a cardiovascular disease (CVD) and marital status (i.e. a single person is more likely to have CVD than someone who is married), there are no identified issues at the current time that will result from the proposed changes.	
Carers	Whilst outpatient clinics, diagnostic tests and day case procedures will continue to take place at local hospitals, following the transition period all inpatient surgery will take place at the arterial centre at LTHT. This will result in increased travel for the inpatient's carers and family members living in the Pennine Lancashire area when visiting the patient and will impact most on those who have no access to their own transport and/or have a low income.	Possible solutions to reduce this impact will need to be considered within the engagement work.

Table 14.1 Equality Analysis Summary

Protected Characteristic	Disproportionate Need for Vascular Services	Engagement Considerations
Deprived Communities	The area of L&SC has populations living within it that have some of the highest levels of deprivation within England. Deprivation is strongly associated with higher levels of obesity, physical inactivity, unhealthy diet, smoking and poor blood pressure control. All these factors are inextricably linked to the risk of diabetes and vascular conditions or the risk of developing serious complications for those already diagnosed.	Possible solutions to reduce this impact will need to be considered within the engagement work.
Vulnerable Groups e.g., Asylum seekers, Homeless, Sex workers, Military Veterans, rural communities.	The assessment recognises that patients come from a wide range of different backgrounds and different levels of disadvantage.	

For note, some of the population groups identified in the EHIIRA summary analysis above can be very difficult to engage with and thus to understand and support their specific needs and views. The ICB have filtered results from the engagement by those vulnerable groups highlighted in the EHIIRA so that the impact of the proposal can be determined on those groups specifically.

It is also worth mentioning that the named cohorts above cannot be approached solely as distinct silo groups. Intersectionality describes that there is a matrix or framework the different social identities that an individual can have, like race, gender, class, and sexuality – these all overlap. These combined factors create unique layers of discrimination or privilege. The engagement and consultation work will look to be sensitive to the fact that people have many identities at the same time.

The section on Engagement and Public Consultation will give more information as to how the ICB plans to reach out to these groups. The standard communications channels include various VCFSE groups to help disseminate information. The acute Trusts will be involved with providing information about changes during implementation. Health Inclusion Groups have been included during the 'Your Health. Your future'

programme of work with 'Your Say' roadshows. Consultation engagement will look to have a strong focus on patients with lived experience to see how suggested changes would affect people in their position.

Health Equity Assessment Tool

A review of the reconfiguration using a national Health Equity Assessment Tool (HEAT) was also undertaken. This was a way to triangulate the Equality Assessment and ensure that key health inequality impacts had been identified.

It too established that better clinical outcomes were expected through a single high-volume arterial centre, with improved specialist expertise, greater workforce resilience, and more consistent care pathways resulting from the transformation.

However, the main impact that it identified again was the increased travel for patients, carers and visitors from Pennine Lancashire and other areas currently served by East Lancashire Hospitals, particularly:

- Older people
- Disabled people
- People on low incomes
- Rural communities
- Some ethnic minority groups who are more likely to experience deprivation and transport barriers.

The populations most affected by inequalities:

- Older adults, who have the highest prevalence of vascular disease.
- People with disabilities or limited mobility.
- Residents of deprived communities.
- Rural and coastal populations.
- Black, Asian and minority ethnic communities, who have higher rates of some cardiovascular risk factors and may face language or access barriers.

The HEAT assessment concurred with previous analysis that the key drivers of health inequalities in LSC are:

- High levels of deprivation and fuel poverty.
- Smoking, obesity, physical inactivity and poor diet.
- Rising rates of diabetes and hypertension.
- Lower than average life expectancy and healthy life expectancy.
- Increasing demand from an ageing population.

The programme has elaborated elsewhere that mitigations to these impacts include:

- Continuing to deliver care locally wherever clinically safe
- Maintaining strong community engagement and public consultation
- Providing translation services, culturally appropriate care and reasonable adjustments.
- Monitoring outcomes, patient experience, complaints and clinical metrics using national and local datasets.
- Using equality, diversity and inclusion programmes to support both patients and staff during implementation.

The assessment concluded that while centralisation may create travel-related access challenges for some vulnerable groups, the anticipated improvements in quality, safety, consistency of care and patient outcomes are expected to deliver a net positive impact on health inequalities across the vascular population.

Age Breakdown of Patients

Using the Trust data for vascular surgery patients (aged 17 years and over) attending ELHT and LTHT in 2019/20 the following chart and table highlights the spread of patient age, and the increasing incidence of patients attending for a procedure in the older age bands.

Chart * - percentage of patients split by five-year age band from data on those attending both LTHT and ELHT in 2019/20 for vascular surgery.

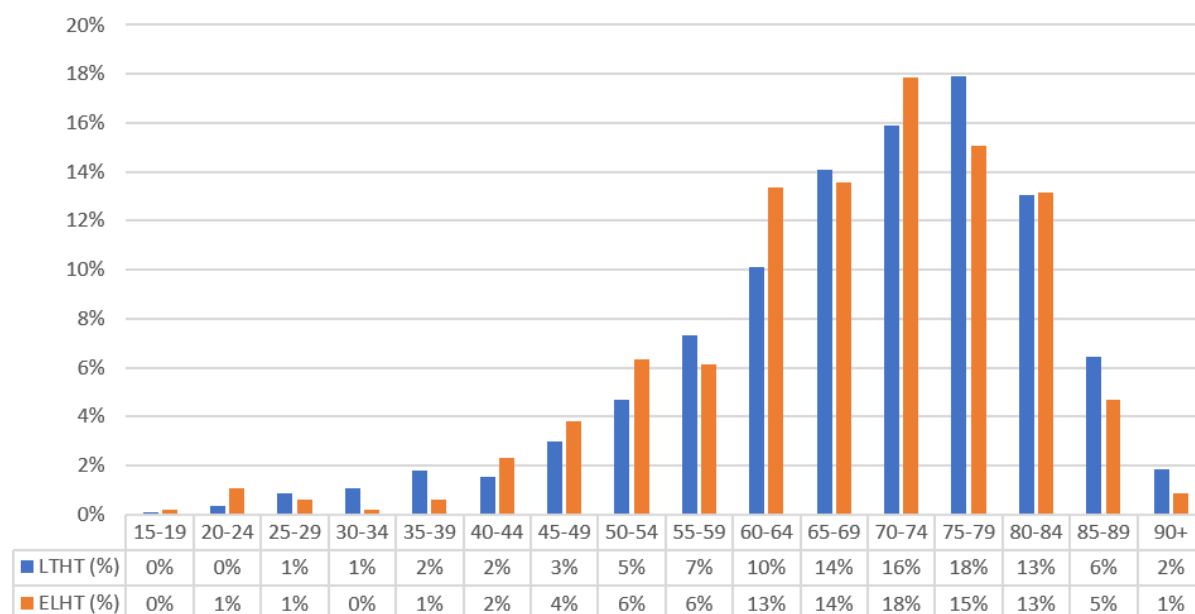


Table 14.2 Patient Numbers Split by Sex (Gender)

Using the Trust data for vascular surgery patients attending ELHT and LTHT averaged over the years of 2019/20 and 2022/23 it can be ascertained that one third of patients are recorded as identifying as women and two thirds are recorded as identifying as men. Specifically:

Trust	Female	Male
ELHT	34%	66%
LTHT	32%	68%

Ethnicity Breakdown of Patients

Using the Trust data for vascular surgery patients (aged 17 years and over) attending ELHT and LTHT over the four years from 2019/20 to 2022/23 the following chart and table highlights the ethnic diversity of patients attending either hospital for vascular surgery.

From the data the largest ethnic group attending the hospitals is White ethnic (94% for ELHT and 68% LTHT). Patients representing the Asian or Asian British ethnic group account for the next largest group at ELHT with over 4%, while omissions in the data (i.e. 'Other ethnic group – not stated' and 'Unknown or not applicable') equate to 30% of the LTHT data set.

Table 14.3 Ethnicity Breakdown of ELHT and LTHT Patients

Ethnic Grouping	ELHT (%)	LTHT (%)
Asian or Asian British	4.3%	0.7%
Bangladeshi	<1%	-
Indian	0.7%	0.3%
Pakistani	3.3%	0.3%
Any other Asian background	<1%	<1%
Black, Black British, Caribbean, or African	0.6%	<1%
African	<1%	-
Caribbean	-	<1%
Any other Black background	0.4%	-
Mixed or Multiple Ethnic	0.4%	<1%
Any other mixed background	<1%	<1%
White and Asian	<1%	<1%
White and Black African	<1%	-
White and Black Caribbean	-	<1%
Other ethnic groups	0.4%	14.1%
Chinese	<1%	
Any other ethnic group	-	<1%
Not recorded	0.4%	14.0%
White ethnic	94.3%	68.5%
British	90.1%	67.4%
Irish	0.8%	0.4%
Any other white background	3.4%	0.7%
Unknown or not applicable	-	16.4%

NB Where the percentage represents patient numbers that are 5 or less within an ethnic group classification the figure has been replaced by '<1%' in order to maintain the anonymity of the patient(s).

It should be noted that patients within the new model will continue to have access to information and translation services. Healthcare staff will continue to receive training and resources to support their understanding of healthcare inequalities.

The current pre-consultation engagement has looked at accessibility in terms of language and speaking with people face-to-face. Formal consultation planning will need to do this on a larger scale and will be part of the formal public consultation plan if such required.

Deprived Communities

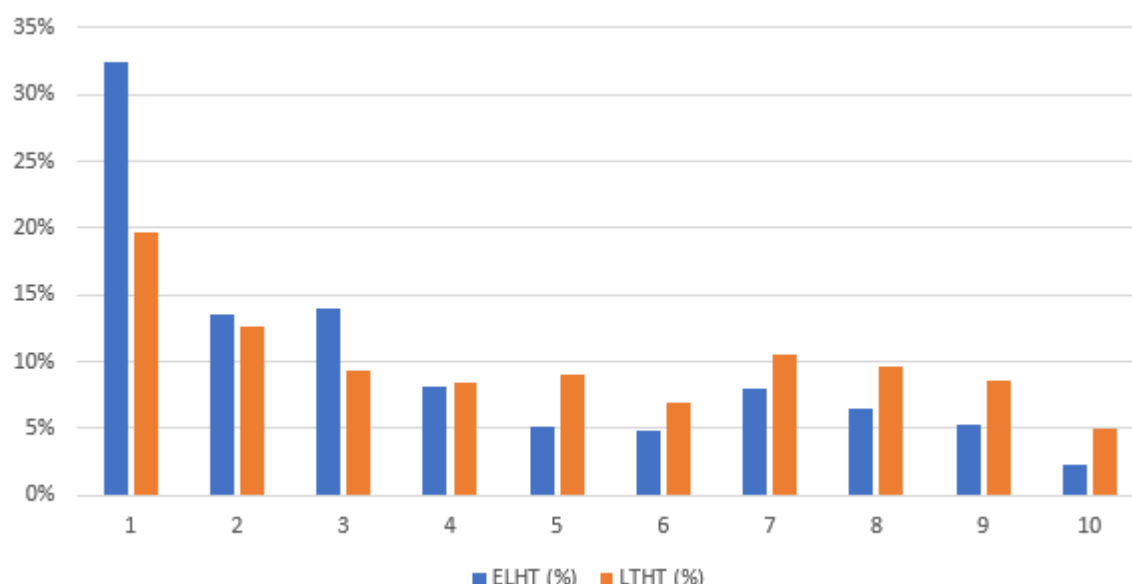
The North West has some of the most income deprived communities within England. One way of assessing deprivation is through the use of the Index of Multiple Deprivation (IMD) which is a relative measure of deprivation. This means it can advise where one area is more deprived than another in relative terms, but not by how much.

Using the Trust data for vascular surgery patients attending ELHT and LTHT the following chart visually shows the percentage of that patient cohort split into ten bands (deciles) of the

IMD levels. Where level 1 is the most deprived and 10 the least deprived (according to the IMD).

For those patients coded as having a vascular surgery procedure: 60% of those attending ELHT come from communities ranked in the three (1-3) most deprived areas, while 42% of such patients attend LTHT from the (1-3) most deprived areas.

Chart * – The percentage of vascular surgery patients attending either ELHT or LTHT (over the period 2019/20 to 2022/23) and the IMD decile from where they live.



Other identified groups

People with diabetes are at a higher risk of vascular disease. The prevalence of diabetes is caused by a number of factors such as an ageing population, obesity, and low levels of activity. Vascular damage and the need for subsequent vascular surgery can be a consequence of poorly managed diseases such as Diabetes and Hypertension

Section 2.1 gives further information of the increasing prevalence rates within L&SC, for example, between 2010/11 & 2020/21 the L&SC population prevalence rates for Diabetes increased by 1.3% and Hypertension increased by 1.2%.

Smoking, obesity, and low levels of activity are more common in areas that have socio-economic deprivation. As these lifestyle risk factors are also linked to prevalence of diabetes (and therefore risk of vascular disease) the engagement with these groups will be key.

For example, during engagement at pre-consultation the ICB was supported by a member of the team that speaks Punjabi to speak with patients in clinics in areas that have this as a main language (e.g. Rossendale). Trusts will also have interpreters available.

Any planning for a formal consultation will address and mitigate issues such as language barriers.

Section 2.1 gives detailed information on the estimated smoking and obesity prevalence within L&SC population areas (split by former Clinical Commissioning Group geographies)

Prevention

It should be noted that a number of NHS-led organisations (e.g. Community Teams, General Practice, ICB Place-based Teams, etc.) are actively supporting the local population through prevention schemes. Such endeavours directly and indirectly support vulnerable and non-vulnerable vascular patients and the wider population to reduce the risk of needing hospital care.

The *A national framework for NHS – action on inclusion health*³⁴ underpins the work within the ICB Clinical Commissioning Team, looking to improve and ensure access for patients to primary and secondary care.

There are many examples of prevention schemes supporting the local population from smoking cessation to the early identification of high blood pressure.

The 'Know your Numbers' campaign had upwards of 300 people involved in blood pressure testing to identify early signs of high blood pressure / hypertension. A number of sessions took place within Mosques in Blackburn and Darwen before Friday prayers. The outcomes were so successful the local Imams also supported the taking of blood pressure amongst wives of the attending Islamic community. Hypertension leaflets have been translated into Urdu, Punjabi, Polish, and other language common within the diverse Lancashire population.

An NHS England funded 'Optometry' project looked at the outputs from visits to Opticians with regard high blood pressure (which can be measured through eye pressure tests). Suspected cases were signposted to community/acute services. This was particularly significant in hard to access areas of high deprivation, including Preston Central, Fleetwood, and Burnley.

Typically, such schemes nationally have engaged people of 40 years and older where there is a known risk of cardio-vascular disease (CVD). However, ICB Place-based Teams have started to target those between 30 and 40 years as there has been a significant trend towards earlier presentation of CVD related morbidity. This has reaped benefits with a number of people identified and signposted with early-stage CVD that would not have ordinarily been picked up.

More holistically, there has been significant focus on smoking cessation across Lancashire delivered under the umbrella of 'Smoke-free Lancashire'. In addition, Lancashire County Council have provided further funding – starting in Burnley with Hyndburn subsequently - to support in depth work with communities to encourage people into the service. Health & Wellbeing Coaches are starting in Burnley to work with the community leaders. Equally, across all of Lancashire & South Cumbria there are initiatives to increase physical activity in the wider population. Some have even focused on encouraging exercise through workplace schemes e.g. general practices signing up as 'active practices'.

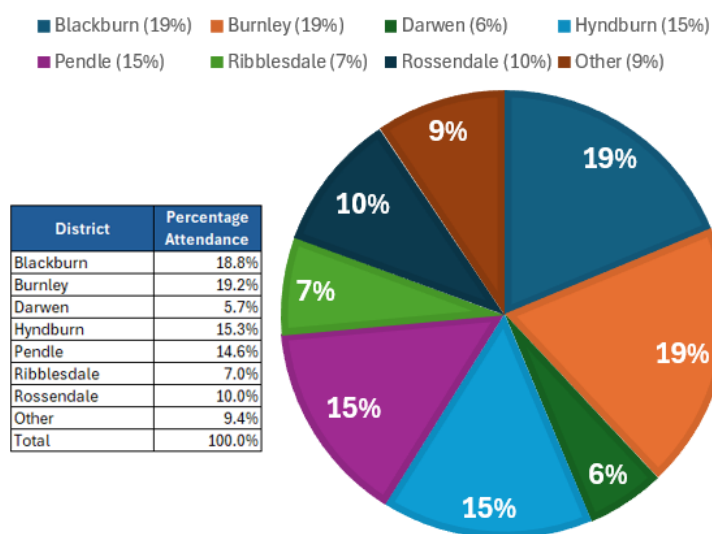
In tandem with the above endeavours the proposed service model will continue to meet the needs of complex multi-morbid patients, if not improve their outcomes through a central highly specialised surgical centre.

³⁴ <https://www.england.nhs.uk/long-read/a-national-framework-for-nhs-action-on-inclusion-health/>

Travel Time impacts

Were the option to reconfigure vascular services in LSC&W implemented Patients who would previously have travelled to ELHT for their vascular inpatient surgical procedures would now attend the Arterial Centre hosted by Royal Preston Hospital (RPH).

Over a three-year period (2021-23) it is calculated that approximately 1,100 Patients in total attended ELHT for an elective/planned vascular inpatient admission (<400 pa).



The chart above shows those patients (with planned admissions) and presents a breakdown of the district where they are registered to a GP i.e., home their locality. This will help give an indication of the typical impact on travel that may be required with the transfer of vascular surgery services – for the patient, their carers, and family. The cohort 'Other' are patients that reside outside of East Lancashire – primarily in the rest of Lancashire (already the catchment population for LTHT vascular services).

Table 14.4 the travel times between Hospital sites in L,SC&W.

	Normal (not lights and sirens) travel time (minutes) & Inter-site distance (miles)											
	RPH		RBH		BVH		RLI		FGH		RAEI	
	Mins	Miles	Mins	Miles	Mins	Miles	Mins	Miles	Mins	Miles	Mins	Miles
RPH			26	19.2	25	15.8	30	19.8	78	64.4	35	22.7
RBH	26	19.2			41	32.3	43	35.1	92	79.6	34	24.0
BVH	25	15.8	41	32.3			45	33	93	77.3	46	36.2
RLI	30	19.8	43	35.1	45	33			68	46.5	50	39.4
FGH	78	64.4	92	79.6	93	77.3	68	46.5			95	83.6
RAEI	35	22.7	34	24.0	46	36.2	50	39.4	95	83.6		

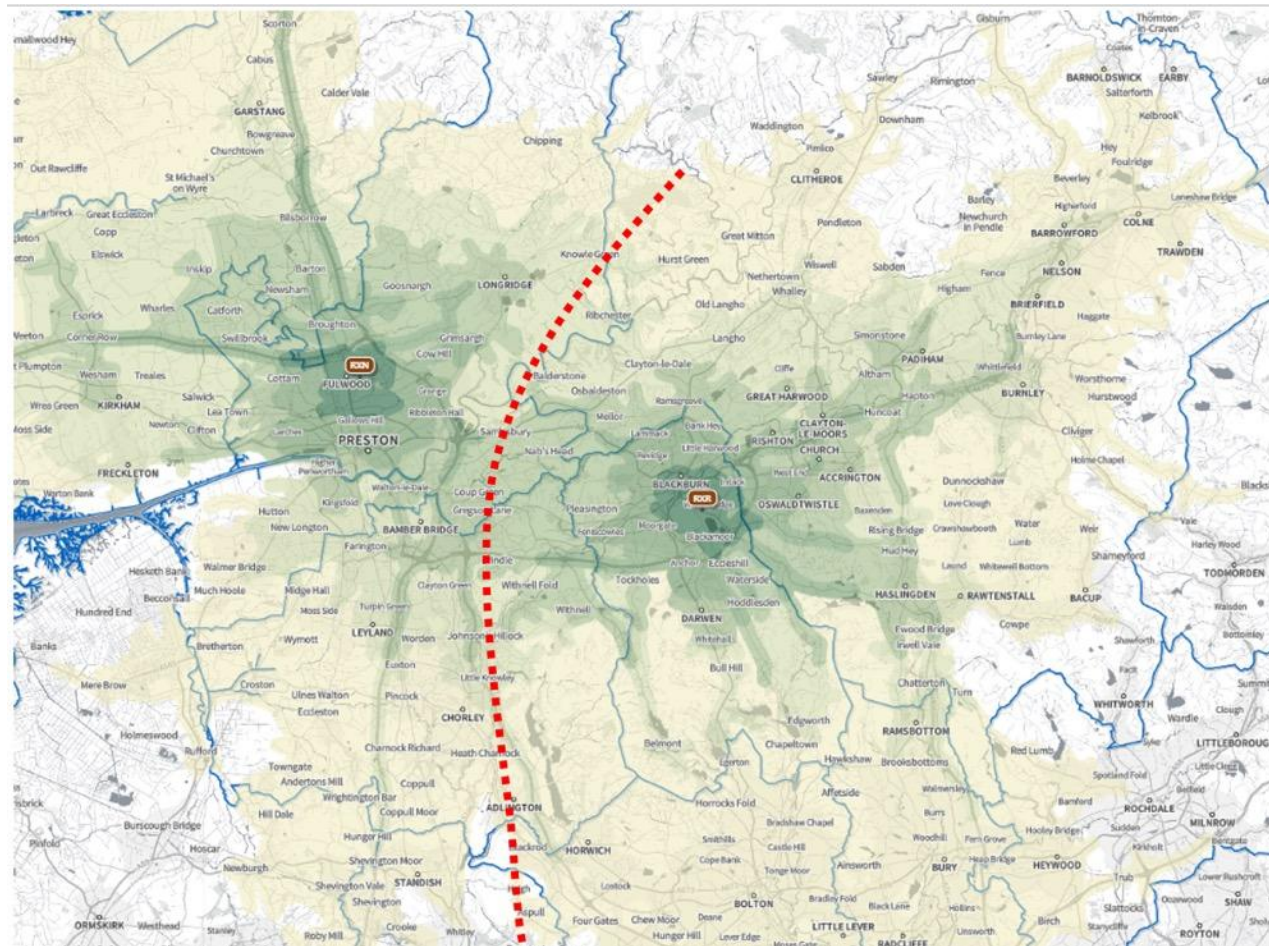
The Programme, in collaboration with LSC ICB, will explore strategies to mitigate the impact of the reconfiguration on patients. These strategies will be informed by patient feedback gathered through the surveys conducted in 2025 and staff feedback throughout the coming months.

Following the reconfiguration the vast majority of vascular services will remain local (i.e. outpatient clinics, community support, early diagnostics and imaging, and even day case surgery). Where transport is required for surgery requiring an overnight stay some patients may be eligible for the Patient Transport Service (PTS). Many vascular patients have co-

morbidities which may mean they have a medical condition that could stop them getting to them to their surgical appointment by other means.

As a further overview, the following images gives indicative travel times (by colour gradient) for the population that surround and would provisionally attend both ELHT ('RXR' Trust HQ at RBH) and LTHT (RXN Trust HQ at RPH). The red line in the first images gives an approximate distinction between the two populations with the geography to the right of the red line likely to be the most impacted in travel time attending RPH if from East Lancashire districts.

Image – colour gradient schema indicating road travel time duration for ELHT and LTHT catchment population³⁵

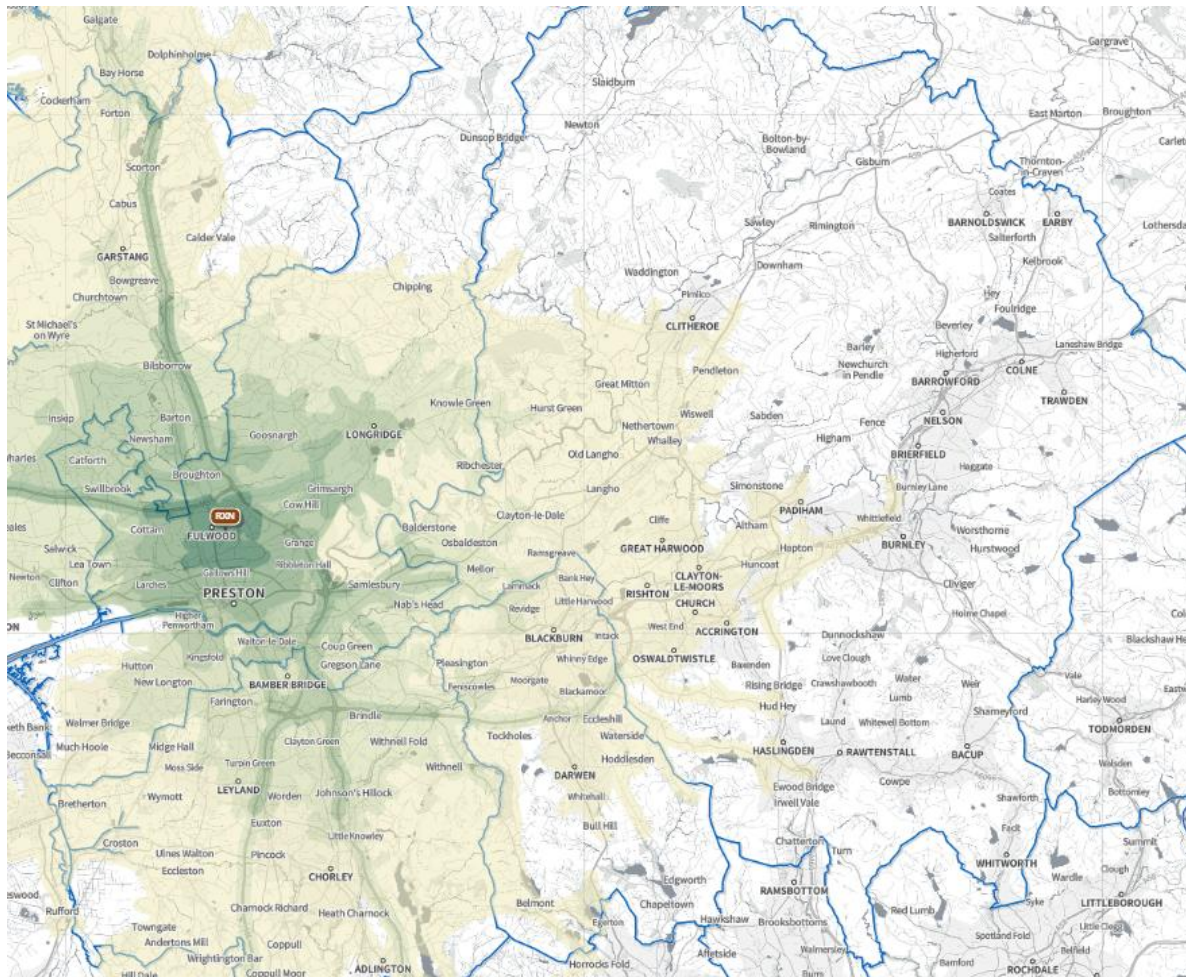


The following colours represent road travel duration in minutes.

	Less than 5 minutes
	Up to 10 minutes
	Up to 15 minutes
	Up to 20 minutes
	Up to 30 minutes

³⁵ https://app.shapemap.net/place/#11/53.7371/-2.4994/l-lapp10/sc-sc,s-thq/v-1,RXR,RXN/o-v,a/rh-0,rdr-t,rtu-car_minutes,rv-5_30

Image - Image – colour gradient schema indicating road travel time duration for LTHT across the Lancashire population³⁶



The following colours represent road travel duration in minutes.

	Less than 5 minutes
	Up to 10 minutes
	Up to 15 minutes
	Up to 20 minutes
	Up to 30 minutes

³⁶ https://app.shapeatlas.net/place/#11/53.7996/-2.4101/sc-sc,s-thq/v-1,RXN/o-v,a/rh-0,rdr-t,rtu-car_minutes,rv-5_30

The second image (above) gives the colour graded travel times for the geography to the east of RPH (RXN Trust HQ). The distance by road (travelling via the M65 and M6) specifically between RPH and Royal Blackburn Hospital is 19 miles (approximately 30 minutes in duration). However, as the image above indicates the geography of East Lancashire and Blackburn with Darwen extends further east.

Additional travel time will likely impact people from deprived areas and those who are older. However, this will be mitigated by improved clinical outcomes for everyone – this was recognised by stakeholders in the pre-engagement work.

Nearly a third of Lancashire and South Cumbria (L&SC) residents live in some of the most deprived areas across England³⁷. The percentage of people living in fuel poverty and unable to afford to heat their homes, is higher than the national average: 13% for Lancashire and South Cumbria, the national average is 10.6%.

Four of the fourteen North of England local authorities with the highest proportion of the most deprived LSOAs (Lower Layer Super Output Areas) nationally are in L&SC: Blackpool, Burnley, Blackburn with Darwen and Pendle.

Most people who need vascular services do not need specialist inpatient support, and of those that do at least 50% will access this pathway as an emergency and likely to have been transported to the specialist inpatient vascular service via ambulance. The Vascular Network will ensure that there are clear pathways in place to repatriate patients to their nearest centre when appropriate.

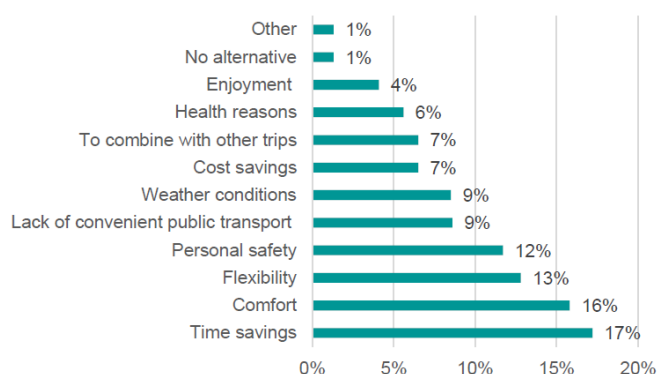
LTHT Travel Patterns

LTHT has undertaken extensive analysis and engagement to understand their visitors' travel patterns. Replicating content from within the LTHT *Travel Plan* the following can be discerned from the June /July 2023 engagement:

- private motorised transport (a combination of car (petrol/diesel), car (hybrid), car (electric), or motorcycle) accounts for 38% of visitors (and outpatient attendees) surveyed,
- car (petrol/diesel) is one of the main methods of traveling to the LTHT site for visitors (and outpatients), 18% of those surveyed,
- in terms of sustainable transport, travelling by bus is the most popular mode of travel (18%),
- whilst 4% and 11% walk and cycle respectively.

The main response from people regarding why they chose to travel by car was:

- 'Time savings' (17%)
- 'Comfort' (16%),
- 'Flexibility' (13%).

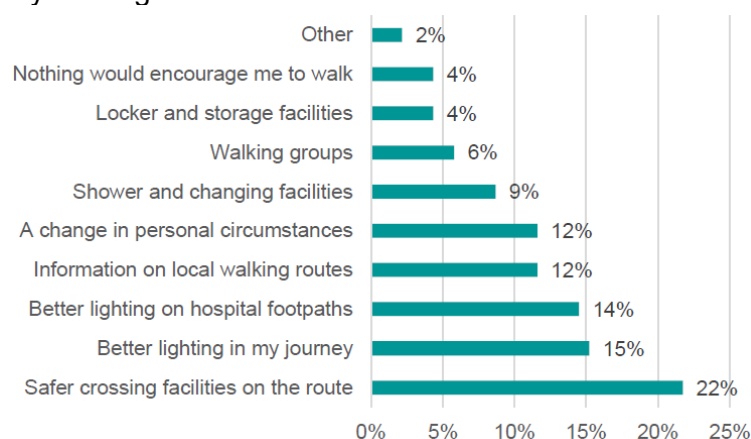


³⁷ <https://www.lancashireandsouthcumbria.icb.nhs.uk/about-us/welcome-lancashire-and-south-cumbria#:~:text=Nearly%20a%20third%20of%20our,the%20national%20average%20is%2010.6%25.>

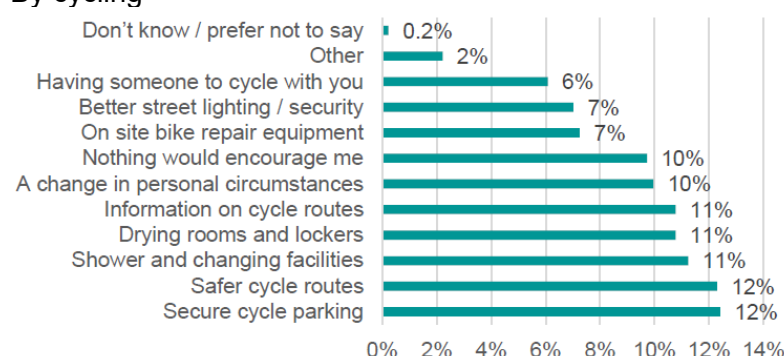
Further details on ‘sustainable travel’ can be found in the next section – but the LTHT Travel Plan did investigate what would encourage visitors to use more sustainable methods of travel such as walking, cycling, or public transport (as shown in the respective table cells below. Outside of this programme, but aligned with the ethos of supporting patients, family, and carers, LTHT is working with stakeholders to maximise access to the hospital services through more sustainable and greener means (please see Chapter 8 of the LTHT *Travel Plan*) e.g., care sharing, improvements to existing public services.

Table showing what features may encourage more sustainable travel to LTHT.

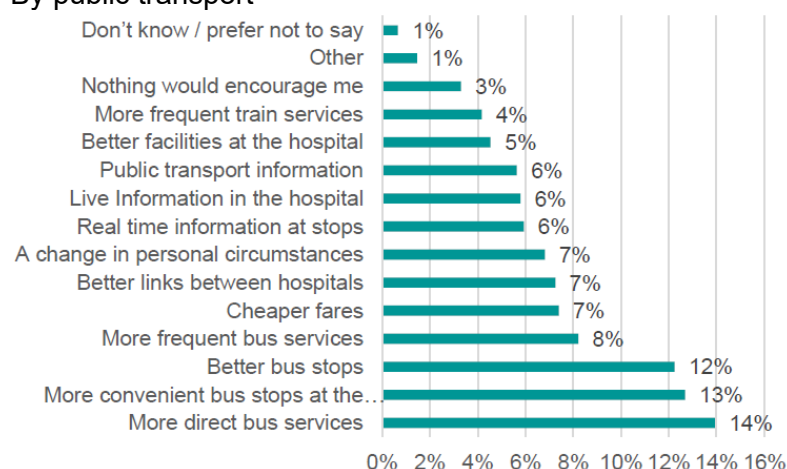
By walking



By cycling



By public transport



Sustainability Impact Assessment

Changes to planet Earth's climate has consequences for population health (from air pollution, which risks worsening the health of people with cardiovascular disease; to severe weather events, that may inhibit the ability of the NHS to deliver health services or patients to travel).

The UK Government has committed the country to net zero carbon emissions by 2050. The NHS is responsible for 4% of England's emissions and in October 2020 committed to reaching net zero for the emissions directly controlled by 2040 (NHS Carbon Footprint) and net zero for emissions that can be influenced, but not directly controlled, by 2045 (NHS Carbon Footprint Plus).

The ICB have established an enabling Green Plan to deliver net zero ambitions.

A Sustainability Impact Assessment (SIA) has been undertaken, and the following summarises the main outputs of the review (with the full document available upon request). The SIA will support the programme to assess the impact of activities and change against a series of criteria covering environmental sustainability issues relevant the ICB Green Plan.

Actions and/or risks identified by this process will be included within the programme plan and/or risk register respectively.

Table 14.5 Sustainability Impact Assessment Summary

Review	Summary Description of Impact	Actions to enhance positive impacts and mitigate negative impacts
<i>Preparing for & Adaptation to Climate Change</i>	Parity of access and care provision for Vascular services within local hospital sites supporting 'climate change vulnerable' patient groups locally. Consolidation of a duplicated service within one centre. Adaptation in respect of estate and infrastructure,	Ensure the consolidation of supply chains with one overarching L&SC site managing the supply. One Network site will be managing the sustainability of its services across L&SC – reducing the duplication and inefficiency of a dual service approach. Commissioners of the service provision will link with the Trust Estates Team to facilitate appropriate mitigations within the Trust Green Plan.
<i>Community Engagement</i>	Pre-implementation work will draw upon patient advocates to enable scrutiny, challenge, and a shared approach to the decision making. Improving outcomes for patients within a high-volume specialist environment.	Consolidated, single L&SC-wide Vascular Network management team will oversee patient/staff communication and engagement. Messages to support prevention, and the adjustment of behaviour, will be shared with patients and staff (including 'climate change vulnerable' groups).
<i>Procurement</i>	Consolidating two services into one will improve the efficiency of consumable/comestible usage potentially reducing waste.	A consolidated, single L&SC-wide Vascular Network management team will oversee system wide procurement ensuring consistency of purchases and procurement.
<i>Travel & Transport</i>	Consolidating services may require additional travel for staff and some patients (carers and family) who would previously have travelled to ELHT. Ambulance pathways will also change. Equally, vascular consultants who are on emergency on call may be required to travel to ELHT in such circumstances to support patients.	Teleconferencing will be encouraged to minimise travel (e.g., MDTs). Clinical transformational work within LTHT will support reducing the length of patient stays within hospital and a potential reduction in post-operative readmissions will minimise additional travel and patient stays within the Arterial Centre. Clear, agreed pathways will be in place to ensure that travel is timely and only where required. Action to encourage support to public transport-links through the Councils' Bus Service Improvement Plans (BSIP). Local improvements (to public transport for example), through the LTHT <i>Travel Plan</i> .

Review	Summary Description of Impact	Actions to enhance positive impacts and mitigate negative impacts
Workforce	Consolidation of a duplicated service will standardise process under one Network staff management system. Brining two teams together as one, will improve the fragility and resilience of the staff group, provide a greater depth for on call rotas, and make the specialist service more attractive for recruitment and retention – all of which could improve the well-being of existing and future staff. Additional travel would potentially disadvantage those on lower salaries.	HR, recruitment, clinical, and Deanery processes will be consistent/standardised and more efficient through supporting one service rather than two across the two hospital sites. Review options to provide support/ travel expenses for the cohort impacted. Recruitment needs to consider local staff in the appointment to roles to support the sustainability of local neighbourhoods.
Infrastructure	Virtual meetings are currently undertaken to accommodate geographical disparate staff across L&SC..	Benefits from the new ways of working will likely provide opportunities aligned with a lower carbon/energy usage approach. Action to ensure that the use of tele-medicine, teleconferencing, and the electronic sharing of information (where safe, appropriate, and secure to do so) is encouraged.

15. NHS England Four Tests

There are ‘four tests for service change’ that NHS England³⁸ expects all service change proposals to satisfy and provide assurance against. In addition, where appropriate, there is an additional ‘test’ in respect of any proposed bed closures. The service change must demonstrate best practice and that it is affordable in terms of capital and revenue.

NHS England guidance on service change is intended to support commissioning and partner organisations in navigating a clear path from inception to implementation. It aims to assist organisations in taking forward proposals and enabling them to reach robust decisions on change in the best interests of patients.

The national guidance set out in *Planning, assuring, and delivering service change for patients* is designed to demonstrate that there has been a consistent approach to managing change, and therefore build confidence within the service, and with patients and the public. The following section demonstrates that these five tests have been met in the process of designing the service change proposed in this document.

There must be clear and early confidence that a proposal satisfies the government’s tests which are:

- Strong public and patient engagement.
- Consistency with current and prospective need for patient choice.
- Clear, clinical evidence base.
- Support for proposals from clinical commissioners.

15.1 Test one: evidence of strong patient and public involvement.

This test evaluates how patients and the public have been involved in the development of the solutions.

This business case has described the stakeholder engagement that has taken place since 2018 (see Chapter 9) and gives details of how patients and the public have been engaged and involved in the review, including contributing to the development of the case for change, the clinical model and the development and evaluation of the proposed options for change.

It sets out the changes that have been made as a result of feedback from patients, carers, the public, communities, and health and care professionals during pre-consultation engagement.

Significant engagement has been undertaken with the population and patients (including as a primary target audience, at least 76 patients who have ‘lived experiences’ of the Vascular pathway). However, the ICB and Programme Team are committed to undertaking a proportionate and meaningful formal public consultation as part of the process, to hear people’s views and understand their concerns and what we can do to reduce them. An independent analysis of the responses to consultation will be a substantive part of the evidence considered in the decision-making process.

Pre-consultation engagement is designed to identify gaps: asking patients what matters to them and what information they would like to know more about.

³⁸ Planning, assuring and delivering service change for patients, NHS England (2018)
<https://www.england.nhs.uk/wp-content/uploads/2018/03/planning-assuring-delivering-service-change-v6-1.pdf>

During the pre-consultation engagement phase, a range of activities were undertaken to ensure broad and equitable engagement. Direct conversations were held with over 70 patients across several hospitals and health centres, including Royal Blackburn Hospital, Burnley General Hospital, Pendle Community Hospital, and Rossendale Health Centre. In addition to patient engagement, meetings were conducted with various stakeholders such as patient groups, Trust professionals, and organisations supporting vascular patients, including Mobility Matters and the Heartbeat charity. Insights from previous engagement activities and Healthwatch reports were also reviewed and incorporated. Additional efforts were made to talk to groups often identified as less likely to be reached during engagement activities, such as, non-English speaking patients and those from deprived areas, ensuring that diverse perspectives were captured and considered.

The engagement process yielded several key findings. Patients generally expressed support for the proposed changes, recognising the benefits of specialist care even if it required travelling further. However, travel and access emerged as significant concerns, particularly for patients in East Lancashire and in more deprived areas. While many were willing to travel for specialist care, they emphasised the need for improved transport and financial support. Patients also requested more detailed information about the new service model, specifically regarding how changes would affect them personally. There was a strong emphasis on the need for improved record sharing between providers, and stakeholders advocated for the incorporation of best practices from each provider into the newly formed service specification.

The insights gathered through this engagement were fed back to the programme to assist in refining the vascular service model. The findings will shape the approach to formal consultation by informing the development of consultation documents and communication and engagement strategies. The consultation process will be designed to reflect patient priorities and concerns, provide a clear “You said, we did” narrative, and identify priority engagement groups and preferred methods of communication. Ultimately, these steps will help ensure that the formal consultation is inclusive, transparent, and responsive to stakeholder feedback.

The full pre-consultation engagement report can be found on the [ICB website](#).

This is currently showing areas such as travel and bed / theatre capacity as being areas of concern that the programme will need to provide more information on. The ICB Comms & Engagement Team are identifying gaps as engagement progresses, for example younger people have not been spoken to but this is because they are not a target audience at risk of needing the service. We have also not had a great deal of interaction with people with learning difficulties. Again, this will be dealt with during a formal consultation and the plan will identify these gaps in previous engagement.

The following table gives examples of the feedback that the programme has had from patients and stakeholders and how this has underpinned the programme objectives and business case approach. Two more detailed documents from 2019 (Patient Feedback: Vascular Services) and 2023 (Vascular Listening to Communities Report) can be found in the appendices (or upon request).

Table 15.1

Stakeholder Feedback (date)	Programme Intention / Response
<i>If there was treatment available more locally that would be better. I am attending today to have compression bandages changed and will be enquiring whether this can be accessed more locally (2019)</i>	Parity of access and care will be provided across all of the hospital sites across the Network (where it is safe to do so).
<i>Location for the day case procedure would have been better at my local hospital, but I guess the location is due to the availability of beds/theatres etc. (2019)</i>	Day case procedures will be available at a patient's local hospital site (where it is considered safe to do so).
<i>[Stakeholders were] willing to travel to services (up to 80 miles round trip in one circumstance) in order to access better quality joined up services in one centre (2023)</i>	The Arterial Centre will undertake all complex surgery requiring an overnight stay – with all of the consultant surgeons, support staff, and resources offering a single high-quality service centrally.
<i>Communication between clinicians is essential (2023)</i>	Vascular staff, including consultants, will be part of a single Network covering all of the hospitals, with a single MDT (multidisciplinary team) meeting discussion patients treatment need.
<i>Services need to be mindful that people with Vascular conditions often have other long-term conditions requiring treatment from multiple specialties (2023).</i>	The programme has involved all interdependent service areas in the formulation of the business case; any proposed implementation of change will continue with this collaborative journey.
<i>All services in the network, whether that be in community or in hospital should be connected. Preferably with regular meetings with all staff that a patient comes in to contact with but, at the very least, with access to each other's notes and shared patient records (2023).</i>	This business case advises that all clinicians involved with the care and treatment of vascular surgical patients will attend Vascular Multi-disciplinary Team Meetings on a regular basis. The weekly [full] Vascular MDTM will have quoracy with attendance by surgeons, interventional radiologists, anaesthetists, vascular nurse specialist, and clinical vascular scientist.
<i>Vascular network services should have close links and access to other specialties since many patients have other connected long-term conditions (2023).</i>	This business case refers to a number of specialties that are to be involved in the network (Appendix A lists them for example) and summarises the recommendations and standards for the Vascular Network in terms of general services at all of the hospital sites making up the Network. This includes Renal, Stroke services, Diabetes, Cardiac and rehabilitation services. This document also highlights the impacts on other treatment services that need to be considered.

It is the intention that:

- Any meetings of the Vascular Programme Board will include feedback from patients and any decisions made at the meetings will be logged citing the feedback that has informed the decision. If the decisions made is contrary to the feedback given, then a reason for this will be logged to assist with any future scrutiny.
- In future documents the changes that have been made based on patient engagement will be highlighted specifically.

15.2 Test two: consistency with current & prospective need for patient choice

The proposed model of care very strongly supports local access to care for patients within the area that they live – and the clear benefits of inpatient consolidation have been outlined in the case for change. Outpatients' appointments, diagnostics, and follow-up clinics for example will be undertaken, as they are now, as much as possible within the Network Hospital closest to the patient. There is no reduction in patient choice in the majority of vascular care.

The obligation to offer choice does not apply to any service where it is necessary to provide urgent care, emergency and crisis care. The Right to Choose regulations also does not apply to consultant-to-consultant referrals. Equally the obligation to offer choice of provider and team does not apply to any person already receiving care and treatment for the condition that they are being referred for (although it does apply for new episodes of care regardless of whether a patient has been seen for a condition previously).

Centralisation of surgical care does admittedly impact patient choice. The proposed model to consolidate specialist inpatient vascular activity onto the Lancashire Teaching Hospitals' Trust site will affect a small number of patients who may have chosen previously to have their operation performed at East Lancashire Hospital Trust. As highlighted above, it is worthy of note that a not insignificant percentage of inpatient vascular activity is the result of emergency or urgent care where patient choice is not a factor.

In terms of promoting choice and adherence the ICB submitted the national choice return to NHS England and can demonstrate the associated governance that underpins this. As of September 2025, L&SC ICB had rated itself as green against all indicators.

In Pennine Lancashire GPs are responsible for offering choice and in the case of elective specialties, then patients will continue to be offered choice based on both geography and wait times.

The ICB works closely with the Communications Team and Primary Care to remind GPs of their obligations to offer choice – an example is given in the most recent communications campaign aimed at GP practices: [Test your knowledge of patient choice](#).

The ICB also has a dedicated area on their website for patients to access (although recognising this is unlikely for major vascular work) [LSC Integrated Care Board :: Patient choice within Lancashire and South Cumbria Integrated Care Board](#)

15.3 Test three: strong clinical evidence base.

The case for change for vascular services for LSC&W is firmly based on clinical evidence outlining the benefits of consolidation of services onto one Arterial Centre [hub] and of broader clinical network working.

The primary reason for the existence of the programme is to meet the clinical standards detailed in the NHSE service specification. This service specification has been designed according to national, and international best practice and so has a strong clinical evidence base.

The case for change is outlined in Chapter 2, which details supportive national guidance from Getting it Right First Time (GIRFT), the Vascular Society for Great Britain and Ireland, and the National Institute for Clinical Excellence (NICE).

The programme process, development of the model of care, and business case has not only been led by clinical, nursing, and medical professionals but had significant involvement, co-production, and engagement from clinical, nursing, and medical professionals throughout.

15.4 Test four: support for proposals from clinical commissioners.

The L&SC ICB and NHSE Specialist Commissioners fully support this change programme and have been engaged for considerable time in the programme and its design.

The Case for Change document has been scrutinised, challenged, and subsequently endorsed at the:

- Vascular Network Board (13th November 2023) of which the membership includes Lancashire and South Cumbria ICB commissioner and NHS England specialist commissioner representation,
- Clinical Advisory Group (31st January 2024), chaired by Dr David Levy, ICB Medical Director, with a panel of clinical and medical ICB commissioner representatives,
- ICB Commissioning Resource Group (29th February 2024), again formed from a panel of clinical and medical ICB commissioner representatives,
- Stage 1 NHS England 'Major Change' Assurance meeting (21st March 2024), with colleagues from across the NHS England specialist commissioner arena.

The proposals outlined in this document have the full support of the Lancashire & South Cumbria Integrated Care Board and NHS England Specialised Commissioning.

Commissioners, providers, and other stakeholders have worked in partnership from an early stage in the development of these proposals and business case.

15.5 Bed closures

As well as the 'four tests' the *Planning, assuring and delivering service change for patients*³⁹ guidance document indicates that any proposals that include a significant reduction in the hospital bed number will be required to meet further conditions (with evidence). In summary:

- Demonstrate that sufficient alternative provision is being put in place alongside or ahead of bed closures (with a workforce to deliver it), and/or
- Show that specific new treatments or therapies will reduce admissions, or
- where a hospital has been using beds less efficiently than the national average, it has a credible plan to improve performance without affecting patient care.

At a 'system level' it can be advised that there is a small net change to the bed base for Vascular patients across the two NHS Provider Trusts – an additional one bed. The 'system' total of acute beds currently supporting vascular elective and non-elective patients is 64 the

³⁹ [NHS England » Planning, assuring and delivering service change for patients](#)

aspirational model proposed in this business case is 65 beds for the Arterial Centre (split into 48 acute and 17 'step down' sub-acute beds).

However, at a hospital level the aim, to transfer vascular inpatient surgical services from ELHT to LTHT, will see a commensurate transfer of ward/bed requirements currently at Royal Blackburn Hospital to LTHT. Thus, there will be a 'closure' of dedicated vascular beds at ELHT but with the 'opening' of the same (or indeed one more) beds at LTHT.

As has been described within this document, the anticipated wider 'clinical reconfiguration' of services across L&SC will likely see the 'reallocation' of estate (and in this case beds) between one clinical service and another. Once closed the vascular dedicated bed base at ELHT will not be reallocated to other services/specialities (either formally or informally).

East Lancashire Hospital Trust will be required to bring plans to- and seek formal discussion with the L&SC ICB Commissioning body if there is a request or consideration to re-purpose that locally closed bed-base (or theatre space, for example). Activity and proposed plans at ELHT will be monitored through regular Commissioner-Provider Trust meetings and analysis to ensure that the proposed changes are maintained.

As advised by the guidance from NHS England '*if the pre-consultation business case does not propose a decrease in inpatient bed numbers therefore this test does not apply*'.

16. Implementing the Vascular Network

As the accountable commissioner for specialised vascular surgery, LSC Integrated Care Board (in partnership with NHS England Specialised Commissioning NW Region) are leading on the LSC&W Vascular Network reconfiguration programme, working closely with the LSC Provider Collaborative and NHS Provider Trusts.

Any service changes within the NHS must abide by NHS England's Assurance Processes as set out in "Planning, assuring and delivering service change for patients"⁴⁰ (March 2018, updated in June 2026).

This assurance process requires commissioners and their local partners to develop clear, evidence-based proposals for service change and to undertake assurance to ensure they can progress (including due consideration for the four tests of service change detailed in section **). This programme has been adhering to that process throughout.

Ownership for the delivery of the reconfiguration will though reside with LTH. A robust governance structure will be required to ensure joint decision-making and collaboration between the future host provider LTH and ELHT, ICB and wider stakeholders.

Once a decision has been made on the future Vascular network and transition of ELHT vascular services to LTH, LTH will work collaboratively with ELHT representatives, other NHS partners, and wider stakeholders to lead work on the service transfer. Along with the development and delivery of a detailed work programme for the service transition, there will be a focus on any further recommendations agreed at the time of the decision making.

Key considerations to ensure successful implementation of plans include:

- Addressing the recommendations agreed at decision making, putting everything in place for a safe, smooth transition.
- Ongoing engagement - partnership working will be invaluable in delivering the future service, maintaining the current levels of activity, and enabling the transition to happen as smoothly as possible, including the management of risks. Continued engagement with staff, patients and their families, and professional organisations will play an important part in this.
- A focus on supporting staff retention and recruitment to help ensure service sustainability.
- Monitor developing/changing clinical pathways.
- Developing locally agreed mitigations/action plans for the areas identified in the risk register and Integrated Impact Assessment (Section **) and particularly to address concerns around travel and access.
- Refining the workforce strategy to address key gaps, ensuring the availability of the workforce to staff the current and future services with appropriate skill mix, training, etc.

16.1 Implementation Planning

The Vascular Programme Network has endorsed an outline schedule for the deliverables that would underpin the establishment of the Vascular Network model of care. That high level programme schedule and key deliverables is shown below.

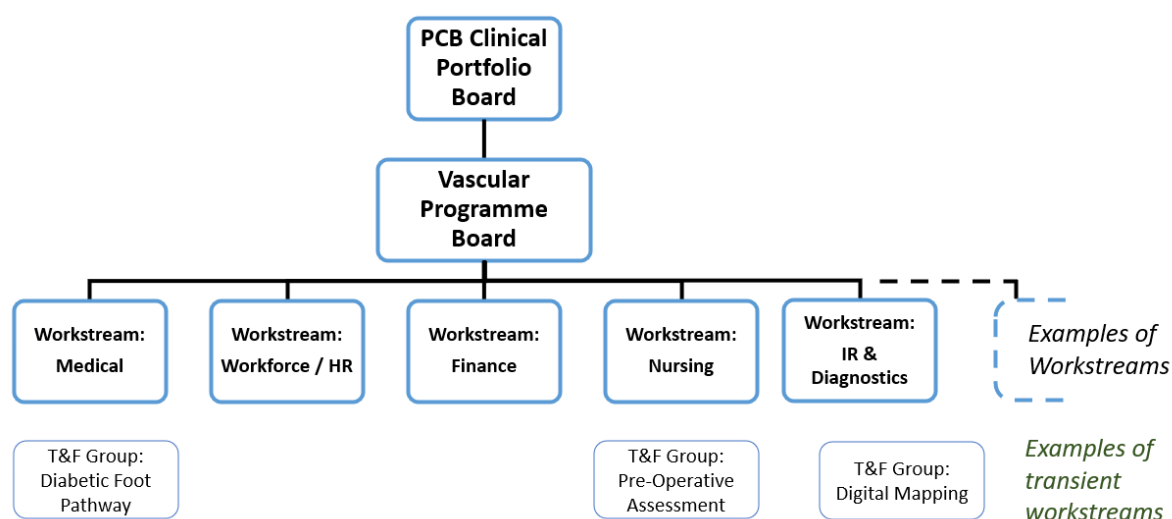
⁴⁰ [NHS England » Planning, assuring and delivering service change for patients](#)

Further detailed work will ensue following the endorsement of the PCBC for the purpose of the Decision Making Business Case. Please accept the following as a draft statement of intention cognisant that timelines and required deliverables will be detailed further subsequently.

Pre-Implementation and Implementation Workstreams

In summary,

- Pre-implementation workstreams, led by senior Clinical representatives from both ELHT and LTHT, will explore focused themes, pathways, and work areas to explore the requirements, changes needed, and future models to implement the network model (using a 'readiness assessment' framework).
- The Implementation Phase will take the foundations from the previous work to implement the Vascular Network model – using the workstreams to deliver, monitor, and report on progress.



The workstream leads will regularly report on any issues, risks, or any untoward impacts to the delivery of the objectives, escalating to the Vascular Programme Board.

To enable the delivery of the pre-implementation work, time and resource commitment from staff within the Vascular directorates has been required, including time and resource from co-dependent and supporting teams (including but not limited to Radiology and Radiography, Anaesthetics, Human Resources, Business Intelligence, Finance, and Transformation teams).

The pre-implementation work has largely entailed transformation and change management and planning i.e.

- detailing the current 'as is' arrangements of services, policies, care pathways, staff roles, information pathways, estate and infrastructure, financial mechanisms etc. across the system (in particular for the two main Vascular Centres of ELHT and LTHT), then
- planning the transformation to the prospective 'to be' arrangements for those services, care pathways, staff roles, infrastructure, etc. against the national and local standards, and performance needs, required for delivering the service and maintaining high quality patient care,

- developing a detailed plan for transitioning the service(s) from the 'as is' through to the future 'to be' blue-print model, facilitating improvements from transformation and delivering qualitative and quantitative benefits and efficiencies, through the opportunities of changes to behaviour, clinical and managerial practice and standardisation or economies of scale.
- ensuring that clinical, operational and programme risks are recorded, reviewed, and mitigated.
- further building collaborative working between the two main Vascular Centres as staff work across sites, inter-organisational referral of patients increases, and pathways, policies and practices are standardised – blending two services into a soon-to-be single Network.

Communication and engagement is key for keeping all stakeholders abreast of the changes, in particular current and prospective patients affected by the establishment of the Network, and staff who will be impacted by the transition to the Arterial Centre.

Detailed engagement with staff will form the basis of a formal consultation process for those staff affected. Human Resource Business Partners will lead on the process of ensuring a valid and transparent consultation with staff such that at the conclusion of a successful consultation process relevant staff will be contracted by the hosting organisation of the Network, LTHT.

Partnership working with the commissioning representatives of the L&SC ICB will set the foundations for the commissioning of the single network contract as part of implementation planning.

Implementation

It will be important that implementation is undertaken in a timely fashion to ensure the benefits associated with the service reconfiguration are realised; timelines will also need to be sufficient to ensure the safe and sustainable transition, delivered in line with the national service specification. The needs of staff, patients and families will be central.

It is envisaged that the Vascular Programme Board will provide direction and oversight for the implementation of the service, including overseeing delivery of recommendations, priorities, realisation of benefits, supporting collaboration between stakeholders, and ensuring risks related to the service transfer are managed and mitigated.

The formal stage boundary for the start of the implementation phase is agreement and sign-off of the Decision Making Business Case.

Upon authorisation to proceed the formal establishment of the Network Model will begin.

- preparations and plans from the previous phase will be enacted to deliver infrastructure and resources for the parity of services across the network sites,
- commissioning of the single network,
- and go live of the transition of services to the Arterial Centre,
- with all the commensurate supporting requirements and interdependencies (as an example, emergency patient pathways in partnership with the North West Ambulance Service),

The ultimate aim of high quality 'business as usual' clinical services as a LSC&W Vascular Network with a single clinical and management workforce.

16.2 Implementation Risk Management

Effective risk management is imperative not only to provide a safe environment and improved quality of care for patients and staff but also to manage and plan publicly accountable health services. The reconfiguration of a clinical service across organisations brings risks which will need to be carefully managed throughout implementation and beyond.

Programme Risks

The Vascular Network Board will ensure that robust arrangements for the on-going management of risk during the key phases of the programme are established. This will include independent assessment and audit activities. Strategies for the active and effective management of risk will include:

- identifying possible risks in advance and putting mechanisms in place to minimise the likelihood of them materialising with adverse effects.
- having rigorous processes in place to monitor the risks, and access to reliable, up to-date information about the risks.
- having agreed actions (with named owners) to control or mitigate against the adverse consequences of the risks if they should materialise.
- ensuring that decision-making processes during the programme are supported by a framework for risk analysis and evaluation.

Previous work to identify specific risks and approaches that the implementation may continue to undertake include:

- structured review meetings involving the programme board, clinical staff, and the programme management team. This will encourage participation and ownership of the risks by key personnel.
- risk workshops – including members of the workstream and wider staff and stakeholder partners.

The programme risks that have been identified have been recorded within a Risk Register. The register is held within a secure online repository as part of the programme office administered and managed user permissions allows programme staff to review, edit and add risks at any time. Each risk is scored from 1 to 5 in terms of increasing likelihood/probability and then the severity/impact of its consequences - this will be the Initial Risk (i.e. risk exposure with no mitigation). An example 'matrix' can be seen below.

	Impact How severe would the outcomes be if the risk occurred?				
	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

Once a risk has been scored, the controls and mitigation actions available will be analysed and an owner identified. The actions required to mitigate the risk will be identified in the risk register, with named responsible officers and information on progress. A Target Risk score will be agreed and included in the register.

A Current Risk score will also be included, showing how progress on mitigation has affected the level of risk aiming towards achieving the Target Risk score. On a monthly basis the Vascular Network Board will review the risk register. All programme risks with a risk score of 15 or more (calculated by multiplying likelihood by consequence) will be escalated on a monthly basis to the Provider Collaborative Clinical Programme Board (PCCPB). The role of the PCCPB will be to assure itself that all risks are accurately identified and mitigated adequately.

16.3 Benefits Realisation

The ultimate responsibility for the delivery of the programme benefits rests with the Senior Responsible Officer for the programme. The Vascular Network Board will have ownership of an agreed benefits realisation strategy setting out arrangements for the identification of potential benefits, their planning, modelling, and tracking. It will also include a framework that assigns responsibilities for the actual realisation of benefits throughout the key phases of the programme.

Monitoring of Benefits Realisation

Implementation will include clear monitoring of realised benefits.

It will entail:

- clinically led, clear and comprehensive implementation plans
- a pragmatic benefits realisation framework, with associated governance arrangements and processes to:
 - o formally track progress of benefits realisation
 - o identify actions in response to any benefits not being realised
 - o define reporting requirements visible to all organisations involved, patients and the public.

All benefits will be entered into a Benefits Tracker (held within the Provider Collaborative folder structure). For each benefit this will include the following information that will support identification, planning and realisation:

- Benefit Description, Beneficiary and/or Stakeholder
- Benefit Measure / KPI (Key Performance Indicator)
- Type of Benefit / KPI
- Benefit Measure Source
- Benefit Baseline and Target
- Unit of Measure and Measurement Frequency
- Status

On a monthly basis the Operational Implementation Group will review the benefits register. Any expected benefits that are 'off-track' will be escalated to the next Vascular Network Board. The role of the Vascular Network Board will be to assure itself that all benefits are accurately identified, and their realisation is being effectively managed.

Realising the benefits of implementing the recommended model of care

The complete benefits of the proposed programme, including the ability for the vascular network to focus on positive changes in patient care (i.e. from centralising the highest risk surgical procedures on one site), workforce and recruitment, research, and innovation, are likely to take over a year from going live to come to fruition as the new service beds in.

It is sometimes difficult to relate benefits to specific changes but measuring benefits alongside implementation plans will assist. Some improvements may be attributable to many factors, and not seeing particular improvements expected from a particular measure may not necessarily mean that the measure has been unsuccessful. Other factors may have arisen which prevented the expected improvements.

Further work on the approach to monitoring benefits realisation will continue during the programme and engagement with stakeholders. Metrics used to measure realisation of benefits will be appropriately aligned with the Vascular Society's quality metrics.

17. List of Appendices

The following appendices are referenced within the main body of text and/or contribute to the wider narrative of the document.

Appendix	Brief	Status
A	Service Dependencies Framework	Following pages
B	Management of Patients Presenting to ED with a Foot Problem	Following pages
C	GIRFT (2018) Recommendations	Following pages
D	National Quality Standards and Guidance	Following pages
	Patient Feedback Report Spring 2019	Available upon request.
	Lancashire Teaching Hospitals NHS Foundation Trust Travel Plan – November 2023	Available upon request
	ICB Quality Impact Assessment – submitted to ICB Quality Management Panel – 21/05/24 (following initial presentation and feedback 16/05/24).	Available upon request
	Equality and Health Inequalities Impact and Risk Assessment (EHIIRA) – undergone review, feedback, and updates from ICB Inclusion Team July 2023.	Available upon request
	ICB Sustainability Impact Assessment – signed off after review by Allison Sathiyathan (L&SC ICB) 04/06/24	Available upon request
	Risk Register – updated at least monthly through the Vascular Network Board	Dynamic: available upon request.
	Joint LTHT/ELHT Therapies Position Statement (May-23).	Available upon request
	Case for Change – Stage 1 NHSE sign off following meeting on 21st March 2024	Available upon request
	Letter (dated 17/04/24 following NHSE Stage 1 Assessment of Case for Change	Available upon request
	Vascular: Listening to Communities Report 6th November 2023	Available upon request
	ICB Data Protection Impact Assessment – online project submission made 13/05/24 – endorsed in writing 09/09/24 by ICB IG Team.	Available upon request.
	Consultant and Registrar on call rotas	Available upon request.
	Communications and Engagement Strategy	Available upon request.
	Pre-consultation and Consultation Planning	Available upon request.

Appendix A – Service Interdependencies (including the Clinical Co-Dependencies of Acute Hospital Services: A South East Coast Clinical Senate Review [Dec 2014 – updated 2024])

Co-dependencies of vascular acute services on other clinical specialties and functions with grid co-dependencies: colour rating scale (key overleaf).

	COLUMN TITLES: Clinical specialties and functions supporting the major acute services in the rows																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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CO-DEPENDENCIES DEFINITIONS: COLOUR KEY	
The colour describes the dependency of the service in the row, on the support service in the column. Note that both the Purple and Red dependencies describe column services that should not require the patient to move hospitals	
PURPLE	
Service should be co-located (based) in same hospital	
RED	
Service should come to patient (patient transfer not appropriate), but could be provided by visiting/inreach from another site (either physically, or via telemedicine links) if not based in the same hospital	
2	Within 2 hours
4	Within 4 hours
24	Within 24 hours
	Not specified
AMBER	
Ideally on same site but could alternatively be networked via robust emergency and elective referral and transfer protocols	
GREEN	
Does not need to be on same site. Appropriate arrangements are in place to obtain specialist opinion or care	

The matrix presented in this appendix was developed to provide advice to commissioners and providers alike, trying to give guidance and assurance for developing or transforming services to facilitate having the right staff in the right place at the right time with the right skills.

The full document can be found at [The-Clinical-Co-Dependencies-of-Acute-Hospital-Services-Final-Summary-of-What-to-Find-in-the-Main-Report.pdf](#)

A. Outward Interdependences for Vascular Surgery (Arterial Centre ‘Hub’ and Network Hospital ‘spoke’)

The following table outlines the services that Vascular Surgery is supported by (‘dependent upon’) in order to function – this was developed within LSC system as a more day to day view of interdependencies

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
Accident & Emergency / Emergency Medicine	Shared services & patient pathways	Hub: Very High Spoke: High	Consultant led 24-hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support to Vascular Surgery. Spoke: Each main spoke site has an A&E service, but emergency patients will be transferred directly to the hub.
Acute & General Medicine	Shared services & patient pathways	Hub: Very High Spoke: High	Consultant physician-led hospital service that provides review and management of patients presenting with emergency or urgent medical conditions, and their inpatient care. Deliver rapid diagnosis, treatment and improved outcomes for adult patients with acute medical illnesses. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions.
Elderly Medicine	Patients / Service Users	Hub: High Spoke: Medium	Consultant-led inpatient service provision for elderly patients. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Respiratory Medicine	Patients / Service Users	Hub: High Spoke: Medium	Consultant-led inpatient service provision. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Gastroenterology	Patients / Service Users	Hub: High Spoke: Low	Consultant-led inpatient service provision. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that	Hub: Service is co-located within the same centre to provide direct support.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			appropriate arrangements are in place to obtain specialist opinion or care.	Spoke: Non-arterial sites have local access to this service.
Urgent Gastrointestinal Endoscopy (Upper/Lower)	Patients / Service Users	Hub: High Spoke: Low	Consultant-led inpatient service provision. Early endoscopy after acute upper gastrointestinal bleeding reduces re-bleeding and the need for surgery, for example. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions.
Diabetes & Endocrinology	Shared services & pathways	Hub: High Spoke: High	Consultant-led inpatient service provision. Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but emergency patients will be transferred to the hub as required for inpatient interventions.
Rheumatology	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Ophthalmology	Patients / Service Users	Hub: Medium Spoke: Medium	Consultant-led inpatient service provision. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Dermatology	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision.	Hub: Service is co-located within the same centre to provide direct support.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Spoke: Non-arterial sites have local arrangements for the provision of this service.
Gynaecology	Patients / Service Users	Hub: Medium Spoke: Medium	Consultant-led inpatient service provision. Although uncommon, surgical gynaecological procedures may result in vascular injury. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions.
General Surgery (Upper & Lower Gastrointestinal)	Shared services & patient pathways	Hub: Very high Spoke: Very high	Consultant-led inpatient service provision (including surgery). Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions.
Trauma & Orthopaedics	Shared services & patient pathways	Hub: High Spoke: High	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions. For note: The LTH hub is a regional specialist as a Major Trauma Centre.
Urology	Patients / Service Users	Hub: High Spoke: Low	Consultant-led inpatient service provision (including surgery).	Hub: Service is co-located within the same centre to provide direct support.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions.
Ear, Nose and Throat	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service. For note: Work is underway to provide a hub-spoke surgical network approach incorporating this service.
Maxillofacial Surgery	Patients / Service Users	Hub: Low Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service. For note: Work is underway to provide a hub-spoke network approach incorporating this service.
Neurosurgery	Patients / Service Users	Hub: Low Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Neurosurgery and Neurology. Spoke: Non-arterial sites have local arrangements for the provision of this service.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
Plastic Surgery	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Plastic Surgery and Burns. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Burns	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Plastic Surgery and Burns. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions.
Critical Care (Adult)	Shared services & patient pathways	Hub: Very high Spoke: High	ITU/HDU beds and consultant-led care. Provides capacity to treat and prevent poor outcomes (including death) of the small numbers of patients that are critically ill following trauma or complex surgery. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will have been transferred to the hub as required for inpatient surgical interventions.
General Anaesthetics	Shared services & patient pathways	Hub: Very high Spoke: Very high	Consultant-led inpatient service provision. General <i>anaesthesia</i> is used for <i>surgical</i> procedures where it is safer or more comfortable for patients to be unconscious.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			Arterial Centre hub: Service should be co-located in the same hospital.	patients will be transferred to the hub as required for inpatient surgical interventions.
Acute Cardiology	Shared services & patient pathways	Hub: Very high Spoke: Medium	Consultant-led inpatient service provision. Arterial Centre hub: Service should be co-located in the same hospital. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions. For note tertiary cardiac services are provided at Victoria Hospital at BTH.
Thoracic Surgery	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions.
Cardiac Surgery	Patients / Service Users	Hub: Medium Spoke: Low	Consultant-led inpatient service provision (including surgery). Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions. For note: Tertiary cardiac services are provided at Victoria Hospital at BTH.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
Hyper-acute / Acute Stroke Unit	Shared services & patient pathways	Hub: Very high Spoke: Medium	The HASU closely monitors and stabilises the medical condition of patients newly diagnosed with a stroke with the stroke unit providing ongoing care of stroke inpatients after hyper-acute care. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Stroke facilities are based within the hub. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions.
Nephrology/Renal Medicine	Patients / Service Users	Hub: High Spoke: Low	Consultant-led inpatient service provision. Renal dysfunction can have a negative impact in patients undergoing vascular surgery and endovascular therapy. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Renal (kidney disease). Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions. For note: Tertiary kidney disease services will be provided at Royal Blackburn Hospital, ELHT.
Inpatient Dialysis	Patients / Service Users	Hub: Medium Spoke: Low	Provision of renal haemodialysis. Vascular access is one of the most important aspects of kidney care. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Renal (kidney disease). Spoke: Non-arterial sites have local arrangements for the provision of this service. For note: Tertiary kidney disease services will be provided at Royal Blackburn Hospital, ELHT.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
Acute Oncology	Patients / Service Users	Hub: Low Spoke: Low	Consultant-led inpatient service Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Cancer (including radiotherapy, drug therapies and cancer surgery). Spoke: Non-arterial sites have local arrangements for the provision of this service.
Palliative Care	Patients / Service Users	Hub: High Spoke: Medium	Consultant-led inpatient service looking to improve the quality of life of patients (and their families) facing the problem of life-threatening illness. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
Neurology	Patients / Service Users	Hub: Low Spoke: Low	Consultant-led inpatient service Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local arrangements for the provision of this service.
X-Ray and Diagnostics	Shared services & patient pathways Equipment	Hub: Very high Spoke: Very high	Diagnostic equipment and staff to provide patient disease and treatment imaging of blood vessels. Offers immediate reporting, to enable rapid diagnosis for conditions such as acute stroke and major vessel disease. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
CT Scan	Shared services & patient pathways Equipment	Hub: Very high Spoke: Very high	Diagnostic equipment and staff to provide patient disease and treatment imaging of blood vessels. Offers immediate reporting, to enable rapid diagnosis for conditions such as acute stroke and major vessel disease. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
MRI Scan	Shared services & patient pathways Equipment	Hub: Very high Spoke: Very high	Diagnostic equipment and staff to provide patient disease and treatment imaging of blood vessels. Offers immediate reporting, to enable rapid diagnosis for conditions such as acute stroke and major vessel disease. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Interventional Radiology	Shared services & patient pathways Equipment	Hub: Very high Spoke: Very high	Collaborative working which supports vascular interventions through the use of diagnostic image guided patient procedures with pre- and post-procedural care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions.
Laboratory/ Clinical Microbiology / Infection Services	Patients / Service Users	Hub: High Spoke: Medium	Consultant-led provision of clinical advice on infections, antibiotics and infection control. Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Urgent Diagnostic Haematology & Biochemistry	Patients / Service Users	Hub: Medium Spoke: Medium	Laboratory-based haematology and biochemistry diagnostics for the most commonly required urgent tests (including near patient testing).	Hub: Service is co-located within the same centre to provide direct support.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			Non-arterial hospital 'spoke' site: Service ideally on the same site but could be networked by elective referral and transfer protocols.	Spoke: Non-arterial sites have local access to this service.
Occupational Therapy	Shared services & patient pathways	Hub: Very high Spoke: Very high	Nurse-led service provision supporting physical and mental rehabilitation following vascular surgery. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Physiotherapy	Shared services & patient pathways	Hub: Very high Spoke: Very high	Nurse-led service provision supporting physical and mental rehabilitation following vascular surgery. Arterial Centre hub: Service should be co-located in the same hospital.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Speech and Language	Patients / Service Users	Hub: High Spoke: High	Nurse-led service provision supporting physical and mental rehabilitation following vascular surgery. Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Dietetics	Patients / Service Users	Hub: High Spoke: High	Nurse-led service provision supporting physical and mental rehabilitation following vascular surgery. Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service.
Acute Mental Health Services	Patients / Service Users	Hub: High Spoke: High	Liaison psychiatry/ psychological medicine services. Consultant-led inpatient service supporting improvement to the quality of care, dignity and quality of life for patients following major vascular surgery.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service following repatriation.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	
Patient Transport Services	Patients / Service Users	Hub: High Spoke: High	Supporting prompt and secure patient transportation/repatriation following discharge between hub and spoke and local hospitals to community services/patient home. Non-arterial hospital 'spoke' site: Service should come to the patient or be co-located, but if not can also be provided from another site.	Hub: Service provided to the centre provide direct support to patients. Spoke: Service provided to the non-arterial sites giving direct support to patients.

B. Inward Interdependences for Vascular Surgery (Arterial Centre ‘Hub’ and Network Hospital ‘spoke’)

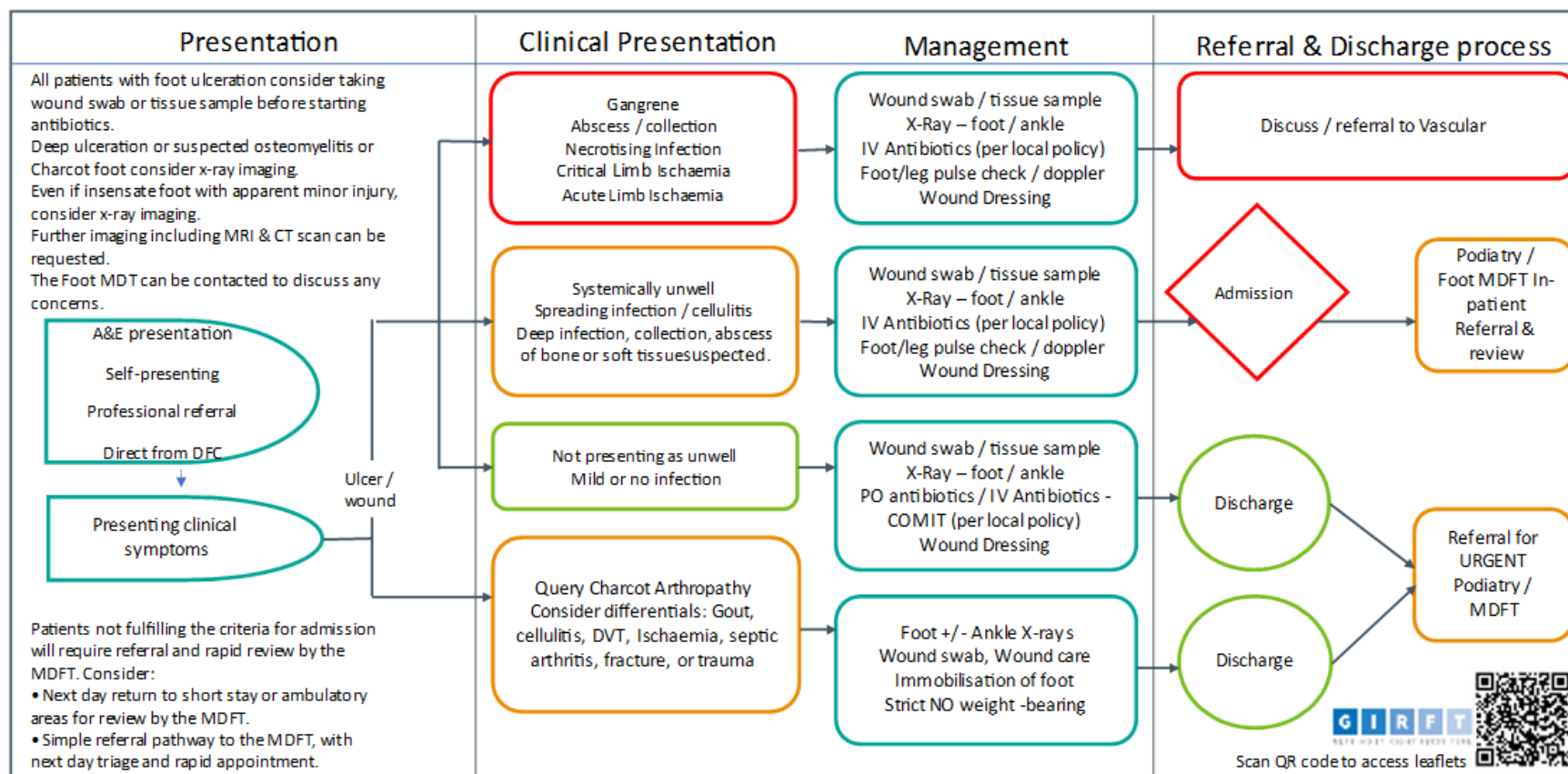
The following table outlines those services that are dependent upon Vascular Surgery in order to function.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
Major Trauma / Trauma Unit	Shared services & patient pathways	Hub: Very high Spoke: Low	Importance of the availability and guidance from vascular consultants/surgeons and surgical intervention for patients following major trauma.	Hub: Service is co-located within the same centre to provide direct support to Vascular Surgery. Spoke: Each main spoke site has an A&E service, but emergency patients will be transferred directly to the hub.
Cardiology: Interventional (Primary PCI for STEMI & non-STEMI) & non- interventional.	Shared services & patient pathways	Hub: Medium Spoke: Medium		
Cardiology: Interventional - structured heart disease (including TAVI, Mitraclips)	Shared services & patient pathways	Hub: Very high Spoke: Medium		
Cardiac Surgery	Shared services & patient pathways	Hub: Very high Spoke: Medium	Consultant-led inpatient service provision (including surgery). Non-arterial hospital ‘spoke’ site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient surgical interventions. For note: Tertiary cardiac services are provided at Victoria Hospital at BTH.
Hyper-acute / Acute Stroke Unit	Shared services & patient pathways	Hub: Medium Spoke: Low	The HASU closely monitors and stabilises the medical condition of patients newly diagnosed with a stroke	Hub: Service is co-located within the same centre to provide direct support.

Interdependent Service/ Programme Name	Type of Dependency	Level of Dependency / co-location	What is the relationship and details of the interdependency	How will the interdependency be managed?
			with the stroke unit providing ongoing care of stroke inpatients after hyper-acute care. Arterial Centre hub: Service should be co-located in the same hospital.	Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions.
Renal Services Inpatient Hub	Shared services & patient pathways	Hub: Medium Spoke: Very high	Consultant-led inpatient service provision. Renal dysfunction can have a negative impact in patients undergoing vascular surgery and endovascular therapy. Non-arterial hospital 'spoke' site: Service does not need to be on the same site; importance that appropriate arrangements are in place to obtain specialist opinion or care.	Hub: Service is co-located within the same centre to provide direct support. For note: The LTH hub is a regional specialist for Renal (kidney disease). Spoke: Non-arterial sites have local access to this service, but relevant patients will be transferred to the hub as required for inpatient interventions. For note: Tertiary kidney disease services will be provided at Royal Blackburn Hospital, ELHT.

Appendix B – Management of Patients Presenting to ED with a Foot Problem

Sourced from the Blackpool Teaching Hospitals Diabetic Foot MDT pathway.



Appendix C - Full list of GIRFT (2018) Recommendations⁴¹

- Ensure all units are operating within a hub and spoke network model, as defined by the national service specification, emulating the most advanced hub and spoke models that exist currently. This in turn should deliver improved early decision-making capability and access to diagnostics, allowing early treatment, prioritised by degree of urgency.
- Reduce the time from presentation to surgery for all patients in need of CEA to seven days from presentation.
- Accelerate the referral to treatment time for all patients identified as in need of AAA surgery, whether identified via a screening programme or any other route.
- Continue on-going work to promote the National AAA Screening Programme (NAAASP) to help ensure early identification, enabling treatment before emergencies occur.
- Increase the early availability of revascularisation surgery where lower limb ischaemia is present, to help reduce amputation rates.
- Ensure optimum list scheduling.
- Assess the need and options to increase the vascular surgery and interventional radiology workforce to support sustainable delivery of recommendations 1-5.
- Improve pre-habilitation for AAA, PVD and CEA, particularly with regards to perioperative medical input.
- Reduce avoidable readmissions by improving perioperative care and follow up.
- Ensure case ascertainment to the National Vascular Registry reaches more than 85%.
- Improve quality of routine data entry and collection.
- Improve coding for complex aneurysms emergency vascular surgical activity.
- Improve insight into patient experience in vascular services, to support clinically led improvement.
- Require at appraisal surgeon-level intelligence on activity and outcomes.
- Increase use of ward-based recovery to a level of approximately 90%.
- Enable improved procurement of devices and consumables through cost and pricing transparency, aggregation and consolidation, and the spreading of best practice.
- Reduce litigation costs by application of the GIRFT programme's five-point plan.

⁴¹ https://gettingitrightfirsttime.co.uk/wp-content/uploads/2018/02/GIRFT_Vascular_Surgery_Report-March_2018.pdf

Appendix D - Quality and Clinical Standards and Guidance

The National Service Specification⁴² sets out a number of clinical and quality standards for Vascular services.

Description	Target	Reference
The Vascular Service should:		
Be provided by organising vascular services into regional networks, consisting of a hub hospital providing arterial surgery and complex endovascular interventions, and spoke hospitals providing venous surgery, diagnostic services, vascular clinics, rehabilitation, and where appropriate, day case angioplasty.	Delivery via integrated vascular networks in a hub and spoke model.	NVR
Ensure dedicated vascular teams available 24 hours a day, seven days a week. Each surgeon should have an appropriate arterial workload, which will necessitate an appropriate catchment area to generate sufficient case volume. (A minimum population of 800,000 would be appropriate but for a world class service a larger catchment area will be required).	Population size 800,000 and above 24/7 vascular consultant rota of minimum 1:6. IF population > 800,000, rotas of 1:8 or greater	NVR
Partake in the provision of a 24/7 vascular interventional radiology rota (may need to be organised on a network wide basis) to ensure that interventional radiology services for other specialties, in local hospitals, are not destabilised.	24/7 Vascular IR rota	NVR
Patients with vascular disorders will be cared for by specialist vascular teams. These teams will include vascular surgeons, consultant anaesthetists, interventional vascular radiologists, vascular scientists, nurses, radiographers, physiotherapists, occupational therapists and rehabilitation specialists		Vascular Service Specification
All vascular consultants including interventional radiologists working in vascular networks must routinely enter data onto the following databases/audits: • The National Vascular Database • The Carotid Endarterectomy Audit (CEA) • National Vascular Registry	Data entry on NVR – compulsory in England	Vascular Service Specification
All arterial cases and major amputations will be entered onto the NVR in a timely fashion and HES ascertainment performed annually		NVR/HES
Hubs to provide access to CT 24/7 within 30 minutes of patient arrival		GIRFT
Hubs to provide rapid access to theatre for ruptured AAA, within 30 minutes, covering staff and facilities for both open and EVAR modalities, ideally in a hybrid theatre.		GIRFT

⁴² Specialised Vascular Services service specification, Adults,
<https://www.england.nhs.uk/commissioning/spec-services/npc-crg/group-a/a04/>

Description	Target	Reference
Treatment		
All deaths and complications will be reviewed at regular meetings dedicated to this purpose		NHSE
AAA - ≥80 % of subjects with AAA ≥ 5.5cm deemed fit for intervention operated on by vascular specialist within eight weeks	Elective AAA 8 weeks	NAAASP
Inpatients should be seen and assessed within 48hrs, and emergency department physicians should have access to urgent next available outpatient appointments at the NA and arterial sites.	Urgent outpatient assessment – 24-48 hours	POVS 2018
Carotid endarterectomy (CEA) can reduce that risk of a stroke if surgery is performed quickly following the onset of symptoms. The NICE guideline on secondary stroke prevention (CG68) recommends that patients have surgery within 14 days of their first symptoms. Delay from symptom to treatment for suitable patients has now been revised to 7 days - GIRFT.	Carotid endarterectomy has been 7 days from event	National Stroke Strategy
Emergency admissions to be reviewed by a Vascular Surgeon within 12 hours.	DM and Pain team – 12 hours	POVS 2018
Peripheral Arterial Disease – Lower Limb Bypass (PAD) Death 30 days after surgery <5%	Lower limb bypass ≤5 – NVR	NVR
Multi-Disciplinary Team		
The vascular service will provide a diagnostic and treatment service through a multidisciplinary team model.		NVR
The MDT will include vascular surgeons and interventional radiologists and may include vascular nurses, radiographers, radiology nurses, other medical specialities, sonographers and anaesthetists.	Vascular radiographers, sonographers, nurse specialists, podiatrists, limb fitting and rehab, care of the elderly healthcare professionals required. Requirement of vascular anaesthesia represented at MDT's	Vascular Service Specification
Any reconfiguration must take full account of Diabetic Foot Services at Non-Arterial Centres, ensuring that they are fully supported by the vascular team. The frequency of sessional commitments will need to be negotiated locally according to local requirements and built into local commissioning contracts and job plans for vascular consultants at Non-Arterial Centres. These services should be headed by diabetologists, with vascular involvement for MDT meetings and combined clinics. Inpatients with diabetic foot disease should remain under the care of diabetologists, with vascular review provided as required.	Multi-disciplinary diabetic foot team	Vascular Service Specification

Description		Target	Reference	
Abdominal Aortic Aneurysm (AAA)				
Endovascular aneurysm repair (EVAR) will only be performed in specialist centres by clinical teams experienced in the management of AAAs.			Vascular Service Specification	
Vascular centres providing post-screening AAA repair must meet all the standards set out by the NAAASP			Vascular Service Specification	
The 30d mortality should be below $\leq 3.5\%$ for open and less than 1% for endovascular repair		AAA elective mortality $\leq 3.5\%$ - NVR	NVR	
The rate of unplanned return to theatre will be $<5\%$			NVR	
The median LOS until medically fit for discharge should be 4 days for Endovascular Aneurysm Repair and 7 days for open repair			NVR	
Metric	Agency	Definition	Target	Acceptable
Mortality	NVR	Unit overall elective AA in hospital mortality (by end 2013)	$\leq 3.5\%$	$<6\%$
Length of stay	NVR	LOS for elective AA repair	$<7d$	$<10d$
Number of AA repairs per arterial centre	NVR	Number of AAA repairs (total – elective and emergency)	>60	>50
Mortality: elective repair	NVR	All-cause mortality at 1 year (collect from ONS)	$\leq 15\%$	$\leq 20\%$
Time to treatment	NAAASP	% of subjects with AAA $\geq 5.5cm$ deemed fit for intervention operated on by vascular specialist within eight weeks	$\geq 80\%$	$\geq 60\%$
Carotid Endarterectomy				
Symptomatic patients will undergo intervention within <14 days of referral		<14 days	GIRFT	
The rate of unplanned return to theatre will be $<2\%$			NVR	
The median postoperative LOS until surgically fit for discharge will be $<48hrs$			NVR	
The postoperative stroke rate will be $<2\%$			NVR	
The postoperative death rate will be $<1\%$			NVR	
The postoperative combined stroke/death rate will be $\leq 4\%$		Carotid symptomatic patients 30 day stroke death rate $\leq 4\%$ - NVR	NVR	
The postoperative permanent cranial nerve injury rate will be $<1\%$			NVR	
Metric	Agency	Definition	Target	Acceptable
Stroke rate	NVR*	Stroke rate 30 days after surgery	$<2\%$	$<3\%$
Mortality	NVR	Death rate 30 days after surgery	$<1\%$	$<2\%$
Referral	National Stroke Strategy	Delay from symptom to treatment for suitable patients (by 2013)	<7 days	<14 days

Description		Target	Reference		
Lower Limb Revascularisation					
The 30d mortality for elective revascularisation will be 0.5%	Elective lower limb angioplasty 0.5%	NVR			
The unplanned reintervention rate will be ≤5%	Emergency lower limb angioplasty ≤5%	NVR			
Critical Limb Ischaemia					
Patients referred with suspected CLI will be discussed with a consultant within 12 hours	Consultant review – 12 hours	POV			
Patients diagnosed with CLI will be admitted within 48hrs of decision to admit	CLI – admit within 48 hours	POV			
Patients diagnosed with CLI will undergo initial imaging within 48hr of admission	Investigation in 48 hours	STAMP			
Interventions for CLI will be performed within 5 days of decision to intervene	Revascularization in 5 days	POVS			
Outpatient referrals will be reviewed by VS within one week		STAMP			
Outpatients will undergo initial imaging within 7 days of being seen in clinic	For outpatients it is 7 days for assessment	STAMP			
Outpatients will wait no longer than 2 weeks for intervention following decision to intervene	For outpatients it is 14 days for treatment	POV			
Peripheral Arterial Disease – Lower Limb Bypass (PAD)					
	Metric	Agency	Definition	Target	Acceptable
	Mortality	NVR	Death 30 days after surgery	<5%	<10%
	Amputation free survival	NVR	Amputation free survival 1 year post surgery	Needs benchmarking in NVR	
Lower Limb Amputation					
	Metric	Agency	Definition	Target	Acceptable
	Mortality	NVR	In hospital mortality	5%	≤15%
	Procedure	VSGVI QIF*	Patients should undergo surgery on day time lists (between 0800 and 2000)	90%	75%
	Procedure	VSGBI QIF	Ration of below to above knee amputation in unit	>1	1
	Outcome	VSGBI QIF	Rate of amputation revision to higher level	<10%	<12%
Re-vascularisation and Amputation					
Once a decision to perform URGENT lower limb amputation has been made the surgery should be done within 48 hrs	Procedure in 48 hours from decision to amputation	AAAQIP			

Description	Target	Reference
A consultant surgeon will perform or oversee (theatre presence) all non-emergency major amputations		Vascular Service Specification 2017
Anaesthetic management of patients undergoing major lower limb amputation should be provided by a post fellowship (FRCA) senior anaesthetic trainee or consultant anaesthetist.		The Royal College of Anaesthetics
The ratio of BKA to AKA procedures will be >1	BKA to AKA ratio >1	NVR
Vascular Interventional Radiology		
All Vascular Interventional Radiologists with VIR on call duties will take part in regular elective vascular sessions in both radiology suite and hybrid theatres		Vascular Service Specification
Anaesthesia		
All anaesthetists undertaking elective vascular lists will be a recognised Vascular Anaesthetists		The Royal College of Anaesthetics
The Department of Anaesthesia will be accredited by the Royal College of Anaesthesia as a specialist vascular service		The Royal College of Anaesthetics
All Consultant Vascular Anaesthetists will have regular assignment to elective vascular operating sessions		The Royal College of Anaesthetics
All Vascular elective operating sessions will have a Consultant Vascular Anaesthetist assigned to cover		The Royal College of Anaesthetics
Allied Health Professionals		
An individual rehab plan will be created for each patient within 1 working day of admission to the ward		POVS