

# NHS Ayrshire & Arran



<b>Meeting:</b>	<b>Ayrshire and Arran NHS Board</b>
<b>Meeting date:</b>	<b>Monday 17 August 2020</b>
<b>Title:</b>	<b>West of Scotland Regional Vascular Service, NHS Ayrshire &amp; Arran, NHS Dumfries &amp; Galloway and NHS Lanarkshire Network</b>
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## 1. Purpose

This is presented to the Board for:

- Decision

This paper relates to:

- Government policy/directive
- NHS Board/Integration Joint Board Strategy or Direction

This aligns to the following NHSScotland quality ambition(s):

- Safe
- Effective

## 2. Report summary

### 2.1 Situation

NHS Ayrshire & Arran's (NHSA&A) Vascular Surgery Services currently provide outpatient, diagnostic, day surgery, inpatient care and treatment and rehabilitation at University Hospital Ayr (UHA) for the citizens of Ayrshire and Arran. This includes Tier 2 (non-arterial day case and outpatient activity) and Tier 3 (complex inpatient care) vascular services with the exception of some endovascular Tier 3 activity provided at University Hospital Hairmyres (UHH) on behalf of NHSA&A.

A Heads of Terms Agreement is in place between NHS Lanarkshire (NHSL) and NHSA&A to develop shared delivery of vascular services with an agreed aim of establishing a Regional Centre of Excellence for Vascular Surgery at UHH. In the preceding 18 months there has been extensive engagement with key stakeholders which is reflected in the West of Scotland Regional Vascular Service, Business Case (Appendix 1).

It was agreed in the first instance that it would be prudent to utilise a two step approach, with the first step to develop and implement a shared on call rota at the weekends. This rota was implemented in July 2019.

It was envisaged that step two (the delivery of a Hub and Spoke Network with Arterial Centre at UHH) would be implemented with a November 2020 timescale. However, the national response required to support COVID-19 mobilisation planning and subsequent delays to capital planning requirements; namely the build required to provide a Hybrid Theatre at UHH, has necessitated a revised implementation date of April 2021.

## **2.2 Background**

The Quality Framework for Vascular Services (2011) outlined the need to develop and provide services in accordance with the changing demographic profile of those citizens requiring vascular care. This included a series of Best Practice recommendations for a clinical networked model.

Notwithstanding the need for change in the delivery of vascular services as outlined in this report other key drivers for change included declining numbers of Vascular Consultants to fill outstanding vacancies together with a reduction in the numbers in training. This was further compounded by a lack of Interventional Radiologists in post and the numbers in training which would not be sufficient to meet the increasing demands on this service.

Since this time a series of both local and regional discussions have taken place to determine how best to deliver these recommendations whilst continuing to ensure the provision of a sustainable high quality vascular service.

In 2018 the West of Scotland (WoS) Vascular Review Working Group was established to formally review the National Quality Framework and the outcomes from the local and regional deliberations. The group proposed a “hub and spoke” networked model of care for the delivery of vascular services across the West of Scotland and this proposal was endorsed by the WoS Chief Executives in October 2018.

This model describes the development of 2 hubs situated at the Queen Elizabeth University Hospital (QEUH) and UHH. In line with this approach it was agreed that NHSA&A Tier 3 vascular services (complex inpatient care) would be provided at UHH on a 24/7 basis. All non arterial day case activity and outpatient services will continue to be delivered within NHS A&A.

The NHS Ayrshire and Arran Board received a presentation from the Associate Medical Director for Acute Services in April 19 outlining the service model of care and the ambition of the West of Scotland Vascular network.

## **2.3 Assessment**

As previously discussed NHSA&A will continue to provide all Outpatient and Day Case activity for the citizens of Ayrshire and Arran. In 2019 NHSA&A saw 1977 new outpatients with a further 2826 review outpatients. In addition there were 398 Day Cases this combined activity resulted in approximately 5200 patient episodes across these pathways. Similarly in 2019 there were 509 patients who received their care and

treatment on an inpatient basis who will now receive their care and treatment at UHH under this proposal.

On completion of their acute inpatient vascular care and the concurrent acute rehabilitation required at UHH patients will either be discharged directly to their own homes where this is appropriate or be repatriated back to NHSA&A for further ongoing rehabilitation.

To support this and in line with our Caring for Ayrshire ambitions a Short Life Working Group (SLWG) has been established to develop an Allied Health Professional (AHP) Model of Care. This will be delivered across all three Health & Social Care Partnership (H&SCP) areas thereby ensuring that NHSA&A continues to deliver safe and effective care and treatment as close to home as possible following completion of acute vascular care needs.

Those patients who require ongoing medical intervention which is not vascular in nature will also be repatriated to NHSA&A to ensure that they too continue to receive safe and effective care and treatment as close to home as possible.

It is agreed that all future Consultant posts will be recruited to NHSL, with the network having responsibility to ensure robust job plans provide cover for vascular input at the spoke sites.

Where gaps arise within the Consultant rota priority will be given to providing adequate cover to deliver care to emergency and clinically urgent patients. Locum staffing cover will be used to make up any capacity shortfalls that arise.

Where there are unavoidable delays e.g. Consultant gap; cover will be provided from across the network to ensure equity of service provision to the citizens of all 3 health Boards.

In order to support this proposed model of care a series of staff engagement meetings will take place supported by Human Resources (HR) and Staff Side colleagues in line with NHSA&A Organisational Change Policy. It is recognised however that there is a possibility that the majority of staff will be reluctant to transfer to UHH and therefore there may be double running costs. The Associate Nurse Director is working through this detail and anticipated suitable vacancies.

As previously discussed a local rehabilitation service will need to be developed to ensure that patients can be repatriated from UHH within the timescales agreed as part of the service model and in line with our Caring for Ayrshire ambitions. The modelling work for this is underway and the initial assessment is around 1 to 2 patients per week. The cost of this rehabilitation service is still to be determined and may result in additional investment.

The model of care developed for the acute episode provides additional input from an AHP perspective compared to current arrangements.

NHS Ayrshire & Arran continually strives to design and implement services and policies which meets the diverse needs of our communities ensuring that none are disadvantaged over others. That ethos is inherent in our approach to this proposed service development and to that end an Equality Impact Assessment (EQIA) has been conducted (Appendix 2).

The Board engagement lead will support the relevant stakeholder engagement process, this plus the staffing implications will be included in a detailed programme plan.

### **2.3.1 Quality/patient care**

This proposal will deliver a service which meets in its entirety all of the recommendations from the The Quality Framework for Vascular Services (2011) and will therefore enable the delivery of a safe and sustainable model of care which reduces variation in the delivery of that care and minimises the risk of disease development and progression for this cohort of patients. This gold standard service will deliver improved patient experience and outcomes.

Whilst we strive to provide care closer to home where possible it is recognised that for the acute episode of inpatient care this will be delivered at UHH, however this is mitigated by ensuring that we have the right staff with the right skills providing the right care at the right time.

### **2.3.2 Workforce**

NHSA&A currently has two Consultant Vascular Consultants in a permanent post with one further NHS Locum Consultant post. The third post is currently vacant. It is anticipated that the locum will remain in post until such time as the service moves to UHH. All future consultant appointments will have their base at UHH.

There is an ANP within the vascular service who is currently predominantly ward based. After reconfiguration the ANP will become part of the general ANP team.

The vascular beds in UHA will close following the transfer of service. Meetings are planned with the staff based on Station 2 and will progress in line with NHSA&A Organisational Change Policy.

Vascular has two days per week within the main theatre complex, together with an allocation in the emergency theatre as required and additional lists to accommodate urgent cases, again as required. It is expected that other specialties will pick up those theatre lists to enable additional capacity in those specialties to address current backlogs.

In relation to all other AHPs .e.g Physio, OT, Cardio-physiology, there are no plans to reduce the workforce however it should be noted that there will be a reduction in overall workload for each area when there is no inpatient vascular service. All of these posts form part of the Vascular SLWG review.

### **2.3.3 Financial**

The cost to NHSA&A of the proposed West of Scotland vascular service is £1.9m based on the current version of the business case. This does not include the cost of the agreed 4 wte consultants for whom there is a budget, nor does it include supplies costs for which the charge will be based on actual activity. The business case omitted the annual cost of maintenance of the hybrid theatre equipment. The NHS A&A share of costs is £0.025m. The facilities management costs are also not in the business and case and have still to be finalised by NHSL. The initial estimate is a charge to NHS A&A of £0.25m but this is expected to be revised downwards. The charging mechanism for recurring property costs is still to agreed. NHSLs initial estimate of

NHS A&A annual charge is £0.094m but it is anticipated that the actual figure will be less.

The NHSA&A share of the year 1 cost in the business case model for the ward costs and emergency rota is £1.28m. The budget, which can be released from existing services, is £1.14m leaving a balance of £0.14m to be identified. No saving has been identified on AHPs, Pharmacy staffing or Radiography. Theatre costs in the model are £0.52m. The saving that can be released from UHA theatre budget when services transfer is £0.35m leaving a shortfall of £0.17m. The laboratory technician and AHP rehabilitation coordinator are new services for which we have no local equivalent budget to fund the £0.03m cost in the model. Recurring property and equipment charges are estimated to be £0.36m. There will be a small saving in costs locally from the closure of Station 2 but for the majority of the spend there will be no equivalent saving to fund the cost. Consumable costs are estimated to be £0.6m and this will be funded from existing vascular budgets for supplies and drugs costs (Table 1).

Table 1.

Summary of Costs and Savings	A&A Share of Model	Releasable Saving	Shortfall
	£ m	£ m	£ m
Ward Costs + Emergency Rota	1.28	1.14	0.14
Theatres	0.52	0.35	0.17
Lab Technician + AHP Coordinator	0.03	0.00	0.03
Medical Secretary+ Scheduler	0.06	0.06	0.00
Premises and Equipment	0.36	0.10	0.26
<b>TOTAL</b>	<b>2.24</b>	<b>1.65</b>	<b>0.59</b>

The current estimate in shortfall between the anticipated cost of the business case model and the savings that can be released from existing budgets is £0.6m. Work is ongoing to reduce the level of shortfall. Local rehabilitation provision will also be at an additional cost.

#### 2.3.4 Risk assessment/management

A risk assessment has been completed and is provided in Appendix 4.

#### 2.3.5 Equality and diversity, including health inequalities

An Equality Impact Assessment has been completed and is contained within Appendix 2.

#### 2.3.6 Other impacts

- Best value
  - Effective Partnerships
  - Governance and accountability
  - Use of resources
  - Performance management

#### 2.3.7 Communication, involvement, engagement and consultation

The Board has carried out its duties to involve and engage external stakeholders where appropriate:

- Key Stakeholder meeting delivered on 25 January 2019
- Further stakeholder meetings supported by the Engagement Support Officer, Directorate of Transformation & Sustainability planned throughout the remainder of 2020.

### **2.3.8 Route to the meeting**

The Corporate Management Team received detailed papers at their 30 June 2020 meeting.

## **2.3 Recommendation**

The Board is asked to approve the proposed direction of travel in line with the West of Scotland Regional Vascular Service, NHS Ayrshire & Arran, NHS Dumfries & Galloway and NHS Lanarkshire Network Business Case.

## **3. List of appendices**

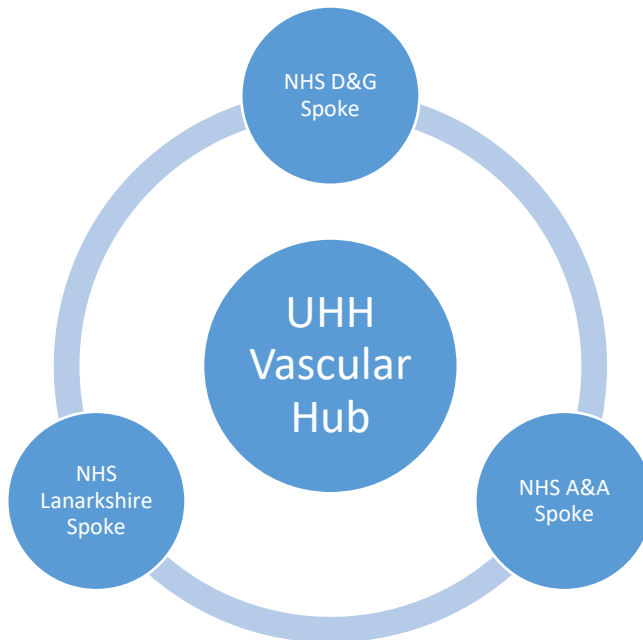
The following appendices are included with this report:

- **Appendix 1** – West of Scotland Regional Vascular Service NHS Ayrshire & Arran, NHS Dumfries & Galloway and NHS Lanarkshire Network.
- **Appendix 2** – Equality and Impact Assessment, Vascular Services
- **Appendix 3** – Vascular Business Case v9 Finance Paper
- **Appendix 4** – Risk Assessment, Vascular Services



## West of Scotland Regional Vascular Service

**NHS Ayrshire & Arran, NHS Dumfries & Galloway  
and NHS Lanarkshire Network**



## BUSINESS CASE

Version 9 - June 2020

### Document Control

<b>Title:</b>	Establishment of a West of Scotland Vascular Hub based at University Hospital Hairmyres
<b>Date:</b>	10 <sup>th</sup> February 2020
<b>Owner:</b>	Heather McVey, Senior Planning Manager WoS Regional Planning Cameron Sharkey, Service Manager

### Version History

Version	Date	Author(s)	Comments
0.1	26/02/19	Diane Fay	First Draft Prepared
0.1	24/09/19	Diane Fay	Small amendments – document remains in draft
0.2	10/2/20	Heather McVey	Re-draft to include workings and finance from NHS Lanarkshire
0.3	17/2/20	Heather McVey	Re-draft to incorporate new workings and finance from NHS Lanarkshire
0.4	25/02/20	Heather McVey	Re-draft to incorporate new working and finance following comments from Derek Lyndsay and Karen Andrews
0.5	05/03/20	Cameron Sharkey	Re-draft to include new staffing figures
0.6	06/05/20	Cameron Sharkey	Re-draft to include updated financial information and revised Board shares following operational and finance managers meeting on 11/03/2020.
0.7	24/05/20	Cameron Sharkey	Updates to business case narrative and provision of revised timeline
0.8	03/06/20	Cameron Sharkey	Updates based on comments at meeting between operational and finance managers for all Boards on 02/06/2020
0.9	24/06/20	Cameron Sharkey	Updated bed share and narrative based on NHSAA request to remodel for repatriation of patients for repatriation,



## INDEX

	<b>Chapter</b>	<b>Page Number</b>
1	<b>Executive Summary</b>	4
2	<b>Strategic Case</b>	5
2.1	Strategic Context	5
2.2	Quality Framework for Vascular Services (2011)	5
2.3	West of Scotland Regional Vascular Group (2012-2015)	7
2.4	The West of Scotland Vascular Services Review (2018)	7
3	<b>Business Strategy &amp; Aims</b>	9
3.1	Service Objectives	9
3.2	Case for Change	9
4	<b>Existing and Historical Arrangements</b>	11
5	<b>Proposed Hub &amp; Spoke Service Model</b>	12
5.1	Implementation/Timeline	12
5.2	Detailed Service Model	13
5.3	Clinical Pathways and Patient Flows	15
5.4	Constraints and Dependencies	16
6	<b>Resource Planning</b>	17
6.1	Activity Assumptions	17
6.1.1	Inpatient Beds	17
6.1.2	Theatre	18
6.2	Staffing Resource and Pay Cost Implications	19
6.2.1	Ward Beds	19
6.2.2	Higher Level of Care Beds	20
6.2.3	Perioperative Care	20
6.2.4	Costs of Centralisation	20
6.2.5	Summary of Pay Costs	23
6.3	Non Pay Costs	23
6.3.1	Consumables	23
6.3.2	Facilities Management Costs	23
6.3.3	Capital Investment	22
6.4	Monitoring Activity and Service Provision	25
7	Risk Management Arrangements	27
8	Benefits Realisation	28
9	Equal Opportunities	29
10	Conclusion	30
	Appendices	31

## 1. Executive Summary

The direction of travel for vascular services was established nationally with the publication of the Quality Framework for Vascular Services in 2011. In the intervening years, there have been a number of discussions, both locally and at regional level, to agree how the changes required to deliver a networked vascular surgery model could be planned and implemented.

The business case establishes:

- The need for change
- The strategic context
- Service Objectives
- Benefits criteria
- Options considered
- Preferred option
- Service planning assumptions
- Financial context
- Risks and issues
- Benefits realization plan

The West of Scotland (WoS) Chief Executives confirmed the WoS Vascular Network Model in October 2018. The WoS aims to take a 2 phase approach to implementation of the two Hubs – one at the Queen Elizabeth University Hospital (QEUH) by September 2019 and one at University Hospital Hairmyres (UHH). The revised date for the implementation of the UHH hub is 1<sup>st</sup> April 2021.

The QEUH supporting NHS Greater Glasgow & Clyde (NHSGGC) and NHS Forth Valley (NHFSV) has been operational since February 2019. The hub at University Hospital Hairmyres (UHH) will support NHS Lanarkshire (NHSL), NHS Ayrshire & Arran (NHSAA) and NHS Dumfries & Galloway (NHSDG). This paper will focus on the development of the hub at UHH.

The key elements of the Hub at UHH include:

- Both NHSAA and NHSDG Tier 3 vascular services (complex inpatient care) will be provided on a 'hub and spoke' basis from UHH on a 24/7 basis;
- NHSAA non-arterial day case activity and outpatient services will continue to be delivered at University Hospital Ayr (UHA) and University Hospital Crosshouse (UHC) i.e. will continue as a Tier 2 non-arterial vascular unit;
- NHSDG non-arterial day case activity and outpatient services will continue to be delivered at Dumfries & Galloway Royal Infirmary (DGRI) i.e. will continue as a Tier 2 non-arterial vascular unit;
- Following their vascular intervention, patients will receive acute inpatient vascular care and concurrent rehabilitation at the UHH centre prior to the date at which they are clinically adjudged to have reached the end of their acute vascular episode of care.
- At the end of the acute vascular episode of care patients will be discharged home or repatriated to appropriate sites in their home board for ongoing rehabilitation or for ongoing acute care under a different specialty where this is required.
- Outpatient rehabilitation and reablement services (e.g. limb fitting) will continue to be delivered at spoke sites as is currently the case; and
- The provision of Tier 1 (primary care) and Tier 4 (tertiary care) vascular services will continue unchanged.

The human resource and associated costings for this model have been indicated but delivery within the agreed timescale is dependent on securing the relevant capital expenditure for the investment and development of the Hybrid Theatre and Vascular Laboratory while managing on site space and capacity challenges.

## 2. Strategic Case

### 2.1 Strategic Context

Vascular surgery and minimally invasive vascular procedures repair and restore the blood supply to an area of the body that is compromised. Vascular surgery is recognised as a specialty in its own right. This business case provides a description of the proposed vascular model for the provision of vascular services within the West of Scotland. The proposed model has been developed with key stakeholders, over the last 18 months. This sets the strategic context for the development of the business case, against which we can consider the effects of the service changes on the ability of NHSL to achieve these objectives.

There are a number of strategic drivers that are relevant to the proposed changes to vascular surgery services outlined in this business case. These include:

- National Planning Forum – Vascular Services Steering Group *A Quality Framework for Vascular Services* (published October 2011)
- The West of Scotland Regional Vascular Group (established 2012)
- West of Scotland Vascular Review Working Group *Update of Development of West of Scotland Vascular Network* (produced October 2018)

### 2.2 Quality Framework for Vascular Services (October 2011)

The NHS Scotland National Planning Forum developed a Quality Framework for Vascular Services in October 2011. This framework outlined the case to improve the way vascular services are delivered to the population of Scotland, for both complex care and local care.

The framework described a tiered model for the provision of vascular services, linked to the complexity of the work undertaken. This model is outlined in Table 1.

Table 1: The National Model for Tiered Vascular Services

Tier	Description
Tier 1: Primary/ community care	The vast majority of vascular patients will be looked after within primary care by General Practitioners, practice nurses, podiatrists
Tier 2: Ambulatory care and rehabilitation	New outpatient referrals and follow-up appointments; venous surgery, minor amputations, venous access and primary vascular access; interventional radiology.
Tier 3: Complex inpatient care	Open surgical or endovascular repair of abdominal aortic aneurysm (AAA), carotid endarterectomy (CEA), or assessment and management of critical limb ischaemia (CLI – limb salvage), complex vascular access and care of vascular emergencies
Tier 4: Tertiary referral centres	Very complex, rare or highly specialist interventions (nationally designated). e.g. repair of thoracic and thoraco-abdominal aortic aneurysms (TAAA)

The Vascular Society for Great Britain and Ireland (VSGBI) also makes a series of recommendations (Table 2) that should be met by vascular centres including the requirement that services are planned and provided on a minimum population basis of 800,000 to maintain workforce competency and ultimately to deliver the best outcomes for patients. The Quality Framework noted the recommendations of the VSGBI and outlined the strong case to change the way care should be delivered to improve service sustainability and patient outcomes. The Quality Framework advised that Tier 3 services (complex surgery/interventions) be provided in a vascular centre, with Tier 2 services (outpatients, diagnostics and non-complex and non-arterial elective day cases) continuing to be delivered in local units. Tier 4 services (thoraco-abdominal aortic aneurysm repair) are provided by NHS Lothian as part of a national service agreement.

*Table 2: VSGCI Requirements for a Vascular Network Centre*

The Vascular Society of Great Britain and Ireland clearly describes what resources are required and what activity should be provided from each site in a networked model, i.e.

- The population covered by the networks should be sufficient to generate the required volume of procedures at the arterial centre. A minimum of 800,000 is usually required for this;
- A 24/7 consultant on-call rota of 1:6 or greater for vascular emergencies, covered by a combination of vascular surgeons and interventional radiologists;
- A 24/7 critical care facility with ability to undertake mechanical ventilation and renal support and with 24/7 on-site anaesthetic cover;
- Wards for dedicated vascular patients should be available;
- At least one endovascular theatre or theatre specification endovascular suite is required, preferably with high quality imaging, advanced applications and a dedicated X-ray table (MHRA guidance);
- A minimum number of 60 abdominal aortic aneurysm (AAA) and 40 carotid procedures (elective and emergency) are undertaken per annum
- An on-site vascular laboratory should be available;
- Hospitals, vascular surgeons and interventional radiologist should submit cases to the National Vascular Registry (NVR) and publish their outcomes in line with the National HQIP programme. Actions should be taken to ensure all outcomes are satisfactory;
- Vascular surgeons should undertake regular review of their practice and outcomes (morbidity and mortality/governance meetings)

**Facilities and Infrastructure** - Facilities required at a centre for complex procedures include :

- Hybrid theatre
- CEPOD theatre for emergency vascular procedures
- ITU/HDU
- Diagnostics – including MR and CT angiography
- Dedicated vascular ward – 20-25 beds for a population of 800,000
- Vascular laboratory – 800,000 population generates circa 4,500 to 6,000 test per annum with a rising demand
- Input of AHPs (including Social Workers)
- Rehabilitation services

VSGBI recommend that arterial centres should be co-located with Major Trauma Centres or Units. Clear protocols and emergency transfer pathways are required if this is not possible.

### **2.3 West of Scotland Regional Vascular Group (2012-2015)**

In response to the publication of the Quality Framework for Vascular Services in October 2011, the WoS established a WoS Regional Vascular Group in 2012. The WoS Regional Group completed the following background work to support the planning of vascular service reconfiguration:

- Agreed co-dependent services
- Defined Tier 3 services
- Described Tier 2 service model
- Undertook an analysis of actual and projected activity for Tier 3 services
- Prepared bed modelling scenarios
- Developed a Communications Plan
- Agreed options appraisal criteria

Similar discussions were held in the South/East and Tayside region, including the potential to integrate NHSFV vascular services with services from NHS Lothian and NHS Borders. However, NHSFV indicated a preference to develop a future service model with NHSGCC, given the existing links for renal medicine and other specialist services.

During 2012, the WoS Vascular Group agreed to the following provisional arrangements:

- NHSGCC and NHSFV to collaborate to develop a single Tier 3 service
- NHSL and NHSAA to collaborate to develop a single Tier 3 service
- NHSDG to explore options with Carlisle and with NHSL/ NHSAA

### **2.4 The West of Scotland Vascular Services Review (2018)**

The WoS Vascular Review Working Group was established to consider the National Quality Framework recommendations which are expanded further in the 'Case for Change' section (3.2) below and develop a proposal for a future model of care. The aim was to ensure the provision of a sustainable and high quality vascular service for the WoS population. The WoS Vascular Service Review (2018) notes: 'Service fragility is of concern and strengthens the case for networked models of care to ensure service efficiency, sustainability and optimal patient outcomes.'

The proposed 'hub and spoke' networked model for vascular services in the WoS was confirmed by the WoS Chief Executives in October 2018. The aim was to initially implement this proposed model of care by September 2019; however due to consultant vascular surgeon vacancies at FVRH, NHSFV and NHSGCC made arrangements to implement the planned WoS regional model for vascular services 6 months ahead of schedule at QEUH. For the hub at UHH on site dependencies on the Major Trauma programme, capacity challenges and capital planning requirements had resulted in a November 2020 timescale for operational delivery. In view of delays incurred as a result of the Covid 19 pandemic, a new operational date of 1<sup>st</sup> April 2021 has been agreed.

This proposal notes the impact of these changes (e.g. bed and theatre requirements at UHH, outline clinical pathways, the benefits to staff recruitment and retention and the delivery of a suitable vascular service). A number of opportunities are also associated with the proposal. These include:

- A review of current inpatient rehabilitation services
- The delivery of optimised patient pathways
- Reduced lengths of stay
- Improved utilisation of day case/ outpatient services
- Improved utilisation of telemedicine to prevent unnecessary travel for patients and staff
- Network responsibility for cross cover arrangements between centre and units, web linked MDT, job planning
- New appointments made by the vascular centre
- Development and expansion of vascular nurse/ AHP specialists
- Development of regional templates, currency, protocols and pathways.

The general direction of travel for vascular services has already been agreed within a national and regional context.

The QEUH and UHH were identified as the two proposed vascular centres for the West of Scotland NHS GGC meets the requirements listed in Table 2 above, however NHSL requires as a minimum a hybrid theatre, deemed an essential requirement, and vascular lab to comply.

### **3 Business Strategy & Aims**

#### **3.1 Service Objectives**

The Quality Framework for Vascular Services provides best practice recommendations for a clinical networked model. The strategic drivers for change, prevailing operational challenges, and the potential implications for local and regional services are clear. Vascular services are tiered depending on the complexity of care (as outlined previously in Table 1). The Quality Framework recommends that:

- Complex procedures are provided in a vascular arterial centre of excellence, supported by technical infrastructure and highly trained staff; and
- Less complex procedures are provided in local vascular units.

This business case focusses on the requirements to deliver a safe and sustainable model of care for Tier 2 and 3 services for the population of NHSL, NHSDG and NHSAA.

The service objectives relating to this option are to:

- Provide high quality, safe and effective care (in line with the highest standard of care);
- Minimise delays and variations in service;
- Provide an excellent patient experience;
- Provide early treatment and support to stop conditions from getting worse (minimise the risk of disease development and progression);
- Deliver excellent mortality and morbidity rates (ensuring the best possible outcome);
- Provide care closer to home where possible (whilst ensuring that interventions are carried out in the right clinical environment);
- Minimise hospital stay;
- Provide robust workforce model, to ensure we have the right staff, with the right skills working in the right location; and
- Ensure the service is sustainable.

#### **3.2 The Case for Change**

The average vascular patient is older (a third are over 75 years) and have associated co-morbidities (e.g. diabetes, renal problems, ischaemic heart disease). With a predicted 48% increase in over 75 year olds and a 64% increase in the over 85's by 2030, the demand for vascular interventions will increase significantly therefore there is an increasing emphasis on the need for rigorous prevention and control of vascular risk factors and early intervention to improve prognosis and outcomes.

It is also known that arterial disease accounts for 85% of amputations and that 45% of amputees have diabetes. With an ever increasing number of people living with diabetes and projections suggesting that by 2035 more than 480,000 will have the condition and a further 500,000 at risk of development, the demand for vascular services will be unprecedented.

As many as 50% of patients with vascular disease present urgently or as an emergency, requiring vascular services to be available on a 24/7 basis and evidence shows that outcomes are better when high risk vascular interventions are planned and performed by teams in high volume centres.

In addition to the increasing demand for services, the following factors are also driving the need for change:



- There are a number of Vascular surgeons vacancies and the number of those in training are declining;
- The number of Interventional Radiologists is already too low to meet current service requirements in the WoS;
- The number of trainees for both specialties is insufficient to address the shortfall;
- On-call rotas are becoming increasingly challenging in terms of safety and sustainability;
- Lack of imaging resource e.g. CT and MRI scanners and staff to operate and report – often patients spend longer than required in vascular beds awaiting crucial scans; and
- Nursing and other Allied Health Professionals (AHP) are up-skilling to take on new roles and responsibilities that will help support delivery of vascular services, however it will take time to create the numbers required for this supportive workforce and is not without its own issues.

The Vascular Service fragility is a concern and it strengthens the case for networked models of care to ensure service efficiency, sustainability and optimal patient outcomes.

Services in Scotland do not meet all the quality standards detailed in the Vascular Society of Great Britain and Ireland (VSGBI) document *The Provision of Services for Patients with Vascular Disease 2015*, while Key Performance Indicators (KPI) also highlight areas for improvement. For example, the Scottish Stroke Care Standard (2013) is for 80% of patients to have been seen within 14 days of transient ischaemic attack (TIA). A 2017 report shows that only 45% of procedures across Scotland were performed within 14 days, with none of the WoS Boards meeting the 80% target. It has also been highlighted that around 8,000 lower limb amputations are currently carried out in the NHS each year with the literature suggesting that some could have been avoided or delayed by timelier diagnosis and revascularisation.

Current service developments and redesign programmes driven by the *Health and Social Care Delivery Plan*<sup>1</sup> provide an opportune time to revisit vascular services, consider current evidence and to implement the recommendations of the 2011 *Vascular Framework* and other key documents where appropriate.

A gold standard vascular service that meets current recommendations will ensure patients are supported to minimise the risk of disease development and progression and when required, interventions carried out in the right clinical environment, at the earliest opportunity, to ensure patients receive the highest standard of care and have the best possible outcomes.

Best practice recommends that working within a clinical networked model, complex procedures should be provided in vascular centres of excellence, supported by technical infrastructure and highly trained staff and that less complex procedures are provided in vascular units. Vascular services are tiered depending on complexity.

#### 4 Existing and Historical Arrangements

The delivery of vascular services in NHSL, NHSAA and NHSDG are of high quality but in a state of transition. Until September 2019, Tiers 1, 2 and 3 were provided by all three Boards with the exception of some Tier 3 activity being provided in NHSL for NHSAA and in Carlisle for NHSDG patients. Since September 2019, all NHDG Tier 3 activity has been provided by NHSL.

- **NHSL** Vascular surgery service traditionally provides outpatient, diagnostic, day surgery, inpatient care and treatment at UHH. This includes Tier 2 and Tier 3 vascular services. In July 2019, UHH began a shared OOH on-call Friday to Monday and weekend rota with NHSAA. In September 2019, UHH began supporting all Tier 3 activity from NHSDG. NHSL have funding for 5 WTE Vascular Consultants to support delivery of the service. NHSL has recently been successful in recruiting to a sixth consultant post using monies from an NHSDG vacancy and this surgeon will take up post in August 2020.

<sup>1</sup> Health and Social Care Delivery Plan, Scottish Government, 2016 <http://www.gov.scot/Resource/0051/00511950.pdf>

- NHSAA** Vascular surgery service provides outpatient, diagnostic, day surgery, inpatient care and treatment at University Hospital Ayr (UHA). This includes Tier 2 and Tier 3 vascular services with the exception of some endovascular Tier 3 activity being provided in UHH for NHSAA patients. Although NHSAA have funding for 4 WTE Vascular Consultants, the service is currently being provided by 2 permanent consultants with intermittent additional support from 1 locum consultant vascular surgeon and the funding from the fourth post currently deployed to employ two speciality doctors as part of the Phase 2 arrangements. Weekday emergency cover is provided at UHA with emergency weekend OHH provided by UHH since July 2019. Vascular surgery has a funded bed complement of 23 at UHA.
- NHSDG** Vascular surgery service traditionally provides outpatient, diagnostic, day surgery, inpatient care and elective treatments at (DGRI). This has included Tier 2 and Tier 3 vascular services with the exception of some Tier 3 activity which was previously provided in Carlisle at the Cumberland Infirmary. As of September 2019 all vascular inpatient and emergency services are being provided from UHH. NHSDG have funding for 2 WTE consultant vascular surgeons. One of these posts is currently vacant and is covered by an agency locum consultant with an agreement to move the associated funding to NHSL as part of the hub workforce development in August 2020.

## 5. Proposed Hub & Spoke Service Model

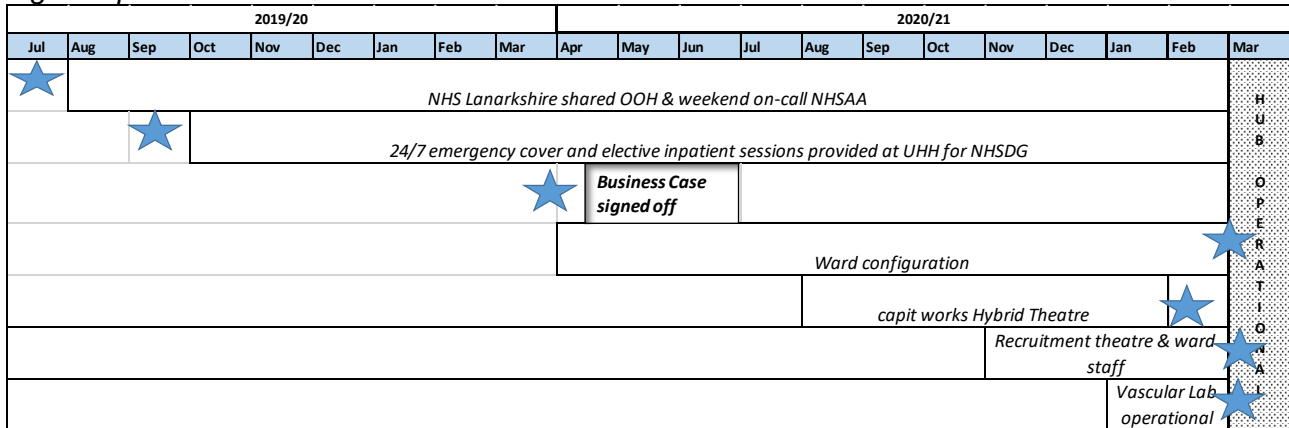
### 5.1 Implementation Timeline

Providing the required inpatient bed accommodation and theatre capacity at UHH is a significant undertaking enabled by the redesign of other NHSL services (Trauma & Orthopaedics) and a capital build.

In order to take account of these unavoidable processes whilst mitigating the risk to service sustainability across the three Boards, a phased approach to the delivery of the regional hub and spoke network has been agreed.

- Phase 1** - NHSL and NHSAA shared weekend on-call with receiving at UHH  
 – **completed July 2019**
- Phase 2** – All NHSDG vascular emergencies received at UHH. All NHSDG vascular arterial operating undertaken at UHH. Continuation of NHSL and NHSAA Phase 1 arrangements  
 – **completed September 2019**
- Phase 3** – Hub and Spoke Network with Arterial Centre at UHH  
 – **operational 1<sup>st</sup> April 2021**

Fig 1: Implementation Timeline

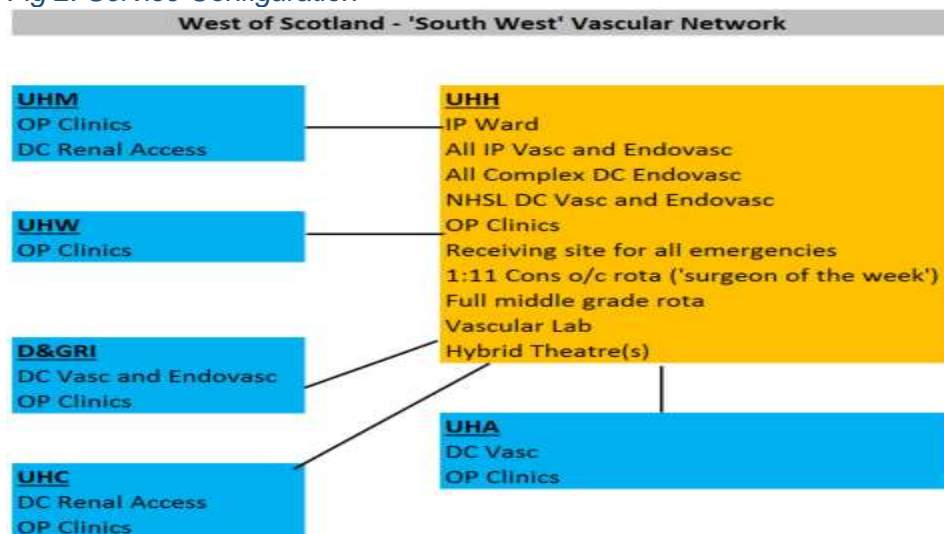




## 5.2 Detailed Service Model

The configuration of services across the hub and spokes is outlined in *Figure 2*, below.

*Fig 2: Service Configuration*



The principles for activity flows are as follows:

- Both NHSAA and NHSDG Tier 3 vascular services (complex inpatient care) will be provided on a 'hub and spoke' basis from UHH on a 24/7 basis;
- NHSAA non-arterial day case activity and outpatient services will continue to be delivered at University Hospital Ayr (UHA) and University Hospital Crosshouse (UHC) i.e. will continue as a Tier 2 non-arterial vascular unit;
- NHSDG non-arterial day case activity and outpatient services will continue to be delivered at Dumfries & Galloway Royal Infirmary (DGRI) i.e. will continue as a Tier 2 non-arterial vascular unit;
- Following their vascular intervention, patients will receive acute inpatient vascular care and concurrent rehabilitation at the UHH centre prior to the date at which they are clinically adjudged to have reached the end of their acute vascular episode of care.
- At the end of the acute vascular episode of care patients will be discharged home or repatriated to appropriate sites in their home board for ongoing rehabilitation or for ongoing acute care under a different specialty where this is required.
- Outpatient rehabilitation and reablement services (e.g. limb fitting) will continue to be delivered as is currently the case; and
- The provision of Tier 1 (primary care) and Tier 4 (tertiary care) vascular services will continue unchanged.

At the UHH hub, vascular services will be delivered as follows;

### Inpatient Services

Inpatient services at UHH will be delivered in a 36 bedded vascular unit (split over 2 ward areas). An additional four level 1 beds will be available for the use of vascular patients and these beds will be situated with other higher care beds on the surgical floor. Critical care capacity equivalent to just over two beds per day will be provided in ICU.

### Theatre

There will be 24 hour access to emergency theatre at UHH. This will include access to a hybrid theatre and appropriately trained radiographer support to allow the performance endovascular procedures. Generally speaking, elective vascular theatre lists will run daily in current vascular theatre at UHH (Theatre 5) and in the new hybrid theatre (Theatre 9). Each consultant in the network will have regular job planned sessions at the UHH hub for them to undertake their major operating.

Non-arterial day case procedures will continue to take place at the spoke sites and at UHH as is currently the case.

### Medical Staff

Consultant vascular surgeons will participate in a 1:11 surgeon of the week on-call model in order to provide best continuity of care. All consultants in the network will be expected to take a share of this rota.

Future consultant appointments will be made to NHSL and will be based at UHH with the network having a responsibility to ensure job plans provide adequate coverage for vascular input at the spoke sites. This will allow the adequate provision of day case and outpatient activity to meet demand as well as the recognising and supporting vital co-dependencies which exist between vascular surgery and other surgical specialties.

Where gaps arise in the consultant rota priority will be given to ensuring adequate cover is available to deliver care to emergency and clinically urgent patients. Locum staffing will be used to make up any capacity shortfalls that arise as a result of these gaps to minimise any delays to treatment for less clinically urgent procedures. Where delays are unavoidable, cover will be provided from across the network to ensure an equitable service level is provided to all patients in the three Boards.

The consultant rota will be supported by a middle grade rota at least a 1:5 frequency. This will consist of Specialty Doctors and Senior Trainees on rotation.

### Outpatient Services

Outpatient clinics will continue to be delivered at both hub and spoke sites. Consideration will be given to increased use of hot clinics as a means of admission avoidance and the use of Attend Anywhere to prevent unnecessary travel. It is the ambition to implement this virtual model of care for all appropriate outpatient consultations.

## **5.3 Clinical Pathways and Patient Flows**

In order to integrate into a single service, a number of recommendations have been made around activity, patient management and patient flows.

- **Carotid Endarterectomy (CEA)** - NHSAA and NHSDG will adopt the referral pathway in place within NHSL. Referrals will be sent in accordance to the working template to the generic vascular e-mail account. This is monitored by the secretariat of the consultant of the week who has responsibility for dealing with these patients.
- **Inpatient Review (Critical Limb/ Diabetic Foot)** - The majority of these cases will be managed locally with early review, with regular consultant presence in NHSAA and NHSDG. This will be managed by referral through the NHSL generic vascular e-mail account, with subsequent co-ordination by the consultant of the week. For this patient group, medical illustration involvement locally will allow the service to remotely review the foot/ limb in conjunction with the clinical history. There are scope to lever the opportunities presented through telemedicine solutions such as Attend Anywhere.
- **Acute Limb/ Rupture AAA/ Mesenteric Ischaemia/ Trauma** - A proportion of these patients will present through emergency departments, with onward referral dictated by clinical assessment/ imaging. Some of these patients will be referred by general practice and will equally require to be managed initially at the local sites.
- **Post vascular intervention repatriation to NHSAA and NHSDG** – The average length of stay for vascular inpatients will be around 13 days with significant variation either side of this mean. For bed modelling purposes a 35-day trim point has been agreed which has been applied to historical length of stay data. At day 35 the consensus clinical opinion is that there are very few patients who have traditionally been vascular inpatients who still require ongoing acute vascular

care (i.e. they will be an inpatient at this point for reasons of rehabilitation or for social reasons.)

All patients admitted to the hub will receive their vascular intervention, post-op acute care and concurrent inpatient rehabilitation. Patients from outwith NHSL who are not being discharged home, will be repatriated to NHSAA or NHSDG at the end of their acute vascular length of stay. The terminal date for the acute vascular episode will be decided by the multi-disciplinary team and the receiving Board will be given 48 hours' notice of the requirement for them to repatriate their patient.

Patients will be repatriated either to an acute site under a different specialty (in the case where there is a requirement for ongoing non-vascular acute care) or to a non-acute rehabilitation bed.

Good discharge planning and co-ordination between the three Boards and the associated Health and Social Care Partnerships is key to minimising delays to patients. This process will be expected to start on the first day of the patient's admission and will be supported by the Rehabilitation Co-ordinator post proposed at section 6.2.4.

- **Pre-Op Assessment** - A number of vascular patients will require anaesthetic pre-operative assessment. Anaesthetic assessment at the AAA clinic at UHH will significantly increase the proportion of patients who can be admitted on the same day. The ambition will be to carry out pre assessment as close to the patient as possible, making use of telehealth technology to enable virtual links with key clinical staff at the hub.
- **Day of Surgery Admission** – For elective patients, admission on the day of surgery will be the default. Pre-admission the night before theatre should be on the basis of clinical exception only. Where a patient's geographical home location makes it difficult for them to attend in time for day of surgery admission then the patient's Board of residence will make arrangements for hotel accommodation to be provided to prevent the need for an elongated length of stay on the basis of social reasons.
- **Hot Clinic** - The establishment of a hot clinic at UHH, will provide rapid planned access to senior assessment and protected diagnostics with the aim of reducing the need for unnecessary admission. The concept has been well trialled as part of NHSL's response to the Covid 19 pandemic. The model will be enhanced with the use of telehealth technology to allow these hot clinics to be run remotely.
- **Medical Staffing: Provision of Emergency and Scheduled Activity** - The vascular centre in UHH will be responsible for the provision of scheduled and unscheduled care admissions on a weekly basis. The network will institute a consultant of the week on call model which will maximise continuity of care. Specific commitments of the Consultant led on-call team include the following:
  - A commitment to the ward round/inpatient ward reviews
  - Hot Clinic Cover
  - Theatre list
  - Patient review/emergency surgical cover in other hospitals
  - MDT

## 5.4 Constraints & Dependencies

- **Constraints:**
  - Financial Agreement
    - for capital for the creation of a Hybrid Theatre at UHH – Theatre 9
    - for ongoing revenue funding to support ward and theatre activity
    - for one-off funding to provide equipment for a new ward area at UHH
  - Approval from the building owners at UHH, Prospect Healthcare, for the change of use to the building required to provide the hybrid theatre

- **Dependencies**

- At present the implementation timescales are dependent on NHSL's redesign of Trauma & Orthopaedic services (Phase 1a) freeing relevant bed space to allow bed capacity for the new in-patient area

## 6. Resource Planning

This section outlines the projected resources required to deliver the hub and spoke service model which is described in section 5, above. The resource required is detailed in 6.2 and is driven by the activity assumptions discussed at 6.1.

Activity has been modelled along two metrics. The first of these is the anticipated use of inpatient bed days across all levels of care and the second is anticipated use of theatre sessions at the hub. Both these numbers have been arrived at based on the baseline activity taking place within the three Boards. The overall number of inpatient beds and theatre sessions required, and how these are split amongst the three Boards will require to be reviewed as part of an ongoing monitoring process. This will take account of standardisation of practice and length of stay efficiencies as hub processes become embedded.

The human resource required to support the care for this patient activity has been derived based on nationally and locally recognised tools where available as well as professional judgement. The vast majority of the resource detailed at 6.2 is baseline resource. i.e. This is resource which is currently deployed in all three Boards to look after vascular patients lying in inpatient beds and operating theatres.

It will be noted that the task of disaggregating this staffing resource from the location of its current deployment and transferring it to the hub is an operational difficulty which will be encountered by NHSAA and NHSDG rather than NHSL. Where the transfer of resource takes the form of a transfer of members of staff then appropriate engagement with staffside partnership will be a prerequisite. Where transfer of resource takes the form of monies then agreement will be required regarding a recruitment timetable. Some of the costs identified below are new costs for all three Boards. These should be considered as the 'costs of centralisation' and are incurred largely as the result of providing an emergency rota to cover a population of over 1.1 million people across a geographically disparate area.

### 6.1 Activity Assumptions

#### 6.1.1 Inpatient Beds

The bed model has identified the number of occupied bed days (OBDs) associated with each episode of care for patients undergoing a vascular inpatient stay in NHSL, NHSDG and NHSAA from ISD data. Locally management information has been used to further stratify this data to indicate the number of OBDs used at ward and higher levels of care. A clinically agreed trim point of 35 days has been applied where appropriate in order to exclude long stay patients who will be repatriated to local Board facilities. The result of this exercise and share of the OBDs attributable to each Board are shown below at *Table 3a*.

*Table 3a: Modelled OBD by level of care and Board*

	NHSL	NHSAA	NHSDG	Network Total
Ward	6711	3956	1184	11851
Level 1	827	487	146	1460
Level 2	388	210	60	657
Level 3	97	52	15	164
<b>TOTAL</b>	<b>8022</b>	<b>4706</b>	<b>1405</b>	<b>14132</b>

Table 3b, below, translates the OBD data into bed requirements. This assumes 100% bed occupancy at all levels and is therefore an unfeasible model for service delivery. Table 3c provides the operationally agreed bed numbers and Board split which will be delivered at the hub and which drive the resource requirements at 6.3. For clarity, there has been an uplift of 3.5 ward beds to decompress the overall bed occupancy from 100% to 91.6%.

Table 3b: Bed model by level of care and Board at 100% occupancy

	NHSL	NHSAA	NHSDG	Network Total
Ward	18.39	10.84	3.24	32.47
Level 1	2.27	1.34	0.40	4.00
Level 2	1.06	0.57	0.16	1.80
Level 3	0.27	0.14	0.04	0.45
<b>TOTAL</b>	<b>21.98</b>	<b>12.89</b>	<b>3.85</b>	<b>38.72</b>

Table 3c: Agreed bed provision by level of care and Board

	<b>NHSL (Beds / % share)</b>	<b>NHSAA (Beds / % share)</b>	<b>NHSDG (Beds/ % share)</b>	<b>Network Total (Beds)</b>
<b>Ward</b>	20.37 / 56.6%	12.02 / 33.4%	3.60 / 10.0%	36.00
<b>Level 1</b>	2.27 / 56.6%	1.34 / 33.4%	0.40 / 10.0%	4.00
<b>Level 2</b>	1.06 / 59.0%	0.57 / 31.9%	0.16 / 9.1%	1.80
<b>Level 3</b>	0.27 / 59.0%	0.14 / 31.9%	0.04 / 9.1%	0.45
<b>TOTAL</b>	<b>23.97</b>	<b>14.07</b>	<b>4.20</b>	<b>42.25</b>

### 6.1.2 Theatre

Projected theatre activity has been approached in a manner similar to that adopted for projected bed use. ISD data has been interrogated to identify all vascular procedures undertaken in the three Boards and clinical stakeholders have advised which of these procedures would take place at the hub. An average procedure and turnaround time for these clinically indicated hub procedures has then been extracted and the total number of theatre sessions required has been projected. The share of the theatre sessions attributable to each of the three Boards is based on the number of clinically indicated hub procedures undertaken on each Board's patients.

Table 4, below, delineates the outputs of the theatre model.

Table 4: Theatre sessions required for 'clinically indicated hub procedures' and Board split

	<b>No. Clinically Indicated Hub Procedure</b>	<b>No. Hub Theatre Sessions</b>	<b>%age Board split 3 boards</b>
<b>NHSL</b>	557	456	51.72%
<b>NHSAA</b>	375	307	34.82%
<b>NHSDG</b>	145	119	13.46%
<b>TOTAL</b>	<b>1077</b>	<b>882</b>	

## 6.2 Staffing Resource and Pays Cost Implications

Based on the projected activity outlined above, a cost profile has derived based on the human resource required to adequately staff the inpatient beds and theatre sessions identified.

### 6.2.1 Ward Beds

Staffing costs related to the 36 ward beds are in the table highlighted below. A further breakdown of the posts at a profession and band level is provided at *Appendix 1*.

*Table 5: Overview Ward Staffing Costs*

Ward Beds									
	Network		NHSL		NHSAA		NHSDG		
Number of Beds	36		20.38		12.02		3.60		
% of Beds	100.0%		56.6%		33.4%		10.0%		
	wte	£	wte	£	wte	£	wte	£	
Nursing	44.7	£1,817,781	25.31	£1,029,285	14.92	£606,768	4.47	£181,728	
AHP	9.43	£382,686	5.34	£216,689	3.10	£127,739	0.94	£38,258	
Pharmacy	1.00	£55,598	0.57	£31,481	0.33	£18,558	0.10	£5,558	
ANP	2.77	£186,349	1.57	£105,517	0.92	£62,203	0.28	£18,630	
Medical	3.03	£212,100	1.72	£120,098	1.01	£70,798	0.30	£21,204	
Total Ward Staffing	60.93	£2,654,514	34.50	£1,503,069	20.29	£886,066	6.09	£265,378	
Ward Staffing per bed	£73,736		£73,736		£73,736		£73,736		

### 6.2.2 Higher Level of Care Beds

Staffing provision for higher level of care beds are based on nursing resource only. This is outlined below. Beds at all levels of higher care are provided as part of an increased overall complement of enhanced and critical care provision on the UHH site.

*Table 6: Nursing Resource for Higher Level of Care Beds*

Level 1 Beds									
	Network		NHSL		NHSAA		NHSDG		
Number of Beds	4		2.27		1.34		0.4		
% of Beds	100.0%		56.6%		33.4%		10.0%		
	wte	£	wte	£	wte	£	wte	£	
Total Level 1 Staffing	5.54	£246,048	3.14	£139,320	1.85	£82,130	0.55	£24,598	
Level 2/ Level 3 Beds									
	Network		NHSL		NHSAA		NHSDG		
Number of Beds	2.25		1.33		0.72		0.20		
% of Beds	100.0%		59.0%		31.9%		9.1%		
	wte	£	wte	£	wte	£	wte	£	
Total Level 2/3 Staffing	7.48	£332,209	4.41	£196,003	2.39	£105,975	0.68	£30,231	
Total Higher Level of Care	13.02	£578,257	7.55	£335,324	4.24	£188,105	1.23	£54,829	

### 6.2.3 Perioperative Care

Staffing provision for Perioperative Care comprises nursing staff for theatre, recovery and the day surgery admission unit and one session of consultant anaesthetist time aligned to each of the hub theatre sessions. A summary of the requirement is provided at *Table 7*, below, with further detail available in *Appendix 2*.

**Table 7: Overview Nursing and Anaesthetic Resource for Perioperative Care**

	Network		NHSL		NHSAA		NHSDG	
Number of Sessions	882		456		307		119	
% of Sessions			51.7%		34.8%		13.5%	
	wte	£	wte	£	wte	£	wte	£
Total Peri-Op Nursing Staff	25.51	£1,078,581	13.19	£557,634	8.88	£375,424	3.44	£145,523
Total Consultant Anaesthetist	3.24	£405,000	1.68	£209,388	1.13	£140,969	0.44	£54,643
Total Theatre Staffing Costs	28.75	£1,483,581	14.86	£767,021	10.01	£516,394	3.88	£200,166
Theatre Staffing per Session	£1,682		£1,682		£1,682		£1,682	

### 6.2.4 Costs of Centralisation

Beyond the costs identified above, there are a number of other resource requirements which arise as a consequence of the establishment of a hub and spoke network.

#### Emergency Rota Cost

The first of these is in relation to the provision of 24 hour emergency cover for the region's population. Both the provision of a Middle Grade vascular on-call rota and an on-call rota for interventional trained radiographers at UHH have been identified as imperative to the delivery of safe care.

Whilst all inpatient beds and emergency operating will be centralised at UHH, the on-call team will still be asked to manage referrals from six acute district general hospitals. Given the size of the population and the geographical area being covered this is not feasible with a single tier consultant only rota.

The availability of 24 hour cover from a team of interventional trained radiographers is a pre-requisite to enable the performance of emergency endovascular procedures out of hours. Current provision of such resource on the UHH site is for the exclusive use of the regional Percutaneous Coronary Intervention (PCI) Service and the clinical exigencies of this service are such that no sharing of rotas is possible. The provision for radiographer cover will allow staffing of the hybrid theatre from 0800 to 2000 during the week with cover for breaks and during the day at the weekend as well as providing a sustainable pool of interventional trained radiographers from which to construct an overnight on call rota.

The resource associated with these developments and is outlined below. Costs have been apportioned on a population basis.

**Table 8: Emergency Rota Resource**

	Network		NHSL		NHSAA		NHSDG	
Population share			56.00%		31.41%		12.59%	
Population number	1177060		659200		369670		148190	
	wte	£	wte	£	wte	£	wte	£
Specialty Doctor	4.00	£360,000	2.24	£201,614	1.26	£113,062	0.50	£45,323
Senior Trainee Banding Costs	1.00	£25,000	0.56	£14,001	0.31	£7,852	0.13	£3,147
Band 6 Radiographers	4.09	£225,674	2.29	£126,386	1.28	£70,876	0.51	£28,412
Uplift Band 5 to Band 6 Radiographer	5.00	£53,820	2.80	£30,141	1.57	£16,903	0.63	£6,776
	9.09	£279,494	5.09	£156,528	2.85	£87,778	1.14	£35,188
Total Emergency Rota Costs	£664,494		£372,143		£208,692		£83,659	
Emergency Rota Costs per capita	£0.56		£0.56		£0.56		£0.56	

#### Vascular Lab Technician

According to the VSGBI standards, the provision of a Vascular Laboratory is a pre-requisite for the regional vascular centre. A Vascular Lab is primarily a non-invasive diagnostic service which is run by specialist vascular technicians and provides information essential for the diagnosis, assessment and follow-up of vascular patients.

NHSL is an outlier amongst the three Boards in not providing this service locally and patients in NHSL are currently managed inefficiently and sub-optimally by means of expensive cross sectional imaging and consultant led ultrasound.



Costs are outlined below. It is estimated that 80% of the workload undertaken by a vascular lab consists of outpatients and 20% of inpatients. The Board share of the costs is calculated on NHSL having responsibility for 80% of the total (i.e. the proportion relating to outpatient workload) with the balance (i.e. the proportion relating to inpatient workload) being split on the basis of inpatient bed share at UHH.

*Table 9: Vascular Lab Costs*

Share of cost			NHSL		NHSAA		NHSDG	
	wte	£	wte	£	wte	£	wte	£
			90.20%		8.00%		1.80%	
Band 7 Vascular Technican	2.00	£111,196	1.80	£100,299	0.16	£8,896	0.04	£2,002

### AHP Rehab Coordinator

Analogous to the post of AHP Rehabilitation Co-ordinator for the Major Trauma Network there has also been identified a need for such a post for the Regional Vascular Network. This post would play a key role in co-ordinating complex pathways at an individual patient level and developing these at a network-wide level.

It is proposed that this post is funded on a non-recurring basis for 12 months in the first instance. Prior to commissioning the post a set of metrics will be agreed to judge its efficacy and this will be reviewed prior to any extension. Board share is by population.

*Table 10: AHP Rehab Coordinator Costs*

	Network		NHSL		NHSAA		NHSDG	
	wte	£	wte	£	wte	£	wte	£
AHP B7 Rehab Co-ordinator	1.00	£55,598	0.56	£31,135	0.31	£17,235	0.13	£7,228

### Administrative Support

Administrative support for the hub should be equivalent to 0.5 wte medical secretary for each consultant appointment made to NHSL. The phasing of this transfer of resource will be in line with the phasing of the transfer of consultant posts and final agreement will be reached as to where this resource is deployed across the network as some secretarial support will continue to be required at spoke sites. A theatre scheduler will also be required who will co-ordinate scheduling of the two vascular theatres at UHH.

The Board share of this admin resource will be by population.

*Table 11: Admin Costs*

	Network		NHSL		NHSAA		NHSDG	
	wte	£	wte	£	wte	£	wte	£
Theatre Scheduler B4	1.00	£31,398	0.56	£17,584	0.31	£9,861	0.13	£3,953
Medical Secretary B3	5.50	£157,933	3.08	£88,448	1.73	£49,601	0.69	£19,883
Total Admin Costs	6.50	£189,331	3.64	£106,033	2.04	£59,462	0.82	£23,836



## 6.2.5 Summary of Pay Costs

Table 12: Summary of Pay Costs

	Network	NHSL	NHSAA	NHSDG
Ward Beds	£2,654,514	£1,503,069	£886,066	£265,378
Higher Level of Care Beds	£578,257	£335,324	£188,105	£54,829
Perioperative Care	£1,483,581	£767,021	£516,394	£200,166
Emergency Rota	£664,494	£372,143	£208,692	£83,659
Vascular Lab	£111,196	£100,299	£8,896	£2,002
Administration	£189,331	£106,033	£59,462	£23,836
AHP Rehab Co-ordinator (non-recurring)	£55,598	£31,135	£17,235	£7,228
<b>TOTAL PAYS</b>	<b>£5,736,970</b>	<b>£3,215,024</b>	<b>£1,884,849</b>	<b>£637,097</b>

## 6.3 Non Pay Costs

Non pay costs are incurred in relation to consumables and drugs associated with the transfer of activity to a central hub at UHH and with capital investment required to allow the site to function as the regional centre.

### 6.3.1 Consumables

Consumables and drugs associated with inpatient stays at UHH will be charged at a flat rate of £17 per occupied bed day and £425 per theatre procedure. The cost per theatre procedure is subject to revision by agreement of the three Boards on receipt of more accurate theatre costing data.

In addition to this, each Board will undertake to pay the costs associated with any high value theatre consumables (namely endovascular stents for EVAR, TEVAR, FEVAR and CERAB procedures). NHSL will procure these under their current contractual arrangements and will invoice NHSDG and NHSAA for the costs.

### 6.3.2 Facilities Management Costs

Each Board will be expected to contribute to indirect expenditure such as catering and domestic costs, with the principle being that facility management costs will be apportioned based on Occupied Bed Days. An assessment of this is presently being undertaken, with costs for each Board to be finalised.

### 6.3.3 Capital Investment

Three priorities for capital investment have been identified as crucial enablers of the model of care identified in this business case. These are the provision of a hybrid theatre at UHH, the provision of the imaging equipment for the vascular lab and the provision of patient, nursing and therapy equipment and furniture for the additional inpatient beds being opened at UHH. These costs are outlined in Table 12,

Table 12: Capital Costs by Board

	Total	NHSL	NHSAA	NHSDG
Hybrid Theatre	£3,000,000	£1,680,000	£942,300	£377,700
Vascular Lab	£75,000	£68,400	£4,700	£1,900
Ward Equipment	£150,000	£0	£135,225	£13,775
<b>TOTAL</b>	<b>£3,225,000</b>	<b>£1,748,400</b>	<b>£1,082,225</b>	<b>£393,375</b>

### Hybrid Theatre

A hybrid theatre is an integrated operating theatre and interventional radiology suite which combines the functionality of a traditional operating theatre and a radiology facility by providing access to sophisticated intra-operative and post-operative imaging and intervention within a theatre environment.

Within the context of a regional vascular centre, such as that being proposed at UHH, a hybrid theatre facility would be used for the treatment of all aspects of arterial disease, some venous cases and occasional vascular trauma cases.

Increasingly, vascular disorders are treated by minimally invasive 'endovascular' techniques (e.g. angioplasty, stenting, embolisation, etc.). Where appropriate, endovascular techniques offer a safer and more person centred treatment than traditional surgical techniques.

Open surgical operations still form an important part of the procedural repertoire but commonly it is now a combination of open and endovascular methods that is required.

Where hybrid or endovascular procedures are performed currently on patients in NHSL, NHSAA and NHSDG, they occur either in interventional radiology (IR) suites or in traditional theatres with the support of mobile imaging equipment ('c-arms').

Each of the above settings entails its own constraints as to the quality of care that can be offered to the patient. Traditional IR rooms are not designed to incorporate an anaesthetic machine and the additional staff required for a general anaesthetic procedure. They lack the positive pressure, air cycling ability and environmental control of an operating theatre. This entails a significant compromise in terms of sterility. Other issues include a lack of optimal lighting and suction facilities for the open surgical aspects of these procedures.

The use of a mobile c-arm to perform a hybrid procedure in a traditional theatre entails major compromises in terms of radiation safety and imaging quality which in turn leads to patients receiving care which is not optimal.

The provision of adequate hybrid theatre capacity at UHH is a pre-requisite of the establishment of the Regional Vascular Centre. This capacity will allow optimum care to be delivered to patients, will reduce the risk of exposing patients and staff to unnecessary harm and will enable the increased use of minimally invasive endovascular procedures which require less health care resource to deliver. Such is the constraints on theatre capacity at UHH, that the commissioning of a hybrid theatre will require significant capital works to be undertaken to repurpose a recovery area to a theatre environment.

A total provision of approximately £3 million is required for the purchase and commissioning of a hybrid imaging system (approx. £1million), the necessary capital works to create a theatre environment and associated enabling arrangements. At time of writing it is unclear the extent to which changes to supply chain and possible site access restrictions as a result on the Covid 19 pandemic will impact on the above cost estimates which were established prior to the pandemic.

Board share of this investment is on the basis of population.

#### Vascular Laboratory Equipment

In order to establish a Vascular Lab a number of pieces of diagnostic and general equipment would require to be purchased. The most significant purchase would be of a high quality ultrasound machine. Total costs are approximately £75,000 and the Board share of these should be apportioned in the same manner as pay costs relating to the Vascular Lab.

#### Ward Equipment

The physical ward space to accommodate the uplift in vascular beds at UHH will be facilitated by the redesign of NHSL's trauma and orthopaedic services which will see the Board's inpatient trauma service centralise at University Hospital Wishaw. This will release a 20 bedded ward which will be denuded of all equipment. Approximate costs to equip this ward are £150,000. These costs will be split between NHSAA and NHSDG only on the basis of their projected bed use (cf. 6.1.1). Both Boards will have the opportunity to provide equipment through the transfer of appropriate assets rather than cash.

Discussion is underway with Scottish Government Health Finance and Infrastructure colleagues have confirmed that they are content for the three Boards to agree a share of depreciation apportioned a share of depreciation charges over the life time of the purchased assets. Finance colleagues from the three Boards will work to agree this.

#### **6.4 Arrangements for monitoring activity and service provision (2020/21)**

Oversight for the delivery of the project described in this business case will sit with the West of Scotland Vascular Services Review Steering Group which is chaired by the Director of Regional Planning. The UHH Operational Implementation Group will be responsible for ensuring the operational arrangements

to support the UHH hub are delivered along an appropriate timeline and will escalate any risks and issues to the Steering Group.

- **Clinical and Corporate Representation** - The following key individuals will be involved in the project:
    - General Managers and Service Manager
    - Clinical Directors, Clinical Leads and Consultant body
    - Nursing Management and senior nursing stakeholders
    - AHP Management and senior AHP stakeholders
    - West of Scotland Regional Planning
    - Co-opted representation from Board functions including Finance and HR
  - **Ongoing Operational Management and Clinical Governance** – Operational management and clinical governance arrangements for activity undertaken at the hub will fall under the purview of the Surgical and Critical Care directorate at UHH. The directorate’s Service Manager, Senior Nurse and Clinical Director will have day to day operational responsibility with escalation to the site’s Director of Hospital Services, Chief of Nursing and Chief of Medicine.
  - **Activity Monitoring and Financial Arrangements** – Activity reports providing a detailed breakdown of the hub resource use (i.e. OBDs and theatre sessions) by patient Board of residence will be provided by NHSL to NHSAA and NHSDG on a quarterly basis.
- N.B. All costs indicated in this business case and those still subject to final revision will be in operation from 1<sup>st</sup> April 2021 on the assumption the project is delivered on schedule. Financial year 2021/22 will be the first full year of operation of the new networked service model. For 2022/23 the proposal is that costs be shared based on 2021/22 actual activity and for 2023/24 the split will be based on the two years activity, moving to a 3 year rolling average from 24/25 onwards.
- Further discussion will take place between finance colleagues from the three Boards to agree the timeline for the transfer of funds to allow recruitment to take place in time for the hub being operational.

## 7. Risk Management Arrangements

Risk factors have been identified, their likelihood measured and an assessment of the implication made should any of those risks materialise. *Table 13* below describes these.

*Table 13: Project Risks*

<b>Risk Description</b>	<b>Mitigating Action (reduce probability)</b>
<i>Inability to repatriate vascular patients as expected</i>	<i>Draft and agree repatriation pathways by establishing a repatriation group. This must cover procedures for pathways/communications/notes and patient expenses</i>
<i>Lack of radiographer cover (recruitment, retention and training)</i>	<i>Model staff numbers for the distinct phases to understand staffing gaps – modelling against the 3 phases of the project</i>
<i>Lack of Interventional Radiology cover</i>	<i>Ensure that the operational team are linked to Regional IR Short Life Working Group</i>
<i>Delays to planned timeline due to lack of progress in T&amp;O project.</i>	<i>Align with Major Trauma programme and ensure that any slippage is highlighted immediately and built into the Hub schedule – align with local Major Trauma rep</i>

<i>Failure to secure capital funding for adequate hybrid theatre capacity.</i>	<i>Seek advice from senior management regarding funding status and timeline of funding sign off - ensure that senior management &amp; CE's fully briefed on challenging timescales to ensure business case is approved</i>
<i>Risks associated with implementation of phase 3 without a vascular lab</i>	<i>Determine what activity could not be accommodated and suggest alternative options/locations to manage this</i>
<i>Risks associated with implementation of Phase 3 without an agreed Rehabilitation Model and supporting roles and functions in place.</i>	<i>Develop WoS Vascular Rehabilitation Network, determine current models, map current pathways and establish agreed single model of delivery. Determine roles, functions and governance of long-term rehabilitation delivery</i>
<i>Risks associated with lack of specialist vascular rehabilitation</i>	<i>Consultation and provision for specialist vascular rehabilitation requirements (AHP workforce and equipment considerations) included within business case</i>
<i>Risk to interventional capacity on the UHH site as a result of the capital works to create Theatre 9 impacting on the Angio Room</i>	<i>Options for re-providing this activity to be worked up by Hybrid Theatre group. Capital costs to include provision</i>

## 8. Benefits Realisation Plan

In addition to the strategic benefits, there are a range of operational benefits that implementation of this model should deliver. These benefits are outlined in *Table 15* along with the evidence required to monitor and measure objectives.

*Table 14: Delivering the Planned Benefits*

<b>Benefit Description</b>	<b>Monitoring Evidence</b>
Supports recommendations of national vascular framework/ national clinical strategy/ WoS Vascular group (high quality, safe and effective care; improved outcomes)	Vascular audit database
Sustainable out of hours rota	Tier 3 rota outlined and effectively working
Critical volume thresholds are met for major arterial procedures	Activity data sharing (monthly) and ISD SMR01 (quarterly)
Improved access to education and training	Plan to be agreed
Supports the recruitment and retention of highly skilled staff	Monitor recruitment process
Shared/common protocols and pathways	Share finalised protocols and pathways
Shift of Tier 3 surgical activity to Hub with all elements being performed on a single site	Activity data sharing (monthly) and ISD SMR01 (quarterly)
Minimum 54 AAA operations	Activity data sharing (monthly) and ISD SMR01 (quarterly)
Minimum 94 carotid endarterectomies	Activity data sharing (monthly) and ISD SMR01 (quarterly)
Access to larger Tier 3 team; more flexible /more frequent operating; reduced hospital stays	Activity data sharing (monthly) and ISD SMR01 (quarterly)
Local access to Tier 2 centre for surgery	Activity data sharing (monthly) and ISD SMR01 (quarterly)
On-site presence of vascular surgeons at DGRI and UHA; Emergency/urgent input or urgent support from vascular services for other services at DGRI and UHA	DGRI and UHA monthly summary from CSM

Patient Experience	Quarterly review of patient feedback forms

## 9. Equal Opportunities

This business case has been assessed using the NHSL, NHSAA and NHSDG Standard Equality & Diversity Impact Assessment Document (EQIA) and Standard Impact Assessment. The impact of this business case on equality groups, in relation to promoting equal opportunities has been measured. This evaluation did not identify any potential negative/adverse or differential impact on the following protected characteristics:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership (eliminating discrimination only)
- Pregnancy and maternity
- Race/ethnicity
- Religion/belief
- Sex (male/female)
- Sexual orientation

Due regard has been given to the Equality Act 2010 and compliance with the three aims of the Equality Duty as part of the decision making process. These are:

- To eliminate discrimination
- To advance equality of opportunity
- To foster good relations

In conclusion, the screening process has not shown potential for a high negative impact. The business case does not have a significant impact upon equality issues. A more detailed impact assessment is not required.

## 10. Conclusion

The creation of a regional hub and spoke network for vascular services is a necessary development in ensuring the ability to provide a high quality, safe and person centred vascular care for the populations of NHSL, NHSAA and NHSDG.

Under the proposals contained in this business case, this care will be configured in the following way.

- NHSAA and NHSDG Tier 3 vascular services (for the number of patients who required complex inpatient care) will be provided on a “hub and spoke” basis, shared with NHSL, which is in line with the national quality framework for vascular services.
- Non-tier 3 NHSAA and NHSDG vascular services, including non-arterial day case activity and outpatient services, will continue to be delivered locally (i.e. DGRI and UHA will continue as a Tier 2 non-arterial vascular unit)
- Patients will receive acute inpatient vascular intervention, post-op care and concurrent rehabilitation at the UHH centre prior to the date at which they are clinically adjudged to have reached the end of their acute vascular episode of care.
- At the end of the acute vascular episode of care patients will be discharged home or repatriated to appropriate sites in their home board for ongoing rehabilitation or for ongoing acute care under a different specialty where this is required.

- The provision of Tier 1 (primary care) vascular services will continue unchanged
- The provision of Tier 4 (tertiary care) vascular services will continue unchanged

The key enablers of this service model are:

- The transfer of staffing resource in line with the transfer of activity to the UHH hub
- The provision of limited additional staffing resource vital to the delivery of the hub and spoke model
- Capital investment in the provision of a new hybrid theatre, a vascular lab and an equipped ward at UHH
- A commitment to provide well-functioning repatriation and rehabilitation pathways for patients no longer requiring acute vascular care at the UHH hub.

## Appendices

### Appendix 1: Detailed Ward Staffing Costs

	Network		NHSL		NHSAA		NHSDG		
% Share	36		56.6%		33.4%		10.0%		
Number of Beds	36		20.39		12.02		3.6		
Band	wte	£	wte	£	wte	£	wte	£	
<b>Nursing</b>									
	7	1.50	£100,911	0.85	£57,139	0.50	£33,684	0.15	£10,088
	6	1.50	£82,766	0.85	£46,864	0.50	£27,627	0.15	£8,274
	5	24.42	£1,084,565	13.83	£614,115	8.15	£362,024	2.44	£108,426
	2	17.28	£549,539	9.78	£311,166	5.77	£183,434	1.73	£54,939
<b>Total RN</b>		27.42	£1,268,242	15.53	£718,119	9.15	£423,334	2.74	£126,789
<b>Total CSW</b>		17.28	£549,539	9.78	£311,166	5.77	£183,434	1.73	£54,939
<b>Total Nursing</b>		<b>44.70</b>	<b>£1,817,781</b>	<b>25.31</b>	<b>£1,029,285</b>	<b>14.92</b>	<b>£606,768</b>	<b>4.47</b>	<b>£181,728</b>
<b>Physiotherapy</b>									
	7	0.53	£29,467	0.30	£16,685	0.18	£9,836	0.05	£2,946
	6	2.21	£100,778	1.25	£57,064	0.74	£33,639	0.22	£10,075
	5	0.88	£32,300	0.50	£18,290	0.29	£10,782	0.09	£3,229
	4	0.62	£19,467	0.35	£11,023	0.21	£6,498	0.06	£1,946
<b>Total Physio</b>		<b>4.24</b>	<b>£182,012</b>	<b>2.40</b>	<b>£103,061</b>	<b>1.42</b>	<b>£60,755</b>	<b>0.42</b>	<b>£18,196</b>
<b>Occupational Therapy</b>									
	6	1.32	£60,193	0.75	£34,083	0.44	£20,092	0.13	£6,018
	5	1.76	£64,601	1.00	£36,579	0.59	£21,563	0.18	£6,458
	4	1.15	£36,108	0.65	£20,445	0.38	£12,053	0.11	£3,610
<b>Total OT</b>		<b>4.23</b>	<b>£160,902</b>	<b>2.40</b>	<b>£91,108</b>	<b>1.41</b>	<b>£53,708</b>	<b>0.42</b>	<b>£16,086</b>
<b>Podiatry</b>									
	7	0.35	£19,459	0.20	£11,018	0.07	£6,495	0.03	£1,945
	3	0.26	£7,466	0.15	£4,227	0.09	£2,492	0.03	£746
<b>Total Podiatry</b>		<b>0.61</b>	<b>£26,925</b>	<b>0.35</b>	<b>£15,246</b>	<b>0.15</b>	<b>£8,988</b>	<b>0.06</b>	<b>£2,692</b>
<b>Dietetics</b>									
	5	0.35	£12,847	0.20	£7,274	0.12	£4,288	0.03	£1,284
<b>Total Dietetics</b>		<b>0.35</b>	<b>£12,847</b>	<b>0.20</b>	<b>£7,274</b>	<b>0.12</b>	<b>£4,288</b>	<b>0.03</b>	<b>£1,284</b>
<b>Advanced Nurse Practitioner</b>									
	7	2.77	£186,349	1.57	£105,517	0.92	£62,203	0.28	£18,630
<b>Total ANP</b>		<b>2.77</b>	<b>£186,349</b>	<b>1.57</b>	<b>£105,517</b>	<b>0.92</b>	<b>£62,203</b>	<b>0.28</b>	<b>£18,630</b>
<b>Pharmacy</b>									
	7	1.00	£55,598	0.57	£31,481	0.33	£18,558	0.10	£5,558
<b>Total Pharmacy</b>		<b>1.00</b>	<b>£55,598</b>	<b>0.57</b>	<b>£31,481</b>	<b>0.33</b>	<b>£18,558</b>	<b>0.10</b>	<b>£5,558</b>
<b>Medical</b>									
Clinical Development Fellow		3.03	£212,100	1.72	£120,098	1.01	£70,798	0.30	£21,204
<b>Total Medical</b>		<b>3.03</b>	<b>£212,100</b>	<b>1.72</b>	<b>£120,098</b>	<b>1.01</b>	<b>£70,798</b>	<b>0.30</b>	<b>£21,204</b>
<b>TOTAL</b>		<b>60.93</b>	<b>£2,654,514</b>	<b>34.50</b>	<b>£1,503,069</b>	<b>20.29</b>	<b>£886,066</b>	<b>6.09</b>	<b>£265,378</b>

## Appendix 2: Detailed Perioperative Staffing Costs

	Network		NHSL		NHSAA		NHSDG		
% Share			51.7%		34.8%		13.5%		
Number of Sessions	882		456		307		119		
Band	wte	£	wte	£	wte	£	wte	£	
<b>Theatre and First Stage Recovery Nursing</b>									
	6	2.00	£110,354	1.03	£57,054	0.70	£38,411	0.27	£14,889
	5	9.91	£440,000	5.12	£227,483	3.45	£153,152	1.34	£59,365
	3	5.10	£177,304	2.64	£91,667	1.78	£61,715	0.69	£23,922
Total RN		11.91	£550,354	6.16	£284,537	4.14	£191,563	1.61	£74,254
Total CSW		5.10	£177,304	2.64	£91,667	1.78	£61,715	0.69	£23,922
<b>Total Theatre and First Stage</b>		<b>17.01</b>	<b>£727,657</b>	<b>8.79</b>	<b>£376,204</b>	<b>5.92</b>	<b>£253,278</b>	<b>2.30</b>	<b>£98,176</b>
<b>Day Surgery Admissions and Second Stage Recovery</b>									
	5	5.75	£255,375	2.97	£132,030	2.00	£88,889	0.78	£34,455
	3	2.75	£95,549	1.42	£49,399	0.96	£33,258	0.37	£12,891
<b>Total Day Surgery and Second Stage</b>		<b>8.50</b>	<b>£350,924</b>	<b>4.39</b>	<b>£181,430</b>	<b>2.96</b>	<b>£122,147</b>	<b>1.15</b>	<b>£47,347</b>
<b>Aneasthetics</b>									
Consultant Aneasthetist		3.24	£405,000	1.68	£209,388	1.13	£140,969	0.44	£54,643
<b>Total Anaesthetics</b>		<b>3.24</b>	<b>£405,000</b>	<b>1.68</b>	<b>£209,388</b>	<b>1.13</b>	<b>£140,969</b>	<b>0.44</b>	<b>£54,643</b>
<b>TOTAL</b>		<b>28.75</b>	<b>£1,483,581</b>	<b>14.86</b>	<b>£767,021</b>	<b>10.01</b>	<b>£516,394</b>	<b>3.88</b>	<b>£200,166</b>



## Appendix 2

### EQUALITY IMPACT ASSESSMENT

When completed, a copy of this EQIA form should be emailed to [elaine.savory@aapct.scot.nhs.uk](mailto:elaine.savory@aapct.scot.nhs.uk)

<b>Name of Strategy</b>	West of Scotland Regional Vascular Service Re Configuration of Service		
<b>Name of Division</b>	Acute Services		
<b>Names and role of Review Team:</b>	Karen Andrews, General Manager Philip Hodgkinson, Associate Medical Director Steven Boom, Consultant Vascular Surgeon	<b>Date(s) of assessment:</b>	August 2019 and ongoing
<b>PART ONE: RAPID IMPACT ASSESSMENT (INITIAL SCREENING PROCESS)</b>			
<b>SECTION ONE AIMS OF THE PROGRAMME</b>			
<b>1.1. Is this a new or existing Policy :</b> New regional policy for local implementation			
<b>1.2. What is the aim or purpose of the Strategy:</b>			
<p>In 2011 the Vascular Services Steering Group which was commissioned by the National Planning Forum published 'A Quality Framework for Vascular Services'. The West of Scotland Regional Vascular Services Review Group agreed an ambition to develop a hub and spoke model for service delivery in the region that would see the establishment of two Regional Centres of Excellence within the West of Scotland. One such Hub will be based at University Hospital Hairmyres and the other will be based at the Queen Elizabeth University Hospital. NHS Ayrshire and Arran will become a spoke unit with the Hub unit at University Hospital Hairmyres. This hub will serve the populations of NHS Lanarkshire, NHS Ayrshire and Arran and NHS Dumfries and Galloway.</p> <p>All outpatient services will continue to be delivered in NHS Ayrshire &amp; Arran together with appropriate day case procedures.</p> <p>The impetus to establish the Regional Network is multifactorial. One significant influencing factor has been the fragility of the medical workforce within the specialty. This is a national issue.</p>			
<b>1.3. Who is this strategy intended to benefit or affect? In what way? Who are the stakeholders?</b>			
<p>Patients Staff (Medical, Nursing)</p>			

Supporting clinical services (Radiology, Cardiophysiology)  
 GPs  
 Scottish Ambulance Service

The benefit will be establishment of a large vascular unit in Hairmyres Hospital that will be able to offer a wider range of treatments for vascular patients with a sustainable workforce and strength to innovate and develop in the future. The process will ensure all groups are informed using verbal and written communication. All groups will be able to engage in the process either via face to face meetings and electronic communications. The key stakeholders were all included in the first information sharing meeting held in February 2019 or given the opportunity to send comments via email.

**1.4. What is the socio-economic impact of this policy / service change? (The [Fairer Scotland Duty](#) places responsibility on Health Boards to actively consider how they can reduce inequalities of outcomes cause by socio-economic disadvantage when making strategic decisions)**

The Scottish Index of Multiple Deprivation (SIMD) identifies small area concentrations of multiple deprivation across Scotland. It is made up of seven domains constructed from 38 indicators that are used to measure multiple aspects of deprivation. The domains and their weighting are income; employment; health; education, skills and training; geographic access to services; crime and housing. The SIMD ranges from SIMD1 being the most deprived to SIMD 5 being the least deprived area. SIMD identifies deprived areas, not deprived individuals. It is the most accessible and consistent measure available for targeting resources to those communities experiencing the most multiple deprivation. Many programmes of work within NHS Ayrshire and Arran utilise SIMD with the overarching aim of reducing inequalities in health.

**2017 population data by Council Area**

Area name	SIMD1	SIMD2	SIMD3	SIMD4	SIMD5	Total	SIMD1 and SIMD2 total
East Ayrshire	38,416	30,836	21,277	17,372	14,039	<b>121,940</b>	<b>69,252</b>
North Ayrshire	52,946	29,892	19,067	20,292	13,593	<b>135,790</b>	<b>82,838</b>
South Ayrshire	19,676	29,818	24,641	15,423	23,122	<b>112,680</b>	<b>49,494</b>

The **National Share** considers the percentage of the most deprived data zones in Scotland that are found in a particular area such as a Health Board or Local Authority area. So, there are 1,046 data zones that make up the 15% most deprived areas in Scotland. NHS Ayrshire and Arran has 106 of these giving us a national share of 10.1%.

The **Local Share** considers the percentage of an area's data zones that are amongst the 15% most deprived in Scotland. So, there are 502 data zones in NHS Ayrshire & Arran, 106 of these are in the 15% most deprived giving us a local share of 21.1%. This measure is not influenced by the size of an area and picks

out areas with concentrations of deprived data zones whether these areas are large or small. The table below shows a breakdown for each locality of the number of data zones in the most deprived areas for NHS Ayrshire & Arran.

	Number of data zones at 5%	Number of data zones at 10%	Number of data zones at 15%
Ayrshire & Arran	28	63	106
East Ayrshire	10	18	36
North Ayrshire	12	32	51
South Ayrshire	6	13	19

The following table outlines some of the links between ill health and living in the most deprived areas.

### NHS Ayrshire and Arran Health and Well-being

Indicator	Period		East Ayrshire	North Ayrshire	South Ayrshire	National average
Male life expectancy	2014-16		76.5 years	75.9 years	77.5 years	77.1 years
Female life expectancy	2014-16		79.8 years	80.5 years	80.8 years	81.1 years
Deaths all ages	2015-17	*	1,269	1,223	1,113	1,167
Early deaths from cancer (<75)	2015-17	*	161	169	154	160
Early deaths from coronary disease (<75)	2015-17	*	66	64	52	53
Estimated smoking attributable deaths	2016-17	*	392	402	297	337
Smoking prevalence (adults 16+)	2016		22.1%	27.0%	16.9%	19.6%
Alcohol-related hospital stays	2017/18	*	658	895	758	676
Drug-related hospital stays	2014/15-2016/17	*	277	342	192	147
New cancer registrations	2014-16	*	621	677	608	643
Population prescribed drugs for anxiety/depression/psychosis	2017/18		20.1%	21.1%	21.3%	18.8%

Patients with emergency hospitalisations	2015-17	*	9,685	9,893	9,451	7,606
Patients (65+) with multiple emergency hospitalisations	2015-17	*	6,577	6,274	6,500	5,421
Adults claiming incapacity benefit/ severe disability allowance	2016		6.9%	7.4%	5.9%	6.1%
People aged 65+ with high levels of care needs who are cared for at home	2017		29.9%	31.2%	35.8%	35.2%
Working age adults with low or no educational qualifications	2013		18.0%	17.0%	11.2%	12.6%
Population income deprived	2017		15.5%	17.3%	12.6%	12.2%
Working age population employment deprived	2017/18		13.6%	15.3%	11.8%	10.6%
People claiming pension credits (60+)	2016		6.9%	6.4%	4.9%	5.5%
People living in 15% most 'access deprived' areas	2017		16.5%	10.1%	13.1%	15.0%

\* = age-sex standardised rate per 100,000 population to ESP2013

**Area data significantly worse than national comparator**

The Scottish Household Survey 2017 data below shows that, in Ayrshire, people who own their own home are more likely to have at least one car where as in all 3 localities this figure for those who live in social housing drops to less than 50%.

#### Household characteristics by tenure\* – No of Cars

##### East Ayrshire 2017

	Owner Occupier	Social Sector	Private Rent	Other	All
0 cars	8	56	*	*	24
1 car	40	41	*	*	42
2+ cars	52	3	*	*	34
All	100	100	100	100	100

**North Ayrshire 2017**

	<b>Owner Occupier</b>	<b>Social Sector</b>	<b>Private Rent</b>	<b>Other</b>	<b>All</b>
0 cars	16	56	*	*	30
1 car	55	33	*	*	48
2+ cars	29	11	*	*	21
All	100	100	100	100	100

**South Ayrshire 2017**

	<b>Owner Occupier</b>	<b>Social Sector</b>	<b>Private Rent</b>	<b>Other</b>	<b>All</b>
0 cars	11	59	*	*	24
1 car	47	33	*	*	45
2+ cars	41	8	*	*	32
All	100	100	100	100	100

\* Tenure refers to the housing status of individuals as outlined above.

We know that women and disabled people are particularly likely to experience poverty (Scottish Government, 2019), and that women and disabled people are less likely to drive and more likely to use buses (Transport Scotland, 2018).

Patients who would travel by public transport would be disproportionately disadvantaged in terms of increased travel.

**1.5. What outcomes are intended from this Strategy**

Outcomes which are in line with the National Model for Tiered Vascular Services are:

- All patients admitted as an emergency admission will be admitted to University Hospital Hairmyres.
- All patients who require Tier 3 elective surgery will be admitted to University Hospital Hairmyres
- All outpatient clinics and daycase procedures will continue to be carried out locally.

**Table 1 National Model for Tiered Vascular Services**

<b>Tier</b>	<b>Description</b>
Tier 1: Primary/ community care	The vast majority of vascular patients will be looked after within primary care by General Practitioners, practice nurses, podiatrists
Tier 2: Ambulatory care and rehabilitation	New outpatient referrals and follow-up appointments; venous surgery, minor amputations, venous access and primary vascular access
Tier 3: Complex inpatient care	Open surgical or endovascular repair of abdominal aortic aneurysm (AAA), carotid endarterectomy (CEA), or assessment and management of critical limb ischaemia (CLI), complex vascular access and care of vascular emergencies
Tier 4: Tertiary referral centres	Particularly complex, rare or highly specialist interventions, e.g. repair of thoracic and thoraco-abdominal aortic aneurysms (TAAA), or fenestrated aortic stenting

**1.6. How have these people been involved in the development of this policy?**

- Members of the West of Scotland Regional Vascular Group
- Regional Vascular Group
- Local information sharing group

**1.7. What resource implications are linked to this strategy?**

To be determined. SLA to be updated.

**SECTION TWO**

**IMPACT ASSESSMENT**

Complete the following table, giving reasons or comments where:

The Programme could have a positive impact by contributing to the general duty by –

- Eliminating unlawful discrimination
- Promoting equal opportunities
- Promoting relations within the equality group
- Taking account of disabilities

The Programme could have an adverse impact by disadvantaging any of the equality groups. Particular attention should be given to unlawful direct and indirect discrimination.

If any potential impact on any of these groups has been identified, please give details - including if impact is anticipated to be positive or negative.


*Equality Target Groups*

	<i>Positive impact</i>	<i>Adverse impact</i>	<i>No impact</i>	<i>Reason or comment for impact rating</i>
<b>2.1. Age (young and old)</b>	X	X	X	<p>Patients will have a positive impact if they are seen and treated in a timely manner.</p> <p>Patients may perceive an adverse impact if they are transferred to NHS Lanarkshire for their care.</p> <p>Patients who require an outpatient consultation only or having a daycase procedure will have no impact.</p>

<p><b>2.2. Disability</b> (incl. physical/ sensory problems, learning difficulties, communication needs; cognitive impairment)</p>	<p>X</p>	<p>X</p>		<p>Adults' claiming incapacity benefits, severe disability allowance, employment and support allowance in East and North Ayrshire is significantly higher than the Scottish average. However, in South Ayrshire this figure is significantly lower than the Scottish average.</p> <p>Patients with a physical disability requiring travel support would require to use the Patient Transport Service (provided by Scottish Ambulance Service). This could potentially increase the impact on the patient transport service in terms of travel time as patients may require support for further distances.</p> <p>Existing service provision for patients requiring communication support would remain the same.</p> <p>For the purposes of engagement and consultation, reasonable adjustments required are included within the process of engagement and consultation equality impact assessment.</p>
<p><b>2.3. Gender Reassignment</b></p>			<p>X</p>	<p>The impact on gender reassignment patients is neutral.</p>
<p><b>2.4 Marriage and Civil partnership</b></p>			<p>X</p>	<p>The impact on marriage and civil partnership patients is neutral.</p>
<p><b>2.5 Pregnancy and Maternity</b></p>			<p>x</p>	<p>The impact on patients who are pregnant / have very young babies is neutral.</p>
<p><b>2.6 Race/Ethnicity</b></p>			<p>X</p>	<p>The impact of someone's race or ethnicity would be neutral. Existing processes for supporting patients whose first language is not English would still be followed.</p>
<p><b>2.7 Religion/Faith</b></p>			<p>X</p>	<p>The impact of someone's religion or faith would be neutral. Existing chaplaincy services are available at both sites should any patients require access or support.</p>
<p><b>2.8 Sex (male/female)</b></p>			<p>X</p>	<p>A person's sex would have no particular impact on the decision to deliver the service as a Hub and Spoke Model.</p>



<b>Sexual Orientation incl.</b> <b>2.9 Lesbians</b> <b>2.10 Gay men</b> <b>2.11 Bisexuals</b>			X	The impact of someone's sexual orientation would be neutral.
<b>2.12 Staff</b> (This could include details of staff training completed or required in relation to service delivery)	X	X		There is an impact on nursing / clinical staff. Staff will be redeployed to other clinical areas. Existing organisational processes would be implemented.
<b>2.13 Carers</b>		X		Travel for carers could be a problem as they will require to travel to Hairmyres where their relative has been admitted for inpatient care.  Staff as carers have the potential to be impacted upon in terms of caring responsibilities.
<b>2.14 Homeless</b>			X	The impact of someone being homeless would be neutral.
<b>2.15 Involved in criminal justice system</b>			X	Impact would be neutral. For any persons requiring to go Hairmyres, the travel distance would be similar to that of Ayr Hospital from Bowhouse prison.
<b>2.16 Language/ Social Origins</b>			X	The impact of someone's language or social would be neutral. Existing processes for supporting patients whose first language is not English would still be followed. For patient's attending Hairmyres Hospital for treatment, NHS Ayrshire & Arran would cover the costs of interpreting support.
<b>2.17 Literacy</b>			X	The impact of someone with literacy issues would be neutral.
<b>2.18 Low income/poverty</b>				Refer to information included at 1.4
<b>2.19 Individuals with Mental Health issues</b>			X	The impact is expected to be neutral.

2.20 Rural Areas		X		<p>Rurality as a whole will have an impact on patient travel time where an admission is required in Hairmyres. Ayrshire is geographically remote and rural as can be seen in the graphic below. For patients living in the south of South Ayrshire there will be additional travel required. For most people living in the East and North travel time may not be hugely different.</p> 
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SECTION THREE CROSSCUTTING ISSUES				
What impact will the proposal have on lifestyles? For example, will the changes affect:				
	<i>Positive impact</i>	<i>Adverse impact</i>	<i>No impact</i>	<i>Reason or comment for impact rating</i>
3.1 Diet and nutrition?			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.
3.2 Exercise and physical activity?			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.

<b>3.3 Substance use: tobacco, alcohol or drugs?</b>			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.
<b>3.4 Risk taking behaviour?</b>			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.
<b>3.5 Education and learning, or skills?</b>			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.
<b>3.6 Other</b>				

<b>SECTION FOUR CROSSCUTTING ISSUES:</b>				
<b>Does your Programme consider the impact on the social environment? Things that might be affected include:</b>				
	<i>Positive impact</i>	<i>Adverse impact</i>	<i>No impact</i>	<i>Reason or comment for impact rating</i>
<b>4.1 Social status</b>			X	The decision to locate inpatient services at University Hospital Hairmyres would have no differential impact on this.
<b>4.2 Employment (paid or unpaid)</b>			X	The decision to locate Tier 3 and out of hours services at Hairmyres would have no differential impact on this. Patients would require to take time off work to attend for elective or emergency care regardless of the site.
<b>4.3 Social/family support</b>		X		The decision to locate Tier 3 at Hairmyres has the potential to have negative impact on social / family support due to the need to travel out with NHS A&A.
<b>4.4 Stress</b>		X		The decision to locate Tier 3 at Hairmyres has the potential to cause stress to patients, family members and carers due to the fact Hairmyres is out with NHS A&A and the need for additional travel, particularly those who require to travel by public transport. However, given the patient will be located in the right place being treated by the right people will hopefully alleviate patient stress with a view to quick return to own home.

<b>4.5 Income/Expenditure</b>		X		<p>The decision to locate Tier 3 at Hairmyres has the potential to have an impact on expenditure for family members and carers due to the fact Hairmyres is out with NHS A&amp;A and the need for additional travel, particularly those who require to travel by public transport. However, given the patient will be located in the right place being treated by the right people will hopefully result in a quicker return for the patient to their own home. For those individuals who are in receipt of benefits, there is the opportunity for those additional costs to be reimbursed.</p>
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SECTION FIVE CROSSCUTTING ISSUES				
Will the proposal have an impact on the physical environment? For example, will there be impacts on:				
	<i>Positive impact</i>	<i>Adverse impact</i>	<i>No impact</i>	<i>Reason or comment for impact rating</i>
<b>5.1 Living conditions?</b>			X	There is no impact on living conditions for this proposal.
<b>5.2 Working conditions?</b>		X		Consultants will have additional travel time to and from Base.
<b>5.3 Pollution or climate change?</b>		X		There is some impact on pollution or climate change for this proposal as family members and carers will require to travel further to visit inpatients. Consultants will need to travel more to cover Ayrshire, Lanarkshire and Dumfries and Galloway.
<b>5.4 Accidental injuries or public safety?</b>			X	There is no impact on accidental injuries or public safety for this proposal.
<b>5.5 Transmission of infectious disease?</b>			X	There is no differential impact in relation to transmission of infectious disease for this proposal.
<b>5.6 Other</b>				
Will the Programme have any impact on...				
<b>Discrimination?</b>			x	The future model for service delivery is the basis for sustainable vascular services across the West of Scotland. The equality impact assessment has considered the impact on different communities and seeks to address any potential adverse impacts in line with the aims of the public sector duty. The service will provide person centred care to patients and specific adjustments, where necessary, will be considered on an individual basis.
<b>Equality of opportunity?</b>			x	
<b>Relations between groups?</b>			x	
<b>Other</b>				

<b>Will the proposal affect access to and experience of services? For example:</b>				
	<i>Positive impact</i>	<i>Adverse impact</i>	<i>No impact</i>	<i>Reason or comment for impact rating</i>
<b>Health care</b>	X	X		<p>It is anticipated that the proposal to centralise the in-patient and out of hours vascular service at University Hospital Hairmyres will have demonstrable advantages such as:</p> <ul style="list-style-type: none"> <li>• Sustainability of Service</li> <li>• Equitable access to Endovascular Service</li> <li>• Enhanced opportunities for service development and research</li> </ul> <p>Travel requirements for family members and carers will be increased due to the fact that Hairmyres is out with NHS A&amp;A and the need for additional travel, particularly those who require to travel by public transport. However, given the patient will be located in the right place being treated by the right people will hopefully result in a quicker return for the patient to their own home. For those individuals who are in receipt of benefits, there is the opportunity for those additional costs to be reimbursed.</p>
<b>Social Services</b>		X		The current support provided by social services has the potential to affect some patients care packages if these are being arranged from Hairmyres instead of locally.
<b>Education</b>			X	There is no impact on education services for this proposal.
<b>Transport</b>		x		This proposal will have an impact on transport needs. Patients and their families may have further to travel. There will also be an impact on the Scottish Ambulance Service in regard to transfers and repatriation.
<b>Housing</b>			X	There is no impact on housing services for this proposal.

## PART TWO

### SECTION SIX

### EXAMINATION OF AVAILABLE DATA AND CONSULTATION

**Data could include: consultations, surveys, databases, focus groups, in-depth interviews, pilot projects, reviews of complaints made, user feedback, academic or professional publications, reports etc)**

**Name any experts or relevant groups / bodies you should approach (or have approached) to explore their views on the issues.**

- National West of Scotland Vascular Group
- Abdominal Aortic Aneurysm Screening Group

**What do we know from existing in-house quantitative and qualitative data, research, consultations, focus groups and analysis?**

#### **Drivers for Change**

- That specialist care should be centralised to ensure expert opinion available at all times. Locally delivered services should continue for routine daycase and outpatient workloads.

**What do we know from existing external quantitative and qualitative data, research, consultations, focus groups and analysis?**

- Joined up thinking is required across all tiers of service delivery.

#### **Safety and quality of care**

- Patients receiving treatment should not be disadvantaged in any way.
- Confidence and trust in services is crucial for patients.

#### **Staff training requirements**

- All staff, at every tier of service provision, need to be appropriately trained to a consistent level.

#### **Closer to home treatment whenever possible**

- Travel and transport are key issues for patients and carers which significantly increase stress levels.

**What gaps in knowledge are there?**

No gaps in knowledge are currently identified. This is an agreed approach by the West of Scotland Planning Forum.

**In relation to the groups identified:**

**What are the potential impacts on health?**

The ultimate aim of the overarching review of Vascular Services is to ensure high quality, safe and sustainable services across the West of Scotland. The emerging service model aims to:

- Improve patient experience and outcomes;
- Ensure consistency of pathways and processes;
- Provide equitable access to treatment
- Optimise resource use.

**Will the Programme impact on access to health care? If yes - in what way?**

There will be some impact on access to health care. Patients may require to travel further to receive care and some referrals from hub hospitals will have longer waits as they will no longer have in house vascular services to call upon.

**Will the Programme impact on the experience of health care? If yes - in what way?**

There should be no detrimental impact on the experience of health care. Care will be accessible 24 hours / 7 days per week.

**SECTION SEVEN**

**HAVE ANY POTENTIAL NEGATIVE IMPACTS BEEN IDENTIFIED?**

**If so, what action been proposed to counteract these? Negative impacts (if yes, state how) e.g.**

- **Is there any unlawful discrimination? No**
- **Could any community get an adverse outcome? There is a potential for an adverse outcome if travel time impacts on the time to treat.**
- **Could any group be excluded from the benefits of the Programme/function? No**
- **Does it reinforce negative stereotypes? No**

Recommendations (This should include any action required to address negative impacts identified)

Where adverse impacts have been identified, mitigating actions have been outlined throughout the document.



**SECTION EIGHT                      MONITORING**

**How will the outcomes be monitored?**

- Collect data on patients admitted to Hairmyres
- Collect data on waiting times.
- Undertake patient satisfaction questionnaire and analyse results.

**What monitoring arrangements are in place?**

Activity will be monitored and analysed as appropriate.

**Who will monitor?**

General Manager with clinical team

**What criteria will you use to measure progress towards the outcomes?**

Length of stay in University Hospital Hairmyres. Amputation rates. Death rate from aortic aneurysm disease. Stroke rates in patients referred with carotid artery stenosis.

**COMPLETED PROGRAMME**

**Who will sign this off?    Joanne Edwards, Director of Acute Services**

**When?    Autumn 2020**

**PUBLICATION**

**How will this be published?**

**Copy given to Equality & Diversity Adviser**

**Carried Out by**

--

**Title**

--

**Signature**

**Date**

**Authorised by**

**Title**

**Signature**

**Date**

## Appendix 3

### Vascular Business Case V9 + additions

			Network		NHSAA		Releasable Savings		(Shortfall) / Surplus		Comment
			wte	£ ' 000	wte	£ ' 000	wte	£ ' 000	wte	£ ' 000	
Nursing	Ward	36 Beds	44.7	1,817	14.92	607					Available for local rehab service
	Level 1	4 Beds	5.54	246	1.13	82					
	Level 2/3	1.6 Beds	7.48	332	2.39	106					
	<b>TOTAL</b>		<b>57.72</b>	<b>2,395</b>	<b>18.44</b>	<b>795</b>	25.30	£1,082	<b>6.86</b>	<b>287</b>	
Other Ward Costs	ANP		2.77	186	0.92	62	1	62	<b>0.08</b>	<b>0</b>	Is there any requirement for ANP at Ayr? Can any AHPs be released? Can any pharmacy time be released? Can any CDFs be released locally?
	AHPs		9.43	383	3.1	128	0	0	<b>-3.10</b>	<b>-128</b>	
	Pharmacy		1	56	0.33	19	0	0	<b>-0.33</b>	<b>-19</b>	
	CDFs (ward)		3.03	212	1.01	71	0	0	<b>-1.01</b>	<b>-71</b>	
Emergency Rota	Specialty Doctor		4	360	1.26	113	0	0	<b>-1.26</b>	<b>-113</b>	Can any Spec Dr be released locally?
	Senior Trainee		1	25	0.31	8	0	0	<b>-0.31</b>	<b>-8</b>	
	Radiographers B6		4.09	226	1.28	71	0	0	<b>-1.28</b>	<b>-71</b>	
	Radiographers uplift		5	54	1.57	17	0	0	<b>-1.57</b>	<b>-17</b>	

Theatre	Anaesthetists	3.24	405	1.13	141	1.13	147	<b>0.00</b>	<b>6</b>	Based on cost book - assumed 50% medical for anaesthetists Based on current vascular theatre activity
	Nursing	25.51	1,079	8.88	375	4.9	200	<b>-3.98</b>	<b>-175</b>	
Other	Lab Technician	2	111	0.16	9	0	0	<b>-0.16</b>	<b>-9</b>	We do not have a similar post in A&A This is a new post, non-rec in first instance
	Rehab Coordinator	1	56	0.31	17	0	0	<b>-0.31</b>	<b>-17</b>	
	Theatre Scheduler	1	31	0.31	10	0	0	<b>-0.31</b>	<b>-10</b>	
	Medical Secretary	5.5	158	1.73	50	2	60	<b>0.27</b>	<b>10</b>	
Premises + Equipment	Equipment Maintenance		80		25	0			-25	Saving to be identified, expected to be minimal New cost driven by capital spend
	Soft FM		713		238		100		-138	
	Capital Depreciation		300		94	0			-94	
<b>TOTAL</b>		<b>126.29</b>	<b>6,830</b>	40.74	2,243	34.33	1,651	-6.41	-592	

**Costs above excluded:**

Supplies costs - these will be charged for based on actual activity. It is anticipated that current funding will meet the full costs charged by NHSL

Consultants - the budget for the 4 wte consultants is not included in the finance summary in the model.

Rehabilitation - a service will need to be developed locally for patients who are repatriated for rehabilitation. There is no budget to offset this additional cost.

## Appendix 4

Risk Title	West of Scotland Vascular Service	Assessment No		Risk Manager	Karen Andrews	Risk Rating / Status	Treat
Risk Description <sup>2</sup>	Implementation of a West of Scotland vascular service will result in all emergency patients and all elective inpatients being treated at University Hospital Hairmyres (UHH). This could result in a potential poorer patient experience for those patients presenting as an emergency as a result of transfer time; and an associated financial risk.						
Additional comments / Supporting Statement	<p>A Heads of Terms Agreement is in place between NHS Lanarkshire (NHSL) and NHS Ayrshire and Arran (NHSA&amp;A) to develop shared delivery of vascular services with an agreed aim of establishing a Regional Centre of Excellence for Vascular Surgery at UHH. In the preceding 18 months there has been engagement with key stakeholders which is reflected in the West of Scotland Regional Vascular Service Business Case.</p> <p>It was agreed in the first instance that it would be prudent to utilise a two step approach, with the first step (phase 1) to develop and implement a shared out of hours on call rota at the weekends. This arrangement commenced in July 2019.</p> <p>It was envisaged that step two (phase 2 - the delivery of a Hub and Spoke Network with Arterial Centre at UHH) would be implemented with a November 2020 timescale. However, the national response required to support COVID-19 mobilisation planning and subsequent delays to capital planning requirements; namely the build required to provide a Hybrid Theatre, has necessitated a revised implementation date of April 2021.</p> <p>The model is based on patients completing their acute inpatient vascular care together with any acute rehabilitation required at UHH. Patients will then either be discharged directly to their own homes where this is appropriate or be repatriated back to A&amp;A for further ongoing rehabilitation.</p> <p>All outpatient and daycase work will continue to be delivered within NHS Ayrshire and Arran.</p>						
Mitigation / Control Measures	Reasonably foreseeable risk remaining after taking existing control measures into consideration <sup>3</sup>	Solution/Further controls	£	Reasonably foreseeable risk remaining after implementation of solutions/ further controls			
All emergency and inpatient vascular patients will have their care delivered within NHS Lanarkshire at UHH. The business case describes resource across the multi disciplinary team to manage and accommodate all referrals.	<u><b>Patient/Service User Experience/outcome</b></u> Delay to transfer an emergency patient to UHH who has presented in NHS A&A (4 x 3 = 12) High ■	All future consultant posts will be recruited to NHSL. All posts should have job planned sessions to ensure the patients across the region receive equitable care and where possible to deliver as close to patient's home as possible. Locum cover will be used to make up any capacity shortfalls that arise.		<u><b>Patient/Service User Experience/outcome</b></u> Delay to transfer an emergency patient to UHH who has presented in NHS A&A may result in an adverse outcome for the patient. (4 x 3 =12) High ■			

<sup>2</sup> Describe the components of the risk in more detail i.e. focus on the leading and result aspect.

<sup>3</sup> The consequence/likelihood risk matrix should be used taking into consideration each domain. Where a domain is identified as a risk, a brief description should be included

<p>Capital investment in the form of a new Hybrid Theatre development at UHH to support management of higher volume of patients when A&amp;A and Dumfries and Galloway are both managed from UHH</p> <p>Short Life Working Group established to develop an AHP rehabilitation model of care to operate across all H&amp;SCP.</p> <p>Assistance sought from the Engagement Lead within NHS A&amp;A to support the vascular service and overall organisation with appropriate and timely communication</p>	<p>Inability/delay in repatriation of vascular patients to NHA&amp;A when deemed appropriate (4 x 3 = 12) High ■</p> <p><b><u>Injury (physical and psychological) to service users/staff</u></b> Failure to have the additional Hybrid theatre operational in advance of the transfer of service will result in an inability to appropriately treat or manage the overall volume of patients from the 3 NHS Boards. (4 x 4 = 12) High ■</p> <p><b><u>Financial</u></b> Under organisational change, there is likely to be an inability/reluctance from nursing staff to transfer to UHH resulting in double running costs. (4 x 3 = 12) High ■</p> <p><b><u>Staffing and Competence</u></b> To provide a centre of excellence for vascular surgery requires investment in staff. Failure to recruit to all posts may result in insufficient staffing levels to provide service described in business case (3 x 3 = 9) Moderate ■</p> <p>Inadequate Consultant cover to support a 7 day service in UHH for all 3 Boards together with provision of all outreach outpatient and daycase services. (3 x 3 = 9) Moderate ■</p> <p><b><u>Adverse Publicity/Reputation</u></b> Lack of provision of an inpatient vascular service in A&amp;A may result in adverse publicity (3 x 5 = 15) High ■</p>	<p>Development of local rehabilitation service to ensure that patients can be repatriated from UHH within the timescales agreed as part of the service model and in line with our Caring for Ayrshire ambitions. The modelling work for this is underway and the initial assessment is around 1-2 patients per week. The cost of this service is still to be determined and may result in additional investment.</p> <p>Staff engagement sessions will take place supported by O&amp;HRD.</p> <p>Ongoing support provided to ward based nursing staff, medical staff, AHPs and ANP.</p>	<p>Inability/delay in repatriation of vascular patients as planned. (4 x 1 = 4) Moderate ■</p> <p><b><u>Injury (physical and psychological) to service users/staff</u></b> If new hybrid theatre in place there is minimal risk that patients would not receive appropriate care in a timely manner. (3 x 2 = 6) Moderate ■</p> <p><b><u>Financial</u></b> Staff will be supernumerary and double running costs will be incurred until those staff working in the vascular ward can be redeployed into vacant posts.. (4 x 2 = 8) Moderate ■</p> <p><b><u>Staffing and Competence</u></b> If all posts filled then there will be sufficient cover to meet the demand based on historical referral patterns. (3 x 2 = 6) Moderate ■</p> <p><b><u>Adverse Publicity/Reputation</u></b> There is likely to be adverse publicity in the short term. (3 x 5 = 15) High ■</p>
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Assurance Statement on effectiveness of controls and status of action plan if applicable	A West of Scotland Regional Vascular business case has been presented to CMT, Performance Governance Committee and NHS Board to support the control measures identified. This has been endorsed further by the WoS Chief Executives group on the 29 <sup>th</sup> June 2020.													
Governance	<p><b><u>Governance Reporting</u></b></p> <p>Performance Governance Committee CMT WoS Chief Executives group</p>													
	<p><b><u>Risk Appetite Statement</u></b></p> <p>I can confirm that should this risk be realised, this will have an adverse impact on the organisations risk appetite statement as follows:</p> <table border="1" data-bbox="958 638 1473 933" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="4" style="text-align: center;">Risk Appetite</th> </tr> <tr> <th style="text-align: center;">Service</th> <th style="text-align: center;">Quality</th> <th style="text-align: center;">People</th> <th style="text-align: center;">Finance</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> <td style="text-align: center;">√</td> </tr> </tbody> </table>			Risk Appetite				Service	Quality	People	Finance	√	√	√
Risk Appetite														
Service	Quality	People	Finance											
√	√	√	√											
Assessors, Date, Next Review Date	K Andrews	31/07/2020	31/10/2020											
Parent organisation for risk	NHS / Local Authority													