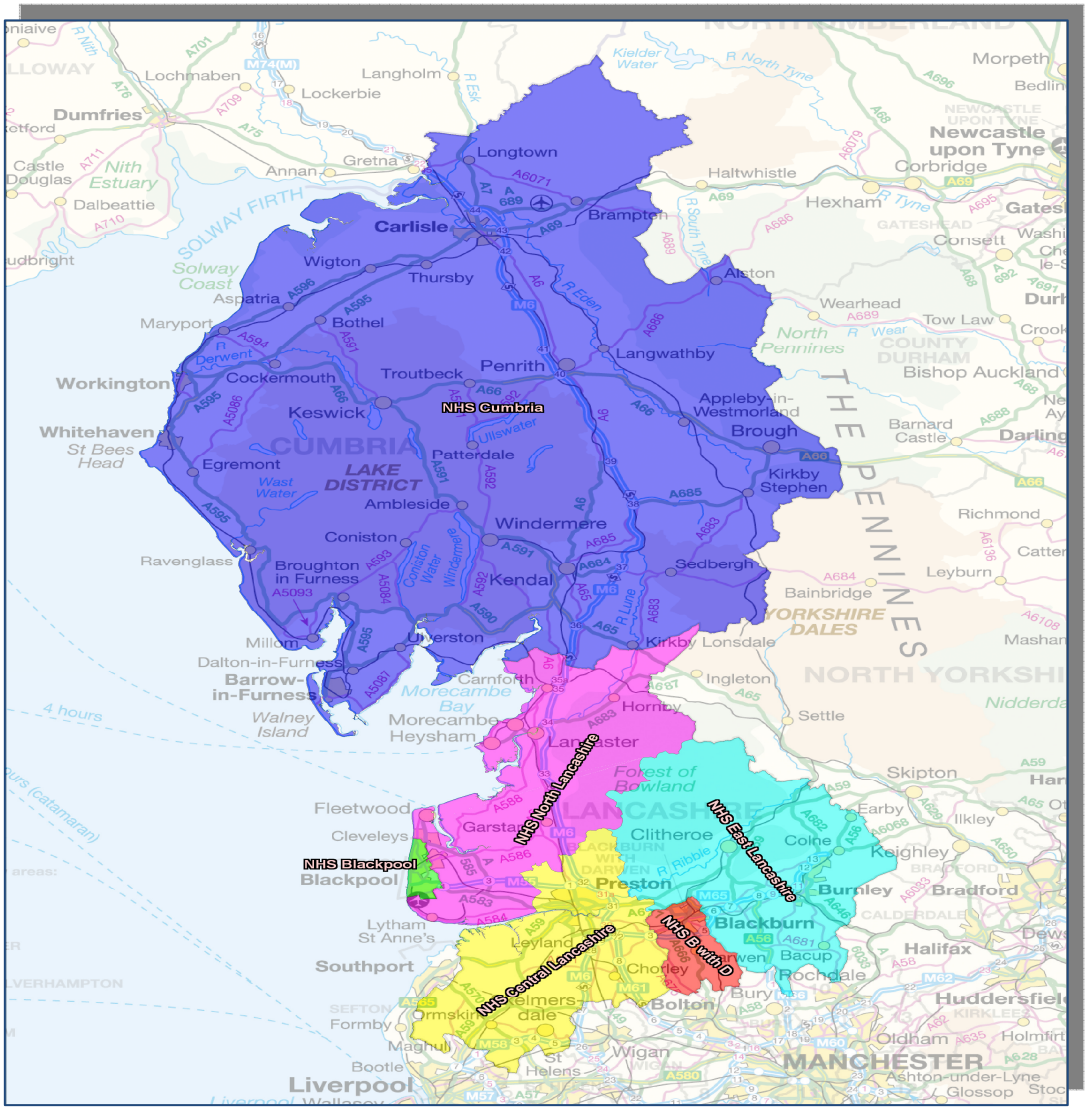
Cumbria and Lancashire Abdominal Aortic Aneurysm (AAA) Screening Programme

Outline Business Case

July 2011



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1. Name of screening programme

Cumbria and Lancashire AAA Screening Programme

2. Local organisations

Commissioning PCTs:

1. NHS Blackburn with Darwen
2. NHS Blackpool (Lead commissioner)
3. NHS Central Lancashire
4. NHS Cumbria
5. NHS East Lancashire
6. NHS North Lancashire

Hospital Trusts:

- North Cumbria
- University Hospitals Morecambe Bay
- Lancashire Teaching Hospitals
- Blackpool Fylde and Wyre Hospitals Foundation NHS Trust
- East Lancashire Hospitals Trust
- Southport & Ormskirk Hospitals NHS Trust
- Wrightington, Wigan & Leigh NHS Foundation Trust
- Royal Bolton Hospital NHS Foundation Trust

3. Summary

3.1 Overview of the programme

The Cumbria and Lancashire Programme will offer AAA screening for the population of the six primary care trusts listed above, covering a total population of 1.9 million with treatment services currently provided by the Trust listed under section 2. The programme will commence April 2012. Roll out may be phased to ensure that implementation is as smooth as possible.

3.2 Overview of Cumbria and Lancashire

Cumbria and Lancashire is a diverse geographical area with a varied mix of rural and urban communities presenting a range of health issues and health care challenges. Six PCTs cover the area including one large PCT across Cumbria, three within the shire county of Lancashire and two which are coterminous with the Unitary Authorities of Blackpool and Blackburn with Darwen. The two shire counties of Cumbria and Lancashire have six and twelve district councils respectively. Eight of the local authorities have spearhead status.

There are significant inequalities across the area with a gap in life expectancy of more than 14 years between the most affluent and the poorest areas. The next 20 years will see important demographic changes within the two counties, particularly Cumbria which is projected to have a greater number of older people than the national average. These changes will add to the burden on health services and increase the need to keep people as healthy as possible for as long as possible. Over the next 20 years, the older population is projected to increase both in number and in terms of the proportion of the population. There will be fewer young people and people of working age, and the population will become increasingly ethnically diverse.

3.3 *Research evidence*

Research has demonstrated that offering men ultrasound screening in their 65th year could reduce the rate of premature death from ruptured AAA by up to 50 per cent, and the cost effectiveness of aneurysm screening has been widely confirmed in the UK. In the MASS Trial[1] four screening centres in the UK screened men aged 65 – 74 over a 10 year period mainly in primary care. 67,770 men were entered. Based on the 10 year trial data the incremental cost per patient invited to screening was £100.00, (95% confidence intervals, £82.00 - £118.00) leading to an incremental cost effectiveness ratio of £7,600.00 per life year gained whilst the death rate from abdominal aortic aneurysm halved. The favourable cost effectiveness at 10 years was below the guideline figure of around £25,000 per life year gained accepted as standard for medical technologies and interventions in the NHS.

[1] ***BMJ*** Thompson et al. 338 (242): b2307.

This finding has been confirmed in other UK centres. The Huntingdon aneurysm screening programme lead to a reduction in the incidence of ruptured aortic aneurysm by 49%[2]. In this series the number of patients needed to screen to prevent one death was 505 after 13 years whilst the number of elective aortic aneurysm operations needed to prevent 1 death decreased from 6 after 5 years to 4 after 13 years of screening.

In Peterborough[3], emergency intervention for aortic aneurysm was found to cost five times more than planned intervention per life year saved.

Similar results came from the Gloucestershire aneurysm screening programme[4]. This demonstrated over 13 years that there was an increasing number of screened elective aortic aneurysm repairs each year with a concurrent fall in ruptured aneurysms presenting. The other benefit noted was that the mortality from repair of screen detected aneurysms of 3% was significantly less than the incidentally discovered aneurysms in the survey – 9%. Gloucestershire had a population of about 560,000 with about 3,000 men invited for screening per year, with three to four screening sessions per week with 10 men being examined per session. Each of the 85 participating GP practices were visited in rotation once a year. This study laid the foundation and demonstrated the potential benefits of a national programme. It demonstrated how an aortic aneurysm screening programme could be run effectively.

Two systematic reviews have considered the cost effectiveness of population screening programmes of aortic aneurysm. Fleming et al[5] from US Preventative Services Task Force concluded that population screening for aortic aneurysms in men aged 65 – 74 appeared to reduce deaths from aortic aneurysms. The most recent data analysis was performed by Cosford and Leng[6] for the Cochrane collaboration. This concluded that there is evidence of a significant reduction in mortality from aortic aneurysms with ultrasound screening, although the authors also noted there was insufficient evidence of the benefit in women.

The cost effectiveness of the proposed Cumbria and Lancashire regional screening programme will be carefully monitored.

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[2] A. Wilmink, C. Quick, C. Hubbard, N. Day. Effectiveness and cost of screening for abdominal aortic aneurysm: results of a population screening program. *Journal of Vascular Surgery*, Volume 38, Issue 1, Pages 72-77.

[3] A. Cota, A. Omer, A. Jaipersad, N. Wilson. Elective Versus Ruptured Abdominal Aortic Aneurysm Repair: A 1-Year Cost-Effectiveness Analysis. *Annals of Vascular Surgery*, Volume 19, Issue 6, Pages 858-861.

[4] ***BMJ*** Earnshaw et al. 328 (7448): 1122.

[5] http://www.ahrq.gov/clinic/uspstf05/aaascr/aaacost.pdf

[6] Cochrane Database Syst Rev. 2007 Apr 18;(2):CD002945. http://www.ncbi.nlm.nih.gov/pubmed/17443519

3.4 *Outcomes and cost effectiveness*

In summary, ruptured abdominal aortic aneurysm (AAA) is a substantial public health problem. In 2005 there were almost 5,000 deaths in England and Wales due to AAA, over 95% of which occurred in people aged 65 and over. Death from ruptured AAA is more than twice as common in men as in women. About one-third of AAAs will rupture if untreated, with those above 5.5cm in diameter being most likely to rupture. In these circumstances about half those with a ruptured AAA will die before they reach hospital and in those who survive to undergo emergency repair the operative mortality is around 40%. Most aneurysms are asymptomatic, but they sometimes present with symptoms such as pain, or may be detected as an incidental finding. When repaired electively in these circumstances, peri-operative mortality is around 6%.

Ultrasound examination of the aorta can reliably visualise the abdominal aorta in 99% of people, and probably close to 100% of AAA can be detected. The Multi-centre Aneurysm Screening Study (MASS) trial was a randomised controlled trial carried out in 4 centres in England which enrolled 67,800 men aged 65 – 74 years. They were randomly allocated to receive an invitation for ultrasound screening, or not. After 4 years follow-up there was a 42% reduction in AAA-related deaths in the group invited for screening compared to the control group. There were 65 AAA-related deaths out of 33,839 men invited for screening, and 113 AAA-related deaths out of the 33,961 men in the control group.

On the basis of this trial and three other international trials, the US Preventive Services Task Force in 2005 concluded that an invitation to attend for AAA screening could reduce AAA related mortality by 43% in men aged 65-75 years old.

A cost-effectiveness analysis based on the MASS trial found that after 4 years the mean incremental cost effectiveness ratio was around £28,400 per life year gained. This ratio improves substantially the longer the screening programme continues, as the number of life years gained by men undergoing elective surgical repair of AAA accumulates. It is estimated to fall to £8,000 per life year gained by the time the screening programme has been running for 10 years, and less than £3,000 per life year gained after 30 years.

4. Local information

4.1 Current local screening activity

Currently only opportunistic screening for patients with family history is being undertaken. This case forms part of the commissioning plans for the implementation of AAA screening.

4. 2 Local clinical data submission

Audit data will be submitted to the National Vascular Database by all treatment providers.

4.3 Local vascular services

Local vascular services cover a total population of 1.9 million within Cumbria and Lancashire, and are provided from the acute trusts based in East Lancashire, North Cumbria, Central Lancashire, Morecambe Bay, Blackpool and Southport and Ormskirk. It has been agreed with the local PCTs and with Specialist Commissioners that a review of current service provision is to be undertaken across Lancashire and Cumbria and will also incorporate Acute Trusts based in Bolton and Ashton, Wigan & Leigh. Therefore the review of vascular services will cover a total population of approximately 2.6 million.

The rationale for centralising Vascular Services is that "*significant reductions in peri-operative deaths have been proven to be achieved through the centralised delivery of AAA repair*."[7]

The present configuration of services in Cumbria and Lancashire does not promote the transfer of patients to high-volume centres so that these important advantages are available to them. The advent of screening for abdominal aortic aneurysms adds further importance to this work.

In March 2010 the PCT Chief Executives agreed that the Cardiac and Stroke Network for Lancashire and Cumbria (CSNLC) would carry the review. The Network has now completed a comprehensive vascular review and has highlighted a case to centralise vascular services across the Cumbria and Lancashire area. The Review has been positively evaluated by the director of NAAASP.

The Vascular Review Process:

- As part of the Vascular Review, each site completed a detailed quality standards questionnaire detailing the present vascular service provided at each of these sites
- Epidemiological landscape was reviewed
- Full travel times and population analysis was undertaken of each site presently providing vascular services.
- Clinical pathways were reviewed by the clinical group and new pathways have been agreed.
- A Service Specification was developed and fully ratified by the clinical group
- Stakeholder and GP and Public and patient engagement is underway

[7] Holt PJ, Poloniecki JD, Hinchliffe RJ, Loftus IM, Thompson MM. Model for the reconfiguration of specialized vascular services. The British journal of surgery 2008; 95(12):1469-74.

- Local authority and relevant stakeholders have been consulted

The review recommendation to commissioners was to have three vascular centres within Cumbria and Lancashire providing all emergency and elective *inpatient* vascular services with an over-arching clinical network which will continue upon completion of the review. This model has been agreed by commissioners.

At the time of writing, the key points for consideration are:

1. The Vascular Review recommends that any vascular procedures that require an inpatient stay are undertaken at the Vascular Centre whilst all outpatient and follow up clinics would continue within the local District General Hospital.
2. Timescales have been agreed with clear transition arrangements within a set timeframe. Within this, vascular units will be identified by October 2011 (see Table 1 below).
3. Minimum procedure numbers have been agreed for each site - A strong relationship exists between higher volume of procedures and lower mortality for elective and emergency endovascular aneurysm repairs and open AAA repair
4. The location of the sites has yet to be decided and engagement with all Providers is ongoing
5. Further patient and public involvement is also planned including a formal consultation process

Table 1. Summary of the timeline for identification of vascular units

Stage	Start	Finish
Publish commissioning rationale	June 2011	July 2011
Engage with all providers	June 2011	October 2011
Providers respond	August 2011	August 2011
Proceed to formalise contract variation	October 2011	October 2011
Clause 38 variation signed	October 2011	October 2011

Full details of the timeline for identification of vascular units are included in the attached Excel file.

Copy of Outline programme - Vascular

The review group has reported to the Lancashire and Cumbria Collaborative Working Board in order to allow the development of commissioned clinical pathways that are both cost and clinically effective, and this will be part of the local 'Clinical Inventory' work currently being undertaken.

A local multidisciplinary clinical group has been established and has provided the mechanism to ensure effective clinical engagement in the proposed review. Terms of reference for this group are presented below.

Vascular Clinical Advisory Group Terms of Reference

- To offer best clinical advice to commissioners on the provision of appropriate services for vascular patients.
- To establish appropriate mechanisms and structures that ensure a coordinated and integrated approach to the provision of Vascular services and encourages the active involvement and participation of all key stakeholders.
- To develop a shared vision for vascular services which will aim to provide equity of accessibility and delivery at all stages of the patient journey where practicable. This vision will need to take account the special geographic considerations of the Network.
- To work with provider organisations to ensure that the care provided is of the highest quality and based upon best evidence.
- To benchmark clinical outcomes against local and national standards and foster a culture of continuous improvement in service provision.
- To work with provider organisations and workforce planners to facilitate provision of an appropriately trained workforce.
- The group will consider any relevant research, NICE guidelines and strategic direction when developing its work programmes and protocols.
- To establish a mechanism to support collective commissioning and service development arrangements for Vascular services for the Network.

The group will be multi-disciplinary.

The group will meet quarterly to discuss relevant issues.

North Cumbria Hospitals Trust has recently reviewed it's arrangements for delivering vascular services and are currently working towards developing a Solway Basin clinical network for providing elective and emergency surgery. The service will be based at Cumberland infirmary with minor vascular services provided by West Cumberland hospital. This arrangement will provide elective and emergency surgery for the North Cumbria population as well as providing these services for the population of Dumfries and Galloway in Scotland. The Dumfries and Galloway population are not included in the screening population for the Cumbria and Lancashire AAA Screening Programme. North Cumbria Hospitals Trust was part of review of vascular services across Cumbria and Lancashire, as previously described.

5. Screening population

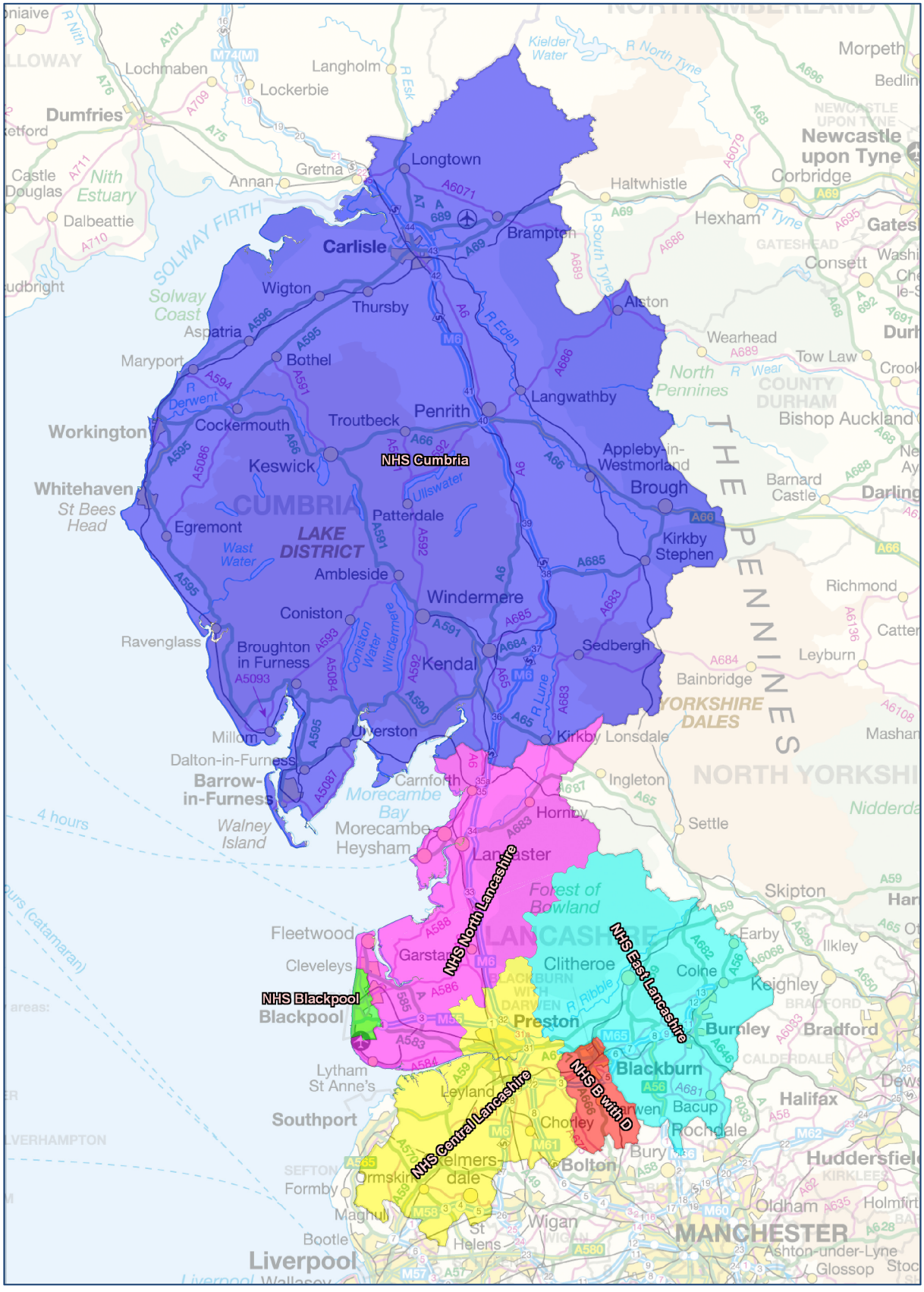
The total resident population size in 2010 for the area covered by the programme is projected to be 1,991,688. The population of males aged 65 is projected to be 11,191, and the male population over 65 is 148,429 (ONS mid 2007 Sub-national Resident Population Projections).

Table 2. Screening population mid 2010

Source: ONS mid 2007 Sub-national Resident Population Projections

Area	Total population	Males aged 65	Males aged over 65
Blackburn with Darwen	144,419	540	7,475
Blackpool	144,961	815	11,379
Cumbria	505,297	3,247	42,499
North Lancashire	344,233	2,008	28,912
Central Lancashire	461,062	2,488	32,159
East Lancashire	391,716	2,093	26,005
Cumbria and Lancashire	**1,991,688**	**11,191**	**148,429**

Geographical Area covered by the Cumbria and Lancashire AAA Screening Programme



6. Locations

6.1 Screening office

There will be one central screening office for the programme. The location is to be confirmed.

6.2 Screening locations

There are a proposed 24 screening locations delivering approximately 23 screening sessions per week during Year 1, 26 in Year 2 and 30 in year 3. Details of the estimated number of sessions in each area are included in Appendix A.

Table 4. Anticipated number of clinics per PCT area

Area	Number of clinic locations
Blackburn with Darwen	2
Blackpool	3
Cumbria	6
North Lancashire	5
Central Lancashire	5
East Lancashire	3

7. Proposed staffing in place by April 2012

The proposed staffing for Year 1 of the programme has been compiled based on the NAAASP programme management workbook, Essential Elements in Developing an Abdominal Aortic Aneurysm (AAA) Screening Programme (May 2010, ver 2.2) http://aaa.screening.nhs.uk accessed on 8th July 2011.

Table 5. Proposed staffing for Year 1 (derived from NAAASP SOP)

	WTE	**Band**
Clinical staff		
Director/Clinical Lead (0.2WTE/800K population)	0.3	Medical Consultant
Lead Ultrasound Clinician (0.1WTE/800K population)	0.2	8b
Screening staff		
Senior sonographer/Vascular Scientists/Technician (0.1WTE/800K population)	0.2	7
Screening Technicians (3WTE/800K population)	8.0	4
Nurse Practitioner (0.1WTE per full capacity programme – 7000 scans per year)	0.2	6
Office staff		
Co-ordinator (1.0WTE per full capacity programme – 7000 scans per year)	1.0 1.0	7 6
Clerical Officer (1.0WTE per 800K population)	2.0	3
Medical physicist (5 days per year for a full capacity programme – 7000 scans per year)	10 days per year	7

8. Vascular surgical units

The table below summarises 2009/10 data for vascular surgical units within Cumbria and Lancashire. The data has been obtained directly from Trusts and is still valid at the time of writing. Full details including surgeon level figures are included in Appendix B.

Table 6. Vascular Surgical Units in Cumbria and Lancashire 2009/10

Trust	No. Surgeons	No. Interventional Radiologists	Total AAA Cases	Elective EVARS	Open Ruptures	Emergency Rotas
East Lancs (Blackburn)	4	3	37	18	7	Continuously covered
North Cumbria (Carlisle)	2	2	48	20	12	Continuously covered to include Carlisle, Whitehaven and Dumfries
Lancashire Teaching (Preston)	3	3	41	33	6	Continuously covered to include Preston, Southport, Wigan and Bolton
Wrightington, Wigan & Leigh (Wigan)	2	2	20	7	3	
Bolton	2	2	45	11	13	
Southport & Ormskirk (Southport)	2	1	28	8	9	
Morecambe Bay (Lancaster)	5	2	56	19	23	Continuously covered to include Blackpool and Lancaster
Blackpool	2	2	45	18	12	

9. AAA Screening Working Group

Membership of the Cumbria and Lancashire AAA Implementation Team:

- Arif Rajpura, Director of Public Health, NHS Blackpool (Chair)
- Shelagh Garnett, NW Screening and QA Lead, North West Strategic Health Authority
- Kathy Blacker, Network Director (Acting), Cardiac and Stroke Networks in Lancashire and Cumbria
- Natalie Park, Service Development and Improvement Manager, Cardiac and Stroke Networks in Lancashire and Cumbria
- Paula Hawley-Evans, Lancashire Public Health Network
- Simon Hardy, Consultant Vascular Surgeon, East Lancashire Hospitals NHS Trust
- Mark Tomlinson, Consultant Vascular Surgeon, Royal Lancaster Infirmary
- Dare Seriki, Consultant Vascular Radiologist, Lancashire Teaching Hospitals
- Susan Clinton, Sonographer, East Lancs Hospitals Trust
- Lynn Donkin, Public Health Specialist, NHS Blackpool
- Mike Leaf, Acting Director of Public Health, NHS North Lancashire
- Nigel Calvert, Consultant in Public Health, NHS Cumbria
- Aidan Kirkpatrick, Consultant in Public Health, NHS East Lancashire
- Zakyeya Atcha, Consultant in Public Health, NHS Central Lancashire
- Helen Lowey, Consultant in Public Health, NHS Blackburn with Darwen

Membership will be extended to include others as required.

10. Timescale for implementation

10.1 ITT timeline

NHS Blackpool has been identified as the lead commissioner for the Cumbria and Lancashire AAA Screening Programme on behalf of the Lancashire and Cumbria PCTs. Additional support for the identification of a provider is being provided by a Deal Close Manager who is also working to support the identification of vascular units. A timeline for approving a provider and service commencement has been established and is summarised below.

Table 7. Outline ITT timeline

Name	Start	Finish
Draft and place Adverts in Supply2Health?	08/08/2011	12/08/2011
Bidders confirm Expressions of interest	12/08/2011	02/09/2011
ITT issue (available on PCT webportal)	12/08/2011	16/08/2011
ITT Bidder response	16/08/2011	14/09/2011
Appoint Successful Bidder and issue letter	28/09/2011	30/09/2011
Contract signature	17/10/2011	27/10/2011
Service start/mobilisation	03/11/2011	

Details of the timeline are included in the attached Excel file.

Blackpool AAA ITT programme v1.xls

10.2 Proposed start dates

Proposed start date for invitations to be sent out: April 2012

Proposed start date for screening: May 2012

Proposed target date for completion of screening for the first cohort of men aged 65: April 2013

11. Costs

The anticipated cost of the Cumbria and Lancashire wide programme over the first 5 years are as follows:

Table 8. Estimated funding for the screening programme, based on NAASP funding model (excludes costs of intervention)

Estimated cost	Year 1	Year 2	Year 3	Year 4	Year 5
Each invitation or re-invitation (£1.70)	£20,642	£22,845	£28,017	£28,303	£28,178
Each man screened (assuming 80% uptake) at £32.30	£326,826	£339,049	£400,252	£389,299	£376,467
Each man re-screened as part of surveillance £68.00	£15,852	£73,090	£120,400	£163,229	£194,227
Total	**£363,319**	**£434,983**	**£548,669**	**£580,832**	**£598,872**

The screening process comprises three stages: screening, surveillance and referral. The following tables present estimates of AAA screen-related activity over 20 years from the start of the programme. The estimates are based on the method detailed in NHSAAASP's *Guidance for Public Health and Commissioners*, July 2009, Version 2.0.

Table 9. Estimated build up of AAA screen-related activity over 20 years for the Cumbria and Lancashire population

	Year of screening programme				
	0	**1**	**5**	**10**	**20**
Invitations, plus re-invitations for non-attendees	0	12,448	15,187	14,440	16,929
Screening scans	0	9,461	11,203	10,207*	10,705
Surveillance scans	0	249	2,141	3,485	3,983
Referrals to the Vascular Network from screening	0	45	137	217	249
Elective AAA Repairs **	75	110	182	209	269
Emergency AAA repairs **	45	45	45	35	20

Table 10. Estimated build-up of AAA screen-related costs over 20 years for the Cumbria and Lancashire population (£1,000s, not adjusted for inflation)

	Year of screening programme				
	0	**1**	**5**	**10**	**20**
Invitations	0	22	25	25	30
Screening scans	0	306	361	329*	346
Surveillance scans	0	17	144	237	271
Vascular surgery out-patient visits (three per referral from screening)	0	15	47	75	87
Elective AAA Repairs **	443	650	1,078	1,242	1,596
Emergency AAA repairs **	256	256	256	199	115
Total costs	**702**	**1,469**	**1,917**	**2,109**	**2,442**

*The dip in the number/cost of screening scans after 10 years reflects a dip in the number of births approximately 65 years previously.

**These numbers include all AAA repairs, not just those whose AAA was identified through the screening programme.

A breakdown of activity and estimated costs by PCT based on population split is included in Appendix C.

12. Contact details

Lead Coordinator and organisation for this Outline Business Case

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Appendix A Estimated clinic sessions per week

Footprint	Number of Scans 2010	Number of Scans 2011	Number of Scans 2012	Number of Scans per session	Number of Weeks available for scanning per year	Number of Scans per session per year	Required number of sessions per week for 2010	Required number of sessions per week for 2011	Required number of sessions per week for 2012	Minimum number of machines recommended (1 per 1000 men screened pear annum) for 2010 figures
Blackpool	714.4	780.8	912.8	**10**	***42***	420	1.704	1.856	2.176	0.7144
BWD	474.4	529.6	660.8	**10**	***42***	420	1.128	1.264	1.576	0.4744
Cumbria	2811.2	3080.8	3701.6	**10**	***42***	420	6.696	7.336	8.816	2.8112
North Lancs	1769.6	1936	2315.2	**10**	***42***	420	4.216	4.608	5.512	1.7696
Central Lancs	2157.6	2335.2	2807.2	**10**	***42***	420	5.136	5.56	6.68	2.1576
East Lancs	1787.2	1930.4	2349.6	**10**	***42***	420	4.256	4.6	5.592	1.7872
Total Cumbria and Lancs	9713.6	10593.6	12746.4	**10**	***42***	**420**	23.128	25.224	30.352	9.7136

Appendix B Vascular Surgical Unit Activity 2009/10

Trust	Consultant Surgeons Figures (Own Data)	Total All AAA	Deaths	Total Elective Open + EVAR	Deaths	Non-Elective Total	Deaths	Open Elective	Deaths	EVAR Elective	Deaths	Open Ruptures	Deaths	EVAR Ruptures	Deaths
Carlisle	C1	24	0	18	0	6	0	8	0	10	0	6	0	0	0
	C2	24	3	18	0	6	3	8	0	10	0	6	3	0	0
	Consultant Surgeon Totals	48	3	36	0	12	3	16	0	20	0	12	3	0	0
	Dr Foster	40	6	26	0	14	6								
Morecambe Bay	MB1	13	2	8	0	5	2								
	MB2	9	4	5	1	4	3								
	MB3	12	7	4	0	8	7								
	MB4	12	2	10	2	2	0								
	MB5	10	3	6	1	4	2								
	Consultant Surgeon Totals	56	18	33	4	23	14								
	Dr Foster	51	12	30	2	21	10								
Blackpool	BL1	32	4	28	1	6	3	12	1	14	0	6	3	0	0
	BL2	13	4	7	1	6	3	3	0	4	1	6	3	0	0
	Consultant Surgeon Totals	45	8	31	2	12	6	13	1	18	1	12	6	0	0
	Dr Foster	40	3	28	1	12	2								
Preston	P1	26	3	23	0	3	2	1	0	21	0	3	2	0	0
	P2	15	2	12	0	3	2	1	0	11	0	3	2	0	0
	Consultant Surgeon Totals	41	5	35	0	6	4	2	0	33	0	6	4	0	0
	Dr Foster	34	2	29	1	5	1								
	Dr Foster	33	4	21	1	12	3								
Bolton	BO1	33	4	25	1	8	3	17	0	8	1	8	3	0	0
	BO2	12	2	7	1	5	1	4	1	3	0	5	1	0	0
	Consultant Surgeon Totals	45	6	32	2	13	4	21	1	11	1	13	4	0	0
	Dr Foster	33	4	21	1	12	3								
	Dr Foster	15	2	12	1	3	1								
Wigan	W1	9		7		2		6		1		2		0	0
	W2	11	1	10	1	1	0	4	1	6	0	1	0	0	0
	Consultant Surgeon Totals	20		17		3		10		7		3		0	0
	Dr Foster	15	2	12	1	3	1								
Southport	S1	7	0	3	0	4	0	3	0	0	0	4	0	0	0
	S2	21	3	16	1	5	2	8	1	8	0	5	2	0	0
	Consultant Surgeon Totals	28	3	19	1	9	2	11	1	8	0	9	2	0	0
	Dr Foster	17	2	8	0	9	2								
East Lancs	EL1	3	1	3	1	0	0	1	0	2	1	0	0	0	0
	EL2	11	0	8	0			5	0	3	0	3	0	0	0
	EL3	13	2	11	1	2	1	4	1	7	0	2	1	0	0
	EL4	10	1	8	0	2	1	2	0	6	0	2	1	0	0
	Consultant Surgeon Totals	37	4	30	2	7	2	12	1	18	1	7	2	0	0
	Dr Foster	28	2	23	2	5	0								

Appendix C – Estimated costs by PCT

Costs are estimated using NAAASP funding model and include invitations, screening and surveillance. Costs associated with referral for intervention are not included.

	Population projections mid 2010 *	Population split (%)	Year 1	Year 2	Year 3	Year 4	Year 5
Blackburn with Darwen	144,419	7.3%	£26,345	£31,541	£39,784	£42,117	£43,425
Blackpool	144,961	7.3%	£26,443	£31,659	£39,934	£42,275	£43,588
Cumbria	505,297	25.4%	£92,175	£110,356	£139,199	£147,359	£151,936
North Lancashire	344,233	17.3%	£62,794	£75,180	£94,829	£100,388	£103,506
Central Lancashire	461,062	23.1%	£84,106	£100,696	£127,013	£134,459	£138,635
East Lancashire	391,716	19.7%	£71,456	£85,550	£107,910	£114,235	£117,783
Cumbria and Lancashire	**1,991,688**	**100.0%**	**£363,319**	**£434,983**	**£548,669**	**£580,832**	**£598,872**

*ONS mid 2007 Sub-national Resident Population Projections.

Estimates of screening related activity and costs split by PCT are detailed in the attached Excel file.

Projected activity and costs.xlsx