Public Health England

NHS

NHS Abdominal Aortic Aneurysm (AAA) Screening Programme

Essential elements in providing an AAA screening and surveillance programme

These standard operating procedures (SOPs) are designed to inform the delivery of a screening programme within the NHS AAA Screening Programme in England

Version 5.0 / March 2017

Public Health England leads the NHS Screening Programmes

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG
Tel: 020 7654 8000 www.gov.uk/phe
Twitter: @PHE_uk Facebook: www.facebook.com/PublicHealthEngland

About PHE Screening

Screening identifies apparently healthy people who may be at increased risk of a disease or condition, enabling earlier treatment or better informed decisions. National population screening programmes are implemented in the NHS on the advice of the UK National Screening Committee (UK NSC), which makes independent, evidence-based recommendations to ministers in the four UK countries. The Screening Quality Assurance Service ensures programmes are safe and effective by checking that national standards are met. PHE leads the NHS Screening Programmes and hosts the UK NSC secretariat.

PHE Screening, Floor 2, Zone B, Skipton House, 80 London Road, London SE1 6LH
www.gov.uk/topic/population-screening-programmes
Twitter: @PHE_Screening Blog: phescreening.blog.gov.uk

Prepared by: [this line can be deleted if not required]
For queries relating to this document, please contact: phe.screeninghelpdesk@nhs.net

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Executive summary

This is the fourth edition of the NHS AAA Screening Programme (NAAASP) standard operating procedures (SOPs). The latest version is available on the GOV.UK website together with associated documents. We welcome feedback on the SOPs and associated documents and will continue to develop them with stakeholders and local AAA screening programmes. The SOPs are based on the original programme plan that provided the evidence and the basis for the UK National Screening Committee's recommendation of a national programme. Deviations from the SOPs are seen as deviations from nationally set and agreed protocols. The NAAASP pathway standards and the national IT solution are based on the SOPs.

In order for screened individuals to receive a high quality, reliable, supportive and effective service, local programmes need to have a number of key elements in place. Local programmes must undertake core activities and fulfil a number of responsibilities to ensure high quality screening is available to their local population.

Local screening programmes are responsible for:

- coordinating and managing their programme
- setting operational policy
- identifying and inviting eligible people
- providing information, support and advice for participants
- undertaking and reading screening tests
- recording results, scheduling follow-up surveillance scans and running failsafe systems
- referring for diagnostic investigations
- recording and monitoring the outcomes of interventions
- reporting on performance against pathway standards

Background

NAAASP aims to reduce AAA-related mortality by providing a systematic population-based screening programme for the male population during their 65th year and, on request, for men over 65. An AAA is defined as a maximum aortic diameter of 3cm or greater in the maximum anterior-posterior measurement measured from the inner wall to inner wall. An aortic diameter of less than 3cm is deemed to be within normal limits.

The objectives of NAAASP are to:

- identify eligible men and invite them for screening
- provide clear, high quality information that is accessible to all, enabling men to make an informed choice about taking up the offer of screening

- carry out high quality abdominal ultrasound on those men attending for initial or follow-up screening according to national protocol
- minimise the adverse effects of screening, including anxiety and unnecessary investigations
- identify AAAs accurately
- enable men to make an informed choice about the management of their AAA
- ensure appropriate and effective management of cardiovascular risk factors of those with AAAs identified through screening
- Ensure high quality diagnostic and treatment services
- Promote audit and research and learn from the results

The principles of screening for abdominal aortic aneurysms

Screening for AAA refers to measuring the maximum aortic diameter on apparently well men to detect those with an AAA and then referral on to assessment and treatment for those who need it.

Public Health England is committed to reducing mortality across England. NAAASP contributes to this through earlier detection of AAA by ensuring the provision of:

- an effective AAA screening programme for men at age 65
- a facility for screening on request for men over 65 who have not previously been screened
- rapid referral to a vascular unit for those meeting the criteria for considering treatment
- a surveillance programme and cardiovascular risk assessment for men with detected AAA who have not reached the criteria for referral
- referral to vascular assessment and treatment services that comply with guidance from the Vascular Society of Great Britain and Ireland (VSGBI) and from the UK National Screening Committee

The main guiding principles for NAAASP are:

- all individuals should be treated with courtesy, respect and an understanding of their needs
- all those participating in NAAASP should have adequate information on the benefits and risks to allow an informed decision to be made before participating
- the target population should have equitable access to screening
- screening should be effectively integrated across a pathway including between the different providers, screening centres, primary care and secondary care

Vascular networks

The success of the screening programme in terms of outcomes for men is critically dependent on achieving the lowest possible morbidity and mortality from surgical interventions for those found to have an AAA warranting surgery or stenting. Approved intervention centres, clinical networks, standard operating procedures, participation in national audit and good patient information about risks and benefits all play a part in achieving this.

The VSGBI works closely with the national programme centre and Department of Health on the development of vascular networks and quality improvement processes. The criteria required for vascular networks linked to local AAA screening programmes and delivering interventions for screen-detected AAA are outlined in full on the VSGBI website.

The screening programme

Population and programme size

A local screening programme (minimum 800,000 total population per screening programme) must have a suitable vascular intervention centre for treating patients with detected AAA to receive referrals. The vascular units providing treatment must comply with the requirements recommended by the VSGBI for the treatment of AAA and must provide data on the treatment and outcome of every infra renal AAA operation or intervention on to the National Vascular Registry. There are 41 local screening programmes in England.

The number of staff employed is a local issue, but for the health and safety of staff and screening subjects it is advised that two staff should be employed at each session. It is also important to consider the number of staff recruited and the number of scans they regularly perform to ensure competency.

Men are offered a single scan during the year in which they reach 65. In cases where there is doubt over whether the subject should be invited or not, they should be sent an invitation. Local programmes should use reasonable endeavours to ensure men eligible for the service but who are not registered with a GP or who, in some other way find it difficult to access the services, are made aware of the service and how to access it. Long-term residents in secure organisations such as prisons and men who are housebound should be given the opportunity of receiving screening once all factors regarding suitability for scanning and further diagnosis and treatment have been taken into account. The local provider should, in the first instance, liaise with the man's GP to ascertain the housebound circumstances and understand the benefit, if any, from screening and potential treatment. An invitation should not be sent only after a joint decision by the GP and local programme director that the individual would not benefit. This should be documented clearly within the national Screening Management and Referrals Tracking (SMaRT) IT system.

Individuals who undergo male to female gender reassignment retain the male genetic risk of developing AAA in later life. However, the local provider will not receive their demographic data if they have registered as a woman. Individuals who self-refer to the programme and have undergone male to female gender reassignment must be screened as per policy.

Females undergoing gender reassignment will not routinely be invited for screening until they register as a male. At that point, SMaRT will identify them as being male and pick them up along with the rest of the screening cohort.

Inclusions:

- all men eligible for NHS care registered with a GP within the commissioned screening programme boundaries. Selection is based on year of birth. Men should be offered screening during the year – 1 April to 31 March – in which they turn 65. Men who are resident in England but registered in Wales are also eligible to be screened by the English programme and will be automatically picked up by SMaRT
- it is acceptable to invite men as soon as they have turned 64, which is the start of their 65th year
- a facility is also available for men aged over 65 on request – see self-referral process for further details
- men resident in local prison establishments during their 65th year and at the agreement of the relevant NHS Regional Team and Prison Service – see Annex C for suggested protocol (under review)
- men in their 65th year known to have a small AAA <5.5cm. Programmes will receive information about these men in the appropriate cohort demographic for that given year. However, they will not be identified as already having a known AAA. The first scan within the screening programme should be classed as their initial scan and previous surveillance scan measurements from any local service discounted. Other healthcare providers such as the GP and the vascular surgeon whose care the man is under should be notified of the screening attendance when this is known to the local programme. It is advised that the man should remain in the screening programme only and not be scanned under two separate services

Exclusions:

Individuals are normally excluded from the programme if:

- they have previously been diagnosed with an AAA and fall outside the category as defined above
- they have previously undergone surgery for AAA repair
- their GP advises that they should not be screened due to other health concerns
- they have already had a scan through NAAASP and the aorta was within normal limits

In rare cases a ‘best interest’ decision may be made to exclude subjects with mental incapacity from the programme. This decision needs to be completed in line with the principles enshrined in the Mental Capacity Act. Decisions should be made on a case by case basis by the local programme in conjunction with the GP, family and commissioner.
Men who have asked to be permanently removed from NAAASP are not excluded from screening, but do need to be removed from the SMaRT system.

Ineligible:

- under age of 64
- females
- previous AAA surgery
- over 65 and on local surveillance for a AAA

Screening programme models

The model for the service typically involves ultrasound scanning being undertaken within community healthcare facilities such as community clinics, community hospitals, mobile units, primary care facilities and other community locations to meet the needs of the population. Clinic locations are a local responsibility and some clinics may be held in other suitable locations.

Programme management

A small core team of clinical staff is required. Recommended staffing is outlined below.

Programme clinical staff

The following whole time equivalents are recommendations but local programme circumstances may dictate different requirements.

Director/clinical lead (0.2 wte/800,000 population)

The director oversees the screening programme, ensuring a continuous high quality service is maintained and takes clinical responsibility including giving support for the programme co-ordinator, particularly in matters involving patient care. They are also responsible for making clinical decisions related to screening subjects up to the point where a referral has been made but also ensuring that appropriate care is given following referral.

The key components of the role are to:

- act as the strategic lead for the local programme with responsibility and authority for leading the service, implementing service developments and negotiating necessary funding and resources
- advise on clinical matters concerning the programme at the request of the screening staff
- take overall responsibility and accountability for the management, quality assurance and clinical governance of all aspects of the local screening programme
- receive, read, disseminate and act upon all reports supplied by the national programme
- monitor that diagnostic and treatment services meet the demand and quality requirements of NAAASP and to make reports to the national programme as required
- be accountable for the timely and complete data entry of all outcomes including post-operative rupture
- take professional responsibility for the programme where appropriate. The director will remain the responsible clinician for men entered into the screening programme up to the point where a referral is made and accepted by the vascular service the man is being referred to, and ensuring that the referral is acted upon appropriately

- ensure the programme tracks the progress of each referral made to a provider of vascular services and ensures action is taken to detect and rectify any delays in the man being seen for assessment or subsequent treatment. The director also needs to ensure that the local programme is aware of all final outcomes for each man referred
- provide management of, and clinical guidance to the senior screening programme staff (senior sonographer and co-ordinator)

Lead ultrasound clinician (0.1 wte/800,000 population)

A consultant sonographer/vascular scientist/radiologist has special responsibility for quality assurance (QA) of screening technicians and the screening process with responsibility for the screening equipment, screening technicians' accreditation and monitoring of clinical performance (including review of scans identified by SMaRT from screening clinics). This task is often delegated to the clinical skills trainer but this is a local decision. Any QA concerns should be brought to the attention of the director. The lead ultrasound clinician advises on which ultrasound equipment should be purchased (subject to the specifications of the NAAASP guidelines) and when it needs to be updated or replaced. See QA ultrasound equipment guidance.

Consultants in the vascular units

Note: vascular surgeons are not employed by the screening programme and are unlikely to participate in the screening programme as such.

In vascular units, the consultant responsible for the care of the patient will be classed as the "responsible" doctor once the referral is received. They should:

- notify the co-ordinator of the local screening programme of the outcome of initial and further outpatient visits and, if indicated, the treatment
- submit data for audit purposes on an ongoing basis to the online VSGBI National Vascular Registry (NVR) for all AAA surgery. Failure to do so will mean the vascular consultant is ineligible to participate in taking referrals from NAAASP
- provide the screening programme with outcome data as required

Programme screening staff

Ultrasound screening staff

The screening team should normally consist of pairs of screening technicians who go out to selected screening sites as requested. The screening team is overseen by a clinical skills trainer (CST) who is a senior sonographer/vascular scientist. The team will usually consist of staff working in pairs to ensure effective throughput of patients in the clinic. They are required to undergo regular assessment and to renew their accreditation at intervals as per the NAAASP Education and Training Framework. Clinics are held at various locations within the screening programme area and staff are expected to travel to the different locations and move portable screening equipment and supplies.

Clinical skills trainer (senior sonographer/vascular scientist – 0.1 wte per 800,000)

A senior sonographer/vascular scientist is responsible to the director/clinical lead. This is an advanced practitioner who holds a Consortium for the Accreditation of Sonographic Education (CASE) accredited qualification or full Society of Vascular Technology (SVT) accreditation or equivalent. They must also have completed the NAAASP mandatory training for CSTs prior to their involvement with the screening programme. The CST must maintain the appropriate registration and CPD with the appropriate professional organisation. CSTs may be required to evidence their continual profession development record. CSTs must attend a reaccreditation/update session once every 2 years.

As the first line supervisor of the screening technicians, the CST is responsible for staff training and regular review of staff for quality assurance in addition to undertaking routine equipment quality assurance assessments and ensuring regular maintenance of the ultrasound equipment. CSTs may also run occasional screening clinics to maintain their skills. It is essential that the time required for the CST role is ring-fenced from other clinical duties. They should have extensive experience of training in the workplace. The work within these clinics will include:

- ensuring that men attending clinics are checked in smoothly and efficiently and are aware of the benefits and risks of AAA screening and give informed consent to the procedures
- accurately recording aortic sonographic measurements
- collecting other subject information
- reporting scan results and their implications to patients both verbally and in writing
- preparing copies of the results for GPs
- transferring clinic data to the screening office
- updating SMaRT

Screening technicians (3 wte per 800,000)

Screening technicians ensure that men attending clinics are checked in smoothly and efficiently and are aware of the benefits and risks of AAA screening and give informed consent to the procedures. They will accurately record sonographic measurements of the aortic diameter, collect other subject information and report scan results together with any potential implications to subjects both verbally and in writing. They may also prepare copies of the results for GPs, transfer clinic data to the screening office and update SMaRT.

All those undertaking scanning must have attended the nationally approved and accredited NAAASP training course and passed all the competency requirements of the training. Local programmes must ensure that screening technicians are reaccredited every two years.

Nurse practitioner (0.1 wte per full capacity programme – 7,000 scans per year)

The nurse practitioner is responsible to the director and is involved in assessing and counselling men at specific points in the screening process and giving advice on changes in lifestyle as appropriate. Further referral on to other specialists should be made following discussion with the director of the local screening programme. Unless the nurse practitioner has attended the nationally approved and accredited NAAASP training course and passed all the competency requirements of the training, they are not permitted to scan men.

Programme management, administration and technical staff

Co-ordinator (1 wte per 800,000 population)

The co-ordinator is responsible to the director/clinical lead. The primary purpose of the co-ordinator's role is to direct the day-to-day operational management of the local programme. They oversee the work of the administrator and screening teams and their duties include:

- to act as the professional lead for the day-to-day management, evaluation and quality assurance of the screening process, including the provision of information, screening procedures and any onward referral
- to act as a single point of contact for the entire local programme across multiple professional groups and possible multiple screening facilities within that programme (which might include hospitals, clinics and other screening locations)
- liaison with appropriate staff to ensure that policies and procedures are adhered to across all agencies and professional groups involved in the screening programme
- ensuring that all parties in the local screening programme, as well as other appropriate local staff, are kept fully informed

- to act as the main point of contact for communications from the national programme team. The co-ordinator is expected to disseminate communications to local staff as appropriate
- liaising with localities or NHS England regional teams to identify new GP practices within the local AAA screening programme area
- locating suitable screening sites
- organising staff rotas
- ensuring all invitations to eligible subjects are sent, including new subjects, men with AAA in the surveillance programme and self-referrals
- reconciliation processes at the end of each year to ensure all men in that cohort have been offered a screening appointment
- ensuring referrals are sent for appropriate subjects to vascular surgeons
- arranging appropriate medical imaging scanning following non-visualised screening outcome
- monitoring fail-safe systems
- monitoring and reporting any serious adverse events to commissioners and quality assurance teams in line with national guidance and taking steps to ensure the safety of staff and patients
- arranging appropriate local QA of images as per national guidance
- ensuring that NAAASP screening protocols and procedures are adhered to and NAAASP pathway standards met
- leading the screening team on non-clinical matters
- line-managing appropriate members of the screening team, ensuring that regular reviews of screener performance are undertaken and appropriate personal development plans are written and implemented
- responsibility for the recruitment, retention and organisation of the training of the screening team in accordance with national and local policies and procedures
- managing all aspects of the screening equipment, ensuring protocols are followed, service and calibration is completed at the required intervals, and equipment is safely and securely stored

Administrator (1 wte per 800,000 population)

The administrator is responsible for the administration of the local programme and is the first point of contact between the screening population and the screening office. The administrator plays a supporting role to the local AAA screening programme and is able to give members of the public factual information about the benefits of the programme.

Medical physicist (5 days per year per 800,000 population)

The purpose of this role is to undertake acceptance of new ultrasound machines and to provide independent, regular quality assessments using sophisticated test objects. This specialist will undertake annual assessments on all the ultrasound machines and probes, assisted by the lead ultrasound clinician. They will prepare reports for the director of the local programme.

Governance

The provision of NAAASP involves a number of organisations:

- Department of Health (DH)
- local authorities
- Public Health England (PHE)
- NHS England
- primary care providers
- local screening programme
- diagnostic and treatment services

Responsibilities in the programme

PHE is responsible for delivery of essential “do once” elements of screening programmes.
These include:

- developing, piloting and roll-out to agreed national service specifications of all extensions to existing screening programmes and new screening programmes
- setting and reviewing pathway standards
- reviewing national service specifications and advising on section 7A agreements (under the direction of DH requirements)
- developing education and training strategies
- providing patient information
- determining data sets and management of data, for example to ensure KPIs are collected
- setting clear specifications for equipment, IT and data
- procuring and supplying the national IT screening management system
- collecting, collating and quality assuring data for screening programmes
- monitoring and analysing implementation of NHS commissioned screening services
- providing advice to DH on priorities and outcomes for the NHS England mandate and section 7a agreement, and to lead on detailed provisions, in particular the 7a agreement on screening
- working with NHS England to optimise coverage

PHE will also be responsible for:

- providing the quality assurance (QA) functions for screening programmes
- providing public health expertise and advice on screening at all levels of the system, including specialist public health expertise being available as part of NHS England screening commissioning teams
- ensuring action is taken to optimise access to screening programmes, such as among socio-economically disadvantaged groups

NHS England commissions, on behalf of PHE, the NHS AAA Screening Programme and contracts with providers for provision of these services based on the nationally agreed service specification. It is also responsible for the performance management of providers.

General practice

The intention of the screening programme is to keep the primary care workload to a minimum. However, GPs should be aware of the programme so they can take advantage of opportunities to raise awareness among men aged 65 and over in their practice, particularly those with risk factors for AAA such as smoking or family history. Some people receiving invitations may want to discuss the screening process with their GPs. GPs will also be notified by the screening programme of the screen outcome for men registered with their practice, including the referral of men with large aneurysms.

NHS trusts and screening programme providers

The chief executive has overall responsibility for the quality of the AAA screening programme tasks undertaken in their organisation. Those organisations contracted to provide screening services have responsibility to ensure that:

- performance against national quality assurance standards is judged as satisfactory by the national programme
- fail-safe procedures operate in accordance with national policy
- they comply with the requirements of the NHS Information Governance Toolkit

Those trusts contracted to provide diagnostic and treatment services have responsibility to ensure that:

- appropriate diagnostic investigation and treatment is offered to individuals referred from the screening programme according to the timelines in the pathway standards
- appropriate follow-up procedures are undertaken
- fail-safe procedures operate in accordance with the agreed policy

Accommodation requirements

Clinic rooms

Rooms with appropriate facilities should be identified within the community ensuring a height adjustable examination couch. Ideally there should also be N3 network access (the NHS secure network) in at least one of the rooms along with a dedicated PC. Consideration should be given to available lighting and patient privacy in any room offered as a clinic room. Ideally the room should allow for subdued lighting with good black out blinds on windows as ultrasound requires control over the level of lighting during scanning.

Screening office

Offices should be secure and large enough to accommodate appropriate staffing levels.

Information

Key elements of information will need to include:

- publicity: PHE's regional press office teams can provide support and guidance for publicity in relation to the programme
- leaflets and information: nationally developed and approved information is available to all local AAA screening programmes from the national print supplier. It is the responsibility of the local programme to ensure that information is available to all men and that literature is displayed in appropriate locations. All leaflets, posters and information sheets should be ordered from the national print supplier.

The national invitation leaflet is designed to ensure that men are informed what screening can and cannot achieve. This, along with the invitation letter, addresses the need to inform subjects about the use made of personal information for audit, as set out in guidelines developed for the programme by the National Information Governance Board (NIGB).

Men should be able to make a genuinely informed choice based on an understanding of why they are attending for screening, the risks involved and associated with a positive result and what happens to their records after being screened. The information will be sent to all men with their invitation for AAA screening.

There are two leaflets for men who require surveillance – one for those with small aneurysms (3.0 to 4.4cm), who are invited for 12-monthly surveillance appointments, and one for those with medium aneurysms (4.5 to 5.4cm), who are invited for 3-monthly surveillance appointments.

There is also a leaflet for men identified with large aneurysms (5.5 cm or greater) who are referred to a vascular consultant.

Letter templates are available to programmes and all local programmes should use these as provided within the IT solution. Minimal changes to the template will be permitted but changes to the core content should not be made

Online information for professionals about AAA screening can be found on GOV.UK. Information for patients and members of the public can be found on NHS Choices. Downloadable pdf and text leaflets are available on GOV.UK, including translated versions of patient information leaflets.

Screening equipment

Screening equipment consists of portable ultrasound machines. A technical equipment specification has been developed and an approved list of equipment meeting this specification agreed. It is a requirement that all local programmes select equipment from this list. Screening technicians should not undertake screening on any machines other than those approved by the national programme. This includes loan or temporary replacement machines. All local programmes should have procedures for storage and transport of ultrasound machines. Cleaning of machines should comply with local policies for infection prevention and control, and equipment manufacturers' guidance for cleaning and maintenance.

Please note: It is important that reference is made to documents relating to ultrasound and the prevention of work-related musculoskeletal injuries. Documents which reference these guidelines are available via the Society and College of Radiographers' website at www.sor.org [1]. Local programmes should make reasonable adjustments to policy and working conditions to reduce the risk of work-related musculoskeletal injuries.

Liability and insurance for equipment loss and damage should be discussed with the local commissioners/trusts.

[1] Industry Standards for the prevention of MSK in Sonography SCoR (2006). The Causes of Musculoskeletal Injury amongst Sonographers in the UK SCoR (2002)

Equipment default set-up:

Further information is available in the clinical guidance and scope of practice document. Local programmes should be aware there may be periodic updates in equipment set-up related to scanner software upgrades or manufacturers' recommendations.

Recommended settings for the Samsung/MIS Ugeo:

- depth 12cm
- focus 6-7cm
- gain 50
- frequency Set to General
- harmonic imaging ON
- dynamic range 130
- edge enhancement 1
- grey map 6
- compound imaging ON

Recommended settings for the Esaote MyLab Alpha:

- dynamic range: 8
- frequency: Res-L
- X view: +7
- M view: 1
- depth 12
- gain: 53
- persistence: 0
- enhancement: 4
- density: 2
- compound imaging ON
- harmonic imaging ON

Recommended settings for the GE Logic e for the NHS AAA Screening Programme:

- tissue harmonics – ON
- cross-beam (compound imaging) – ON
- dynamic range – recommend 70-80 dB Edge enhancement – recommend setting no. 2
- grey map – recommend C or D
- power can be set to 100%

Recommended settings for Sonosite M Turbo for the NHS AAA Screening Programme:

- tissue harmonics – ON
- "MB" – multi-beam = compound imaging - ON
- dynamic range – there are 7 settings, from +3 to -3. The recommended setting is -2

Safety, compliance and quality assurance on ultrasound machines

Further information can be found in the ultrasound equipment quality assurance guidance.

- compliance with local policies and directives is necessary. All equipment will need to be safety tested and accepted locally following delivery
- ensure that all the components belonging to one piece of equipment are clearly labelled. Local programmes should colour code each piece of equipment to allow the matching of equipment to each man scanned and easier identification of equipment should problems occur
- electrical safety testing is required as directed by the local organisation
- regular maintenance (as per the manufacturer's guidelines) and quality assurance testing to specified levels by qualified personnel is required. The following procedures should be implemented:
    - in-depth baseline tests on new equipment
    - annual routine tests using specialist equipment
    - routine monthly tests to be carried out locally by the senior sonographer or medical physics department and results reported to the screening office
    - the integrity of mains cables, transducer cables and the transducer face should be inspected before every clinic. Defective equipment should be taken out of service and reported

Equipment review and replacement

A formally agreed review and replacement programme should be in place with providers because of rapid changes in technology and clinical expectations and needs. The Board of the Faculty of Clinical Radiology, Royal College of Radiologists, recommends review of ultrasound equipment at four to six-year intervals. The national programme centre will support and advise local programmes with this process as consistency of equipment use across NAAASP is essential.

Workforce education and training

Training, development and information programmes are required for the following staff groups (all training is based around a national competency framework):

- **senior practitioners/CSTs** are expected to cascade practical training to other staff and offer support and advice. There is a requirement for these professionals to clinically support the screening technicians during the initial months of their training within the programme
- **nurse practitioners** who undertake screening
- **screening technicians**
- **co-ordinators**, who are expected to cascade training to screening and clerical staff

Directors are required to attend information seminars and update events.

Information updates will also be required for:

- lead ultrasound clinicians
- medical physicists
- nurse practitioners
- commissioners

It is recommended that all administration personnel, including the co-ordinator, undertake some local IT training to cover rudimentary use of Microsoft Excel and Word, such as the European Computer Driving Licence (ECDL) training. In order to use and produce performance reports it is recommended that co-ordinators are proficient in the use of Excel.

The training for screening technicians involves a combination of e-learning, self-directed study, on-site clinical skills and competency based training with the local screening programme. The process to become an accredited screening technician takes between three and six months.

See training documents on GOV.UK for further details.

Confidentiality and security

Basic principles of information governance:

- patient information is confidential and should be entrusted only to those with a justified need to know
- integrity of information must be monitored and maintained to ensure that it is of sufficient quality for use within the purposes it was collected
- awareness and understanding of all staff, with regard to their responsibilities, should be routinely assessed and appropriate education and awareness provided
- risk assessment in conjunction with overall priority planning of organisational activity should be undertaken to determine appropriate, effective and affordable information governance controls are in place

Basic principles of storage and transfer of person-identifiable data:

- all person-identifiable information should be encrypted when stored or transferred electronically
- non-encrypted memory sticks should not be used to store patient information or ultrasound image files which contain patient information
- storage or transfer of bulk person-identifiable information should not be done without the express permission of the Caldicott Guardian who will maintain a register and should be done via a secure service
- all electronic bulk person-identifiable information must be encrypted to an acceptable level (256-bit Advanced Encryption Standard [AES-256] algorithm plus a strong password – 12 or more characters in length)

- files containing person-identifiable information can be encrypted individually or, in the case of laptops, the hard drives can be encrypted
- images and patient information on the ultrasound scanners should be uploaded to the central image storage system as soon as possible following a clinic. Once the programme is assured the images have all successfully been uploaded, they and any residual patient information should be removed from the scanner

Mobile computer media and devices:

The above principles apply to all forms of mobile/portable computer media and devices including laptops, notebook computers, PDAs, solid-state memory cards, memory sticks, pen drives, USB drives, DVDs, CD-ROMs etc.

Emailing and other electronic transfers of person-identifiable information:

- the above principles apply to all forms of electronic transfer of person-identifiable information including email, FTP, internet submissions
- files containing the person-identifiable information must be encrypted during full transit from sender to receiver and must be properly protected as stated above when stored on the sender's and receiver's computer devices
- NHS numbers should not be used in emails between programmes or between programmes and the Northgate Public Services IT service desk unless using nhs.net email addresses to send and receive. The confidential ID number generated for each subject within the IT system should be utilised in such cases
- the use of fax machines to send patient information should be avoided

Incident reporting

Staff should report all information security breaches or near misses via the incident reporting process (the same process for reporting clinical incidents).

Information technology

Systematic screening requires call and recall information and the capture and management of ultrasound images. Screening programmes must use the software developed through and provided by PHE and ensure that the national minimum dataset is collected. This software solution is known as the Screening Management and Referral Tracking (SMaRT) system.

The following modules make up the functionality within the SMaRT system:

- identification and collation of screening cohort (Screening Subject Population Index SSPI)
    - the purpose of this module is to identify all men in their 65th year, and to collate a screening cohort for each local screening programme as well as keeping the demographics of the active cohort up to date. Local screening programmes are defined by the list of GP practices to which they are responsible for offering screening. Programmes must keep this list up to date and let the Northgate helpdesk know of any new GP practices in their area or any other changes to the GP practice list. The screening year is from 1 April to 31 March

- Screening Management and Referral Tracking
    - this module provides the core functionality for the screening programme, including the administration of call/recall for new and surveillance subjects, management of referrals for those screened positive and collation of audit and performance management data for the programme. The data for the programme is stored in a single national system (SMaRT). Local screening programmes have access to the subjects for whom they are responsible

- Recording of AAA surgery and outcomes
    - to measure the effectiveness of the screening programme, it is necessary to collate data regarding AAA surgery and outcomes following a positive screen. Assessment information should be entered into SMaRT by the local programme. Surgery outcomes can either be collected via the NVR, in which case an NHS number must be used to allow the linking of the surgery to SMaRT, or directly into SMaRT by the local programme staff

The call and recall system has been specified by the national programme and is centrally hosted by IT supplier Northgate Public Services. Local installation is not required but appropriate N3 connections must be available via a suitably fast and resilient link.

In addition the following are also required:

- a minimum of two administrative computers, including printers to access the system with appropriate support

- telephone system with appropriate voicemail
- a computer attached to each screening location if possible
- at least one computer which has the “Image Cube” software (provided via SMaRT) installed with an extra Ethernet port to allow the uploading of images
- local network firewall configuration to allow the images to flow to the centralised image storage over the N3 network using secure DICOM

Use of data and consent

The IT system that supports NAAASP is different from most hospital systems in that records are stored in a national system and most of these records relate to subjects who have not sought NHS care. Following Section 251 approval, NAAASP receives details of all men during the year they turn 65 from the Health and Social Care Information Centre (HSCIC) system. The use of a national screening system has huge advantages in monitoring the programme and better understanding the progression and clinical management of AAA. However, men who have been offered screening might not expect that their personal information is being stored or used outside the local screening programme. Therefore we are legally obliged to seek informed consent before entering or retaining personal information in the national database.

Every subject who attends for screening must be given an opportunity to read the form of words provided on the ‘consent card’, enabling them to understand and consent to screening if they wish to be screened and to the storage and use of personal information. There is no need to obtain a signature but in all cases it is the screener’s responsibility to ensure that the subject’s consent preferences are accurately recorded. It may be unlawful to store personal information without obtaining appropriate consent.

Consent need only be obtained once for each man, but the rules on consent may change, so in practice it may be easier to present the consent card at each screening encounter so that consent can be reconfirmed. The consent card is available on GOV.UK.

Declined or withdrawn consent

It is important that any man who declines consent for their personal information to be used in this way understands the consequences of their decision. Often explaining why information is needed and affirming that it will only be used within the NHS as part of the care, evaluation and improvement process will reassure the subject that this use of their personal information is appropriate. However, it is important that only legitimate informed consent is recorded within the system.

Subjects may decline consent for any or all of the activities listed on the card. However, a subject declining consent **must not be screened** other than when he declines consent for use of personal information for research purposes. Screening is a diagnostic

procedure that requires the consent of the subject and there is an associated duty of care to record information to evidence what was done and what was found.

If a subject asks for his information to be removed NAAASP must comply with this request and the national software supplier asked to delete their details permanently. A record of the request and any screening results (if this is after screening) should be held locally.

The following paragraphs must be included in all subject letters as stipulated by the NIGB:

> Your personal information (sometimes called personal data):
>
> As you are registered with a GP, you are entitled to AAA screening as part of the NHS programme in England.
>
> Your personal information (name, contact details and date of birth) will only be used by the NHS AAA Screening programme to provide a safe screening service. It will not be passed on to third parties other than healthcare professionals directly involved in screening or any subsequent investigations and treatment. As a national NHS screening programme, we are required to record statistics and may also contribute to research linked to abdominal aortic aneurysms or screening programmes. In the event that your data is used for these purposes, we will not identify any of your personal details other than where there is a clear legal basis.
>
> We also share personal information with the Vascular Society of Great Britain and Ireland so that we can monitor mortality from AAA disease and improve the effectiveness of the screening programme.
>
> If you have any concerns or queries about how your information is used or stored, please contact the screening centre on [Insert local number here]

Image storage and retrieval

All images taken as part of the screening test process (apart from those taken in medical imaging departments) must be stored on the central image storage system which forms part of SMaRT.

To minimise the risk of data loss, images should be removed from ultrasound machines as soon as possible following image upload.

Screening pathway

The screening process

The screening procedure is divided into the following stages:

- identification
- invitation
- inform
- test
- surveillance
- diagnose
- treatment/intervention
- monitor outcomes

Identification

Each programme will have access to their entire cohort list approximately five months prior to the start of the screening year to allow for clinic planning. This will come via the national software solution. The unique identifier for each man will be the NHS number.

Clinic booking

It is suggested that screening clinics are scheduled to last three to four hours and appointment slots are usually allocated at 5 or 10-minute intervals with a short break mid-session. There should be two staff to cover each clinic. Generally 15-18 men would be seen over three hours. However, the number should be reduced if:

- there are newly qualified screening technicians who are gaining experience
- more than five surveillance subjects are to be included
- it is a new screening location

Invitation

Eligible men are invited by letter to one of the dedicated screening clinics held in a variety of locations within their community. The invitation will come from the local screening office and not the GP.

If a local screening programme receives its cohort ‘early’ – in other words before the year (1 April to 31 March) that the men turn 65 – it should avoid inviting men for screening when they are still aged 63. However, it is acceptable to invite men for screening as soon as they have turned 64, even if the date of screening falls before the start of their cohort year.

If a man is invited for screening when he is still aged 63, his local programme should use the following wording if the man subsequently asks why he has been invited:

> The NHS AAA Screening programme usually invites men for screening during the year they turn 65. This is because most AAA occur in men aged 65 and over. However, some men may be invited for screening shortly before their 64th birthday. Inviting men for screening 'a few months early' is not clinically significant.

All call and recall appointments must be organised at, and generated from, the central administrative office within the screening programme. The local screening programme will generate and send invitations using the cohort list of subjects within the IT system. An invitation pack should include:

- an appointment detailing a specific date, time and location. This letter should also ask men with special requirements (such as mobility, hearing or visual) to contact the screening office in order to arrange an appointment at a separate dedicated clinic if applicable
- the NAAASP invitation leaflet
- a direction sheet with map (unless the location is the subject's own GP practice)
- an address/phone number/email address to contact the screening centre

It is important that invited men can give informed consent to be screened. For non-English speakers, translations of the NAAASP patient information leaflets and consent forms are available to download and print out from GOV.UK. Local programmes should arrange any required interpreter services through their trust.

Inform

The man will be seen by the screening technician on arrival at the screening clinic. This will allow further information about screening to be given before the decision to participate is taken.

Care should be taken to ensure the identity of the person being screened is securely established by:

- asking to see the letter of appointment where possible, and double checking the NHS number against the subject record both on SMaRT and on the ultrasound machine. If SMaRT is unavailable the NHS number must be checked against the clinic list and all details entered on the proforma
- asking the individual to state their full name, address and date of birth rather than asking them to confirm their details as read to the individual, and checking that the details match the subject record

The man should be fully informed about the process and possible outcomes. This information should also include an explanation regarding the use of his data. His full consent should be obtained prior to screening commencing.

Test

Screeners take views of the abdominal aorta using ultrasonography:

- two anterior–posterior (AP) measurements of the maximum aortic diameter should be recorded in centimetres to 1 decimal place, measured across the lumen from/to the INSIDE of the ultrasound-detected aortic wall, one with the probe in the longitudinal plane and one with the probe in the transverse plane
- it is recommended that all images should be annotated TS for transverse section and LS for longitudinal section. Alternatively the body marker pictogram can be used
- patient details are usually loaded from the worklist generated by SMaRT, but if a man needs to be added to the scanner manually it is vital to ensure that the NHS number, subject's last name and date of birth are provided
- technicians should also check that the Institution Name and/or Referring Physician fields are completed with the 3 character programme prefix
- the use of coronal imaging planes should be avoided and is not part of the screening protocol. Additionally, screeners should not attempt to use colour or spectral Doppler modes on the scanning equipment. Further details regarding the scan can be found in the clinical guidance document

All men entering the programme should follow the national process and pathway outlined. However, it is acknowledged that in some areas there will be existing surveillance patients who have previously had their aortic diameter results based on different measuring criteria. These men, on their next follow-up scan, should be provided with a clear explanation regarding the changes in measuring criteria based on the national screening programme, the result of which may see the diameter of the aorta reduced compared to their previous scan. Clear information following their scan should also be given which will need to explain any change to their surveillance pathway. It is important that these men understand this does not necessarily mean their aortic aneurysm has reduced in size.

The images are assessed at the time of screening to determine whether or not an AAA of 3cm or greater has been detected, and the aortic diameter measurements are recorded. A minimum of two static sonographic images, including normal, abnormal or non-visualised results, should be recorded and stored to allow recall in cases of serious incident and for quality assurance purposes. In cases where the aorta cannot be seen local programme staff should refer to the guidance for management of non-visualised screening results.

All screening results should also be recorded in writing on a printed work sheet at each clinic. These work sheets are submitted to the local programme co-ordinator who checks and files them for audit, quality assurance and fail-safe purposes.

Any result outcome should be communicated to **all** subjects verbally and in writing to those men in whom an aneurysm is found. If this has not been possible, the result should be sent as soon as possible to the GP and clinicians providing other care. The concept of ‘no news is good news’ is not acceptable.

If the maximum aortic diameter is less than 3cm, the subject is advised that no aneurysm has been detected and no further follow-up will be arranged.

If the maximum aortic diameter is 3cm or greater, the subject is advised that an aneurysm has been detected and given the appropriate explanatory information leaflet. They are informed that a further follow-up will be arranged either at a future screening clinic at a specified time interval, or at a hospital outpatient clinic with a vascular specialist.

If an AAA of ≥5.5cm is identified, the screening office is contacted urgently by telephone from the clinic in order that arrangements may commence for a referral to a vascular surgeon in line with the pathway standards

If the aortic diameter cannot be visualised, the subject is invited for one further scan at another screening clinic if thought appropriate – for example due to transient bowel gas – or by the vascular lab/medical imaging department at the hospital. If the outcome is still non-visualised at a second screening scan then the subject **must** be referred to the vascular lab/medical imaging department. Guidance should be offered recommending minimum food and drink intake in the four-hour period prior to the proposed scan.

The vascular lab/medical imaging department should notify the screening office of the outcome of the scan and it is the responsibility of the office to send the correct information and action accordingly depending on the presence and size of an aneurysm. Surveillance subjects should be followed up in the community screening programme unless this is otherwise advised. If the aorta still cannot be visualised after this imaging scan then individual cases must be discussed with the clinical director. CT/MRI scanning as routine is not considered to be cost effective and has associated risks. This should not be carried out unless considered important by the clinical director, taking into account the wishes and circumstances of the man involved. The clinical director should come to an agreement with local commissioners and providers as to who would fund this additional imaging, should it be deemed appropriate.

All programmes should ensure that their screening technicians have been appropriately trained and assessed as competent to give verbal feedback at the time of the scan. It is

important to note that before a screening technician can give verbal feedback, they must have received confirmation that they have passed the training course – submission of the portfolio is not sufficient.

- screening staff **should not** carry out any additional abdominal scanning during a screening appointment. However, a local process, regarding incidental findings should be developed and in place
- any anomalous findings, for example clear dilation/saccular bulges when the aorta is below 3cm, should be discussed with the clinical director or the imaging lead and documented as per local process
- screening results should be entered directly onto SMaRT if available

After the clinic (at the office)

- result letters are sent to subjects with aneurysms requiring surveillance and for those requiring a referral. Letters are not sent to men with normal aortic measurements
- results are sent to GPs within one week for all subjects regardless of the result
- data from the clinic is reviewed to ensure that information has been fully and correctly recorded
- images are uploaded to SMaRT and checked against the clinic list of scanned patients
- if the aorta cannot be visualised at the screening clinic, a further scan should be arranged at a later screening clinic or local hospital vascular lab/medical imaging department
- the co-ordinator makes appropriate referrals to a vascular surgeon for patients who have an AAA ≥5.5 cm and informs the GP within one working day of the clinic
- further invitations (at least one) should be sent to those not attending their first appointment without notification to the programme. Local policy should take into account the pursuit of non-responders such as checking contact details with the GP practice. It is essential that GPs are contacted via telephone with letter/email follow-up regarding the non-attendance of a surveillance patient and the actions taken, including any reason for the non-attendance recorded in case of future rupture of the aneurysm
- standard result letters are available and should be used with minimal local amendment to the template only and not to the core content

Surveillance

If the AAA measures:

a) 3.0-4.4 cm, a follow-up will be arranged in one year
b) 4.5–5.4 cm, a follow-up will be arranged in three months

Forward planning

Details should be checked and any changes made to the IT system. Checks should be made that:

- subjects are not deceased
- their address has not changed
- the GP has not indicated that the man is unsuitable for surveillance
- It is unreasonable to expect surveillance subjects to attend clinics at different venues on successive occasions as this increases their anxiety
- screening clinics should include a mixture of surveillance subjects and those attending their first screening appointment to ensure that staff regularly have the opportunity to scan AAA subjects. This ensures that they maintain their skills and adds interest to the clinics
- the number of subjects booked at each clinic will vary according to the number of subjects under surveillance who are included and the experience of the staff.

Generally, patients are allocated a single slot at 5-10 minute intervals over a 3-4 hour session

- if subjects request a delay or change in the appointment, or if a further appointment is declined or deemed inappropriate, the IT system should be updated accordingly. The updated clinic list is then available to staff on the day of the clinic

At the clinic

- results should be communicated to **all** subjects verbally at the clinic and, if an aneurysm has been detected, in writing using the standard letter templates. Results should indicate if a further scan is planned and if so the approximate surveillance interval. If an AAA ≥5.5 cm is identified, the screening office is contacted urgently by telephone from the clinic in order that arrangements can be started without delay for a referral to a vascular surgeon
- if an aneurysm ≥5.5cm is found, the technicians should inform the subject that he should contact the DVLA (Driver and Vehicle Licensing Agency)
    - bus, coach and lorry drivers will have their license suspended, but this will be reinstated once the aneurysm has been successfully treated
    - car drivers must inform the DVLA once the aneurysm reaches 6cm, and the license suspended once the aneurysm reaches 6.5cm. The license will be reinstated once the aneurysm has been successfully treated
- results should be entered directly on to the SMaRT system if available
- screening results and paperwork are returned to the office, including a printout of the clinic list with screening measurements in writing against each subject

After the clinic (at the office)

- result letters are sent to subjects with aortas measuring ≥3.0 cm
- results are sent to GPs
- data from the clinic is reviewed by the programme co-ordinator to ensure information has been fully and correctly recorded
- if the aorta could not be visualised at the screening clinic a further scan should be arranged either at a subsequent screening session or at a local hospital vascular lab/medical imaging department
- the co-ordinator makes appropriate referrals to a vascular surgeon for patients who have an AAA of ≥5.5 cm and informs the GP within one working day of the clinic
- it is essential that GPs are contacted via telephone with letter/email follow-up regarding the non-attendance of a surveillance patient and the actions taken; including any reason for the non-attendance recorded in case of future rupture of the aneurysm
- standard result letters should be used with minimal local amendments to the template only and not to the core content

Informed dissent

- subjects with small or medium abdominal aortic aneurysms who indicate that they do not wish to be re-screened should be encouraged to remain in the surveillance recall system and decline their next individual regular invitation rather than withdraw permanently. However, any subject who indicates that he is certain of his decision should have this decision respected
- men must be provided with sufficient information to enable an informed decision to be made about withdrawing from the screening programme. This must be in a format which is accessible and men must be informed that withdrawing from the programme will prevent them from receiving any future invitations or reminders about screening. However, it must be made clear that they may return to the programme at any time at their own request
- additionally, men must be capable of making and communicating an informed decision. Under the Mental Capacity Act 2005, individuals must be presumed to have capacity to make their own decisions unless it is proved otherwise. Ceasing decisions for people who lack mental capacity may be made by a legally-accountable decision-maker only where the individual cannot make his own decision even with support and assistance, and must always be in the individual's best interests. This is likely to be appropriate only where the man would never be suitable for further investigations or treatment should his aneurysm increase in size. Decision-makers are required to document the decision-making process and retain an auditable record of this
- wherever possible a specifically-written instruction should be signed by the subject or his representative to confirm his informed dissent from surveillance recall. Each screening office must have fully defined and documented protocols for ceasing, and these must be available to all staff who deal with queries from screening subjects and the general public
- individuals who have confirmed their wish to be removed from the screening programme should receive no further correspondence relating to any screening episode. Unless the subject has specifically requested otherwise, the screening office must write to him to confirm that recall has ceased and to give instructions on how to rejoin the programme if required

Nurse practitioner/health promotion clinics

Men will be offered an appointment to see a nurse practitioner/vascular nurse at or before their first surveillance scan (at three months or 12 months) and an opportunity to see the nurse when they move from annual surveillance to three-monthly surveillance. How these appointments are arranged will be a local decision and may be at the same clinic as the follow-up scan – leaving the screening technician to carry out the scanning – or at a dedicated separate clinic

Subject

Following a positive screen with the aorta measuring 3cm to 5.4cm the subject will be given an appropriate surveillance information leaflet.

The screening office will then send an accompanying letter confirming the outcome of the screening test and will inform the man that before his next scan he will be contacted by a nurse practitioner/vascular nurse who will invite him to an appointment to answer any questions he may have and to provide him with some advice should he want it. This appointment may be before or at the same time as his next scan.

GP

Following a positive screen with the aorta measuring 3cm to 5.4cm the GP will be sent a letter giving the following information:

- result of scan including the size of the aneurysm
- an outline of the interval for the next scan
- information that the nurse practitioner/vascular nurse will contact the patient to invite him to an appointment for support, reassurance and lifestyle advice

Appointment details

The appointment will be a one-off unless:

- contact from the man is made to the programme co-ordinator expressing undue anxiety
- the subject is moving from 12-month surveillance to three-month surveillance

The appointment letter should state that the appointment is being offered should he wish to accept it and that, if attending, the patient should bring details of any prescribed medication with him.

During the appointment the nurse practitioner/vascular nurse should:

- measure and record height
- measure and record weight
- calculate and record BMI (body mass index) using NICE (National Institute for Health and Clinical Excellence) guidelines
- determine current smoking status
- never smoked
- ever smoked
- currently smoking
- measure and record blood pressure (more than once)
- ask whether the man is currently taking statins. If so, what?
- ask whether the man is currently taking antiplatelets (aspirin or clopidogrel)
- determine and record any patient concerns
- provide smoking cessation advice as per local guidance

- recommend any interventions such as seeing GP
- provide lifestyle advice as per NICE guidelines and record
- provide reassurance regarding size and presence of AAA
- ensure all measurements and recommendations are recorded and transferred to the screening office for input into the SMaRT system
- send letter to GP within one week outlining outcome of appointment
- send letter to subject outlining recommendations

Diagnose

If the AAA measures 5.5cm or greater:

- the subject should be informed verbally at the clinic of the need to be referred to a vascular consultant in a hospital outpatient department, and the reasons for this referral explained. This verbal confirmation should be followed up with written confirmation. He should also be given the appropriate referral information booklet. If a subject declines a referral then confirmation of this should be sent to him and the GP indicating that he is free to change his mind at any time. It is important that this is done in case of later rupture
- the subject should be informed that he should contact the DVLA regarding his aneurysm
    - bus, coach and lorry drivers will have their license suspended, but this will be reinstated once the aneurysm has been treated successfully
    - car drivers must inform the DVLA once the aneurysm reaches 6cm, and the license suspended once the aneurysm reaches 6.5cm. The license will be reinstated once the aneurysm has been treated successfully
- the screening clinic should contact the co-ordinator to inform them of the need for a referral
- the referral should then be made by the co-ordinator of the local programme, within one working day of the clinic, to the appropriate vascular unit (see below)
- a letter should be sent to the subject and the GP along with a summary of previous screening results
- the referral letter should be sent directly to the secretary of the appropriate vascular surgeon or vascular centre. **Local process should dictate the quickest and most effective way of making this referral**
- the local programme co-ordinator should verify the referral has been received and acted upon.

At the same time the GP practice should be informed in writing, with a follow-up phone call to ensure the practice is aware of the referral. As the referral is based on the ultrasound measurement alone, the GP may want to provide additional information to the surgeon. The subject and/or GP may choose to alter the referral location (within three working days of contact with the practice). The GP should be asked to send any additional information, special requests or exclusions to the co-ordinator who will record this information and pass it on to the appropriate clinician. Any change to the referral should also be logged on to the SMaRT system.

All referrals should be seen in the vascular outpatients department within two weeks of the scan. If the AAA has a diameter on ultrasound of over 7cm, an urgent referral should be made with every attempt to see the patient at the next available outpatient clinic.

The choice of vascular surgeon from those eligible (fulfilling the NVR audit requirements and nominated as part of the screening programme) will be made by the local screening programme.

The GP and patient should be made aware in writing that:

- strong links between screening services and vascular networks help to ensure that surgery is of a consistently high standard
- it may not be possible to verify high quality surgical outcomes from vascular surgeons not participating in the screening programme
- the screening programme will not learn the outcome of a referral to a vascular surgeon not participating in the programme. This will make it more difficult to ensure that appropriate follow-up takes place

On referral to the vascular unit:

- should a repeat imaging test show the AAA to be less than 5.5cm in diameter, or the patient is unfit for surgery, continued follow-up should be arranged under the care of the vascular surgeon **(not the screening programme).** Once a patient has been under the care of the vascular surgeon due to a referral or for surveillance they **must not** be referred back to the screening programme for them to monitor
- the screening office should be advised by letter of the outcome and results of each consultation

Treatment/intervention

The vascular unit undertaking surgical treatment should take into account the guidelines of the VSGBI. The vascular unit is responsible for setting up mechanisms with the local screening programme to inform the screening office of the decisions concerning surgery and the outcome of surgery.

Details of all AAA surgery performed by the vascular unit should be entered on to the National Vascular Registry by the vascular surgeon using the subjects NHS number and made available to the screening office though the interface across the national IT system (the NHS number must be entered to allow the records to be linked automatically).

End point of the NHS AAA Screening Programme

Active inclusion in the screening programme ends when:

- the scan is found to be within normal limits (aorta less than 3cm diameter (inner to inner) on AP measurement in both longitudinal and transverse view, at initial scan)
- the AAA reaches 5.5cm diameter on ultrasound on either of the AP measurements and the subject has been referred to the vascular unit. It is the responsibility of the screening programme to ensure the referral has successfully reached the vascular service and been acted upon.
  A diagnosis is not made at the completion of a screening test. The 'diagnosis' of an AAA will be made by the vascular surgeon
- the director of the local screening programme or the GP decides referral for treatment should be considered based on other factors (for example, symptoms or co-morbidities)
- after three consecutive scans showing an aortic diameter less than 3cm on ultrasound where the initial scan was 3cm or greater. In this case the man should be discharged from the screening programme and both the man and GP informed by letter
- after 15 scans at one-year intervals the AAA remains below 4.5cm. In this case the man should be discharged from the screening programme and both the man and GP informed by letter
- if the man declines to be in the screening programme, fails to attend consecutive appointments as per local policy, moves out of the area and becomes the responsibility of another screening programme (if one exists) or dies. If a man under surveillance moves out of the area, the co-ordinator should alert the screening programme responsible for the GP practice to which the patient is then registered

Patients who have had AAA identified through routes outside the screening programme **must not** be referred to the screening programme for surveillance except for Inclusions listed in this document. These patients must stay within the care of the vascular service.

Self-referral process

Men aged over 65 who **have not** been screened previously may contact the programme asking for a screening appointment. These men are known as self-referrals. Men should only be accepted as a self-referral by the local programme if they are registered with a GP practice covered by that programme. There is a national letter template that can be sent to men who are not registered with a GP.

An NHS number will be required for all men who enter the screening programme and it is likely some men will not know their individual number. A local process must be established which enables the screening programme to access this important piece of information. The self-referral proforma (Annex B) can be used for this purpose.

Screening flowcharts

The NHS AAA Screening programme has developed a care pathway which is available through the Map of Medicine.

Pathway standards, risk management and quality assurance

All screening programme services are required to monitor performance against the pathway standards for the NHS AAA Screening programme. All surgeons treating patients identified through NAAASP will be expected to submit data to the NVR.

NAAASP pathway standards are a core set of objectives, criteria, minimum standards and targets that have been developed to measure the processes or intervention of AAA screening

Both QA **between** units and quality control **within** a unit are important. Involvement of radiologists, sonographers, screening technicians and medical physicists is required.

National pathway standards

NAAASP pathway standards can be found on GOV.UK.

Programme risk management and failsafe procedures

The NAAASP fail-safe document and care map can be found on GOV.UK.

Serious incidents

The UK NSC has developed guidance on how Serious Incidents should be managed in national screening programmes. This guidance can be downloaded from GOV.UK.

Quality Assurance (QA)

Local programme quality assurance

A quality assurance framework has been developed as part of education and training. Details of the quality assurance requirements for screening technicians can be found on GOV.UK.

A QA module has been developed as part of the SMaRT system and is used to generate subject details in line with the QA process. Local quality assurance should be performed by the lead radiology clinician or the nominated CST.

As part of the QA process, if the screener fails to meet any of the standards in three or more assessments then remedial action should be taken such as:

- close mentoring and supervision
- retraining
- continuing review of images from random clinic selection
- review of past images and possible recall of men. Local programmes should work with QA and local commissioners and notify the national programme if a recall is required and should work with them to plan the process
- suspension from screening in the situation of a serious incident, pending investigation as per local Trust policy

Ultrasound equipment

Information regarding quality assurance of ultrasound machines can be found on GOV.UK:

Other

- service provision
- questionnaires sent periodically to a sample of randomly selected service users (doctors, Practice Managers/staff, patients, vascular surgeons) to ask whether any problems arose as a result of the screening programme
- enquire about any procedural changes that could improve the delivery of the screening programme

Referral to vascular unit

- monitor time from referral to outpatient consultation (see failsafe for limits)

Vascular unit assessment

- monitor time from referral to surgery

Surgical procedure

- Vascular Society of Great Britain and Ireland to monitor outcomes

AAA mortality

Monitor deaths from ruptured AAA through information supplied by Office for National Statistics (ONS) and linked to gender, age group and screening category.

Reporting

As NAAASP uses a national call and recall screening management system it has responsibility for providing programmes with regular activity reports as well as key performance indicators (KPIs) and pathway standards reports. The activity reports are to inform the local programme and commissioners of monthly activity whilst the KPIs are related to the performance of programmes.

Annex A: Clinic room requirements and site survey form

Minimum requirements

Two rooms ensuring patient privacy, plus a small waiting area. Ground floor or with lift access so they are accessible for infirm men.

Room 1

This room is used by the screener to explain procedures, answer queries, check personal details (e.g. address, date of birth, registered GP).
Minimum requirements: 2 chairs, small table and power point.

Room 2 (will need this for both rooms if using two screening technicians)

To take sonographic measurements, give results verbally, offer further information, advice and counselling if required.
Minimum requirements: Full-length height adjustable examination couch, power points x2; small desk, subdued lighting, curtains/blinds.
Ideally access to a computer connected to N3 to allow live access to the IT system.

Waiting area

Seating for up to 6 people, close to the above rooms

Site

To ensure the smooth running of the screening programme, it is essential that the programme co-ordinator views potential clinic rooms and available facilities are determined. A suggested site survey form is shown.

Site survey form

Venue:
Address:
Tel: Fax:
Inspection date:

Name of centre contact	
Rooms available	
Clinics	Times Days Dates
Waiting area	
Signs / directions	
Facilities Ultrasound room 2. Meet and greet room	 Height adjustable couch; curtains / blinds; power points; telephone; N3 connection with PC Desk; power point; N3 connection with PC
Communications between screening centre & clinic	From screening centre (clinic lists) b) To screening centre (clinic results)
Emergency procedures	Medical Fire
Access to facilities for screening staff breaks	
Parking	Staff Patients
Storage of equipment & consumables	
Clinical Rubbish	
Linen	
Other	

Annex B: Self-referral form and NHS number guidance

Abdominal Aortic Aneurysm (AAA) screening programme
Self-referral form
Self-referrals can only be accepted if all fields marked * have been completed

Name *	
Address *	
Postcode*	
Date of Birth *	
NHS Number *(see overleaf)	_ _ _ _ _ _ _ _ _ _
GP name and address	

About NHS Numbers

Your NHS Number is unique to you and is used to help healthcare staff and service providers match you to your health records. It is an important step towards providing you with safer patient care. Everyone registered with the NHS in England and Wales has their own NHS Number. It can also be found on any prescription.

Your NHS Number is the 10-digit number which is printed on your NHS medical card. An example of an NHS Number is 450 557 7104.

Some older medical cards include an old-style NHS Number which consists of both numbers and letters. Although having an old-style NHS Number will not affect the NHS care provided to you, the old style numbers have now been replaced with the new-style format which was first introduced in 1996 and the NHS AAA Screening programme will only be able to offer screening if you provide details of your current (10-digit) NHS Number.

How do I find my NHS Number?

If you want to know your NHS Number, or you have an old style number and want to know your new one, please follow the instructions below:

If you are registered with a GP, you will already have an NHS Number. To find out your NHS Number you can contact your GP surgery (family doctor) and ask them to look it up. To protect your privacy, they may ask you to show them a passport, driving licence or some other proof of identity. Your NHS number will also be on any prescriptions you receive from your GP.

If you are not currently registered with a GP, you will need to register before you can access screening services. When you register with a local GP, you will be sent an NHS Number as part of registration. You can go to a GP surgery to register. Visit http://www.nhs.uk/Service-Search/GP/LocationSearch/4 – select 'GP Surgery' and enter your postcode to find GP surgeries close to you.

Your personal information (sometimes called personal data):

Your personal information will only be used by the NHS AAA screening programme. It will not be passed on to third parties other than healthcare professionals directly involved in screening or any subsequent investigations and treatment. As a national NHS screening programme, we are required to record statistics and may also contribute to research linked to abdominal aortic aneurysms or screening programmes. In the event that your data is used for these purposes, we will not identify any of your personal details other than where there is a clear legal basis.

Annex C: Screening in prisons

Introduction

This section describes the process for screening men who are long-term residents in secure organisations such as prisons and mental health units, and who may not be registered with a community-based GP practice.

People in detained settings who have less than a 3 month sentence should be actively supported to ensure they are registered with a GP on release into the community.

People in detained settings, regardless of the type of institution they are in, for longer than 3 months should be actively encouraged to register with prison providers.

Procedure

The NAAASP Screening Management and Referrals Tracking (SMaRT) system attributes Screening Due Dates for all men eligible for screening. Men in Prison are not excluded from this, however, there are differences between men in prison and the general population as far as screening is concerned:-

- Men in prisoner are unlikely to have notified their GP of their detention address. As a result, any invitations to be screened may not reach them
- Secondly, access to screening by men in prison can only take place with the support of prison staff who are required to provide the local AAA screening programme and the men in prison with information and support
- As men in prison can only access screening with the help of a third party, they have to give consent to their involvement and the sharing of demographic and clinical information

Step 1

The local programme Co-ordinator will identify a named member of the prison staff to liaise with (normally a member of the prison health centre) to provide demographic and other information to enable screening to take place.

Step 2

The local screening programme and the prison meet/discuss over the telephone to outline the screening pathway; the process for selection for screening; the information requirements; the arrangements in the event of any men in prison requiring ongoing surveillance, ensuring rigorous processes are in place to prevent any man being ‘lost’ in

the system; issues of confidentiality and security; issues of consent; practicalities for undertaking the screening in the prison (rooms, couches, security of staff etc.).

Step 3

The prison healthcare lead will identify men in prison in their 65th year and over (for self-referrals) and provide them with the appropriate screening information in the form of national screening information leaflets, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/502433/AAA01_web_version_230216.pdf

Where the prisoner wishes to be screened, the prison will take their consent on the form provided and provide the following details of the prisoner to the local screening programme:-

- NHS Number
- Title, Forename, Surname
- Date of Birth
- Correspondence address for the prisoner
- Details of their GP practice or prison health service

Prisons are able to request NHS numbers via a 'weblog' account which NHS Digital's (formerly known as HSCIC)'s National Service Desk maintain (http://systems.digital.nhs.uk/nhsnumber/contacts). The prison in question will log into their account and register their request for a number(s). The request is then sent directly to the National Back Office (NBO) by the Desk and the NBO will search for an NHS number. If a number is not found, they will allocate one. Each prison fills in the account application form, with as much detail as they are able and list all the staff they wish to be able to request this information. The National Service Desk also offers an over the phone training session for those newly registered with a weblog account to help them get started.

Step 4

The local AAA screening programme adds the consenting men to the SMaRT system. A dummy GP practice code may need to be assigned to the prison's healthcare service if the men are not registered with a valid GP practice. This can be done by Northgate Public Services' AAA Helpdesk.

Some subjects may already exist on SMaRT as they will have registered at their home address and GP practice. In these cases, the programme Co-ordinator may need to ask the 'home' local programme to transfer the men to their programme to enable them to be screened in the prison.

Step 5

The local programme arranges screening sessions for the men added in step 4. The screening clinics should be booked and appointment letters and leaflets sent to the men at their current address (or via the contact at the prison).

Step 6

The men are screened at an appropriate location in the prison and given their results at the screening appointment as per normal screening procedures.

Step 7

Result letters are produced and sent to the individuals (only when an aneurysm has been detected), the prisoner's GP (if known) and the prison health department.

Step 8

For men who require surveillance, it is important that the man knows when he is next due for surveillance. He should be advised that if he moves prison or is released he should contact the screening programme to enable his details to be updated.

Men in prisoner are often moved around the country, therefore it is important that any surveillance subjects are aware they must inform the programme if they move. For subjects on three-month surveillance it may be possible for the prison to place the man in prison on 'medical hold' so they are not moved, however, this cannot be guaranteed.

It is essential that, as mentioned in Section 2, rigorous processes are in place to prevent any man being 'lost' in the system, therefore it should be made clear that any man being transferred out, the prisons should inform the local screening programme of such change.

Step 9

Referrals will need to be made as soon as possible and should be with the co-operation of prison staff. Once the subject has been referred normal local procedures should be followed to enable the man to attend hospital for review. Again, it may be possible for the man in prison to be placed on 'medical hold' so that they are not moved, however, this cannot be guaranteed.

Transfers

SMaRT requires manual intervention by the local programme to confirm that the transfer in or out must go ahead. The system does not carry out any transfers automatically. When a record is flagged for transfer the following information is available for the programme to review before confirming the record is to be transferred:-

- The professional contract within the record view would identify to the transfer programme that any particular man is prison.

- The clinic name and location of previous appointments within the appointment history screen.

- Clinical location where screening sessions have taken place within the screening history screen.

Therefore, any man appearing on the SMaRT alert screen under ‘transfer out’ should NOT automatically be actioned. In all instances, check that the transfer out is appropriate i.e. contact the prison to confirm. If the accepting programme is in any doubt, contact should be made with the programme transferring out or the respective prison, if known. SMaRT will be updated with mandatory boxes to confirm appropriate checks have been undertaken.

It is important to note that until the National Offender Management Service (NOMS) is introduced in 2017, any care record that is updated by the community GP on the IT system, this will automatically create an SSPI and can revert to the man’s previous address or community GP thereby creating an inappropriate transfer out.

Prior to the new NOMS IT system being fully implemented next year, if anyone in prison registers with the healthcare provider there, their healthcare records WILL NOT automatically transfer over from the community. Currently, when a patient is detained their medical records continue to be held at the community GP practice they are registered with. Once they are detained, the prison healthcare opens a new medial record on their system (if they haven’t been detained before) and proceeds with that record.