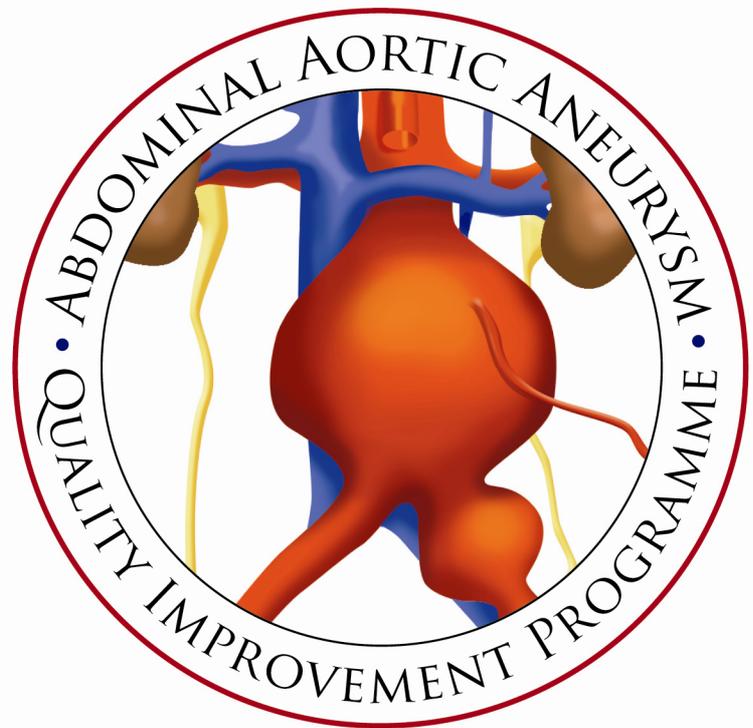




Delivering a National Quality Improvement Programme for Patients with Abdominal Aortic Aneurysms



AUGUST 2012

Prepared on behalf of the Vascular Society
of Great Britain and Ireland
by
The Abdominal Aortic Aneurysm
Quality Improvement Programme Team

Authors

Miss Roxanne Potgieter BSc Hons
Project Manager

Miss Helen Hindley BSc Hons
Data Manager

Mr David Mitchell MA MBBS MS FRCS
Chair Audit & Quality Improvement Committee, VSGBI.
AAAQIP Project Director

Mrs Julia McCleary
Project Assistant

*We are grateful to the following for their contribution to this
report and to the delivery of this programme:*

Professor Ross Naylor (President VSGBI)
Mr Peter Lamont (Past President VSGBI)

Mr Mike Wyatt	Professor Julian Scott
Mrs Sara Baker	Professor Matt Thompson
Mr Simon Parvin	Mr Peter Barker
Mr Ian Loftus	Dr Adam Pichel (VASGBI)
Mr Vince Smyth	Dr Davis Thomas (BSIR)

Vascular Society of Great Britain and Ireland (VSGBI)

The VSGBI is a registered charity founded to relieve sickness and to preserve, promote and protect the health of the public by advancing excellence and innovation in vascular health, through education, audit and research. The VSGBI represents and provides professional support for over 600 members and focuses on non-cardiac vascular disease, including disease of the peripheral arteries, veins and lymphatics.

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CASE STUDIES

Mr Paul Bachoo; Aberdeen Royal
Infirmary

Mr Jon Bentley; Berkshire Consultancy

Mr Paul Blair; Royal Victoria Hospital

Mr Mark Gannon; Heart of England
Hospital

Mr Nandan Haldipur; Doncaster Royal
Infirmary

Mr Louis Lau; Belfast City Hospital

Mr Brian Lewthwaite; AAA Patient

Mr Ian Loftus; St George's Vascular
Institute

Mr Deryk McNeill; AAA Patient

Ms Mary Miles; Medway Maritime
Hospital

Mr Darren Morrow; Norfolk and
Norwich University Hospital

Mr John Nevill; AAA Patient

Mr Arun Pherwani; North
Staffordshire

Mr Charles Prior; AAA Patient

Mrs Kate Rowlands; University
Hospital Wales

Dr Sumayer Sanghera; Sheffield
Vascular Institute

Ms Sally Standley; NHS East and
Midlands SHA

Ms Helen Stannett; Medway Maritime
Hospital

Dr Davis Thomas; Northampton
General Hospital

Mr Peter Traves; AAA Patient

Mr Kevin Varty; Addenbrooke's
Hospital

Mr Douglas Williamson; AAA Patient

The Vascular Society of Great Britain
and Ireland
At Royal College of Surgeons
35-43 Lincoln's Inn Fields
London
WC2A 3PE

Registered Charity No 1102769

www.aaqip.com

www.vascularsociety.org.uk

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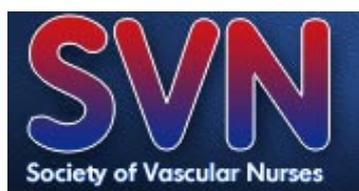
The AAA QIP team would like to thank over 1000 clinicians that took part in the programme and made it a success. We thank the many patients and relatives who have voluntarily taken part in our focus groups, and have helped develop communication strategies and assessment tools. We are grateful for their written and oral contributions about the care that they have received in the NHS.

We are indebted to our Partner Organisations, Cardiac and Stroke Networks and Commissioning teams from around the U.K. Their support and hard work has helped to embed change within the vascular community. We are beginning to see improved outcomes for patients with AAA.

We would also like to thank:

- The clinical staff who volunteered their time to set up and run our patient focus groups.
- Regional Leads who volunteered to drive quality improvement for AAA care in their region.
- The Health Foundation for funding this quality improvement programme and for their ongoing training, direction and support.
- Berkshire Consultancy and their leadership development consultants for their interactive sessions and guidance on engaging clinicians.
- The Vascular Society of Great Britain and Ireland's Audit and Quality Improvement Committee for their support and collaboration.
- All individuals who have provided written case studies of their experiences.

In Collaboration with our Partner Organisations:



FOREWORDS

The Vascular Society's national quality improvement programme was borne out of recognition that outcomes for abdominal aortic aneurysm surgery in the UK were not as good as they should be and improvements needed to be made. By taking up the mantle to improve clinical standards, mortality rates have fallen by as much as two thirds.

The quality improvement programme, which sets out core recommendations for care delivery and service organisation, is an excellent example of collaboration across the health sector. It shows that transparent, publicly reported clinical outcome measures help create a better surgical service and, of course, improved results for patients.

I congratulate the vascular surgeons on their commitment to achieving best practice across the UK. The development of clinical communities in the regions that will work together to deliver improvements in care – and the pledge to engage patients at each and every stage – marks the way forward.

The College shares this drive for excellence in surgical practice and the focus on improving clinical outcomes for patients. The recommendations laid out by the Vascular Society will help guide clinical teams, commissioners and hospital managers to focus on one of our most important challenges - to work together to bring the quality and standard of care for all patients up to that currently being experienced by those treated in the highest performing hospitals.



Professor Norman Williams

President of the Royal College of Surgeons of England

The elective repair of an abdominal aortic aneurysm (AAA) is designed to prevent the future risk of mortality from ruptured aneurysm. In order for the individual patient to derive maximum benefit, elective surgery must carry the lowest possible risk of death. The recognition by the Vascular Society in 2008 that there was scope for reduction in mortality in the UK for elective surgery for AAA was timely, as it coincided with proposals to implement a National Aortic Aneurysm Screening Programme.

The identification of the problem, the development of a methodology to improve results and ensuing early figures showing very significant reduction in mortality, represents exactly the effectiveness of the work which surgical organisations undertake for the benefit of patients. A regional approach, combined with monitoring and feedback of results, reflects a vast amount of work carried out by the Society, vascular surgeons and their teams.

The amalgamation of the effective application of advanced technologies facilitated by team working, combined with the recognition that a sharing of effective strategies and working to common standards enables significant improvement in outcomes, is an excellent example to the profession of how collaboration can deliver significant change resulting in a real benefit to our patients.



David Tolley PRCEd

President of the Royal College of Surgeons of Edinburgh
Chair, the Surgical Forum of Great Britain and Ireland

GLOSSARY AND DEFINITIONS

GLOSSARY

AAA	Abdominal Aortic Aneurysm
BSIR	British Society for Interventional Radiology
CQUIN	Commissioning for Quality and Innovation
DFPNI	Department of Finance and Personnel Northern Ireland
EVAR	Endovascular Aneurysm Repair (a graft placed under X ray guidance, usually via the groin arteries)
HES	Hospital Episode Statistics
MDT	Multi Disciplinary Team
NAAASP	National Abdominal Aortic Aneurysm Screening Programme
NVD	National Vascular Database
ONS	Office of National Statistics
OPCS	Operating Procedure Code Supplement (version 4.4 used)
OR	Open Aneurysm Repair (the traditional open surgical approach)
PDSA	Plan Do Study Act
PEDW	Patient Episode Database for Wales
PROMs	Patient Reported Outcome Measures
RAP	Regional Action Plan
SMR01	Scottish Morbidity Record
SVN	Society of Vascular Nurses
VASGBI	Vascular Anaesthesia Society of Great Britain & Ireland
VSGBI	Vascular Society of Great Britain & Ireland

DEFINITIONS

National Vascular Database (NVD)

The NVD is a web based data entry system that aims to collect data on all index vascular procedures. It is housed in a secure NHS server. Data can be entered in real time by users. The NVD is funded largely by subscription from the membership and its sister organisations (BSIR and VASGBI). In addition it receives funding through HQIP for the Carotid Intervention Audit. The VSGBI supports clinicians encouraging 100% of cases to be entered onto the NVD. <https://nww.nvdonline.nhs.uk/> The NVD is also linked to the National AAA Screening Programme Database so that screened patients can be tracked from their invitation to attend screening through to outcome following intervention.

Hospital Episode Statistics (HES)

HES are the national statistical data warehouse for England recording the care provided by NHS hospitals. National data are also accessed from the Celtic nations and is referred to using the following terms; SMR01 (Scotland), PEDW (Wales) and DFPNI (Northern Ireland). In this report, the term *HES* is used generically to describe data that are collected by these national agencies.

EXECUTIVE SUMMARY

The 2008 report from the European Registry Group compared outcomes between European countries in key vascular procedures. The UK was clearly identified as an outlier for mortality after elective repair of Abdominal Aortic Aneurysm (AAA). The reported mortality was 7.5% compared to a European average nearer 3.5% (Vascunet 2008). This report prompted a period of reflection by the vascular surgical community and the recognition of the need for improvement. A quality improvement framework was developed by the VSGBI in 2009. This identified core standards for care delivery and service organisation, and set a target to reduce mortality after elective repair to 3.5% or less by 2013. In late 2009, the Vascular Society was successful in obtaining a grant from the Health Foundation to run a national programme with the aim of reducing elective AAA mortality and implementing best practice.

The grant award allowed the formation of a team to deliver a National Quality Improvement Programme (AAAQIP). At the outset it was realised that local ownership of the programme would be the key to success, and a regional approach was adopted. Delivery of the AAAQIP involved joint collaboration from the Vascular Anaesthesia Society, the British Society of Interventional Radiology, the Society of Vascular Nurses, local Cardiac and Stroke Networks, Commissioners and significant patient input both through focus groups and as influencing voices in regional meetings. This report provides details of how the AAAQIP was delivered, describes key findings and makes recommendations for future practice within the UK. It should be read by clinical teams, managers and commissioners.

KEY FINDINGS AND RECOMMENDATIONS

Findings

- 1 There is significant variation in care delivery for patients with AAA across the UK.
- 2 There is variation in team working with a lack of clarity about multi-professional decision making.
- 3 The provision of information to patients with AAA is variable and can be improved.
- 4 Data quality is improving but not all units are reaching an acceptable standard for clinical audit

Recommendations

- 1 Patients with AAA should only receive treatment for their condition in units that meet high standards for care delivery.
- 2 Vascular units require adequate facilities and equipment to enable the delivery of high quality care.
- 3 Vascular units should be able to show evidence of robust team working by specialists providing care.
- 4 Vascular teams should describe a clear pathway of care for their patients. They should seek to adopt best practice where information is available.
- 5 The pathway of care should be subject to regular audit and improvement.
- 6 Vascular teams should incorporate training into quality improvement. Training should involve not just new team members, but also be used to refresh established teams.
- 7 Good quality communication is a key part of high quality care. Clinical teams should ensure that patients receive written information at each phase of care (assessment, intervention and recovery) and that this is accompanied by verbal support.
- 8 Patients should be given clear information to allow them to make informed choices about the care that they require. This should include the ability to choose their intervention (where options for treatment choice exist) and the option not to proceed to intervention.
- 9 Clinical teams should seek patient feedback about their service quality. This should be used to improve services.
- 10 Units providing care have a duty to record all interventions in national clinical audit. They should continually monitor their performance against national standards.
- 11 Clinical teams should hold regular meetings with clinical coders to ensure high quality data.

1 | INTRODUCTION – Professor A Ross Naylor, President, The Vascular Society

The Vascular Society of Great Britain and Ireland is pleased to publish the key findings and recommendations of the Abdominal Aortic Aneurysm Quality Improvement Programme; a highly successful collaboration between the Vascular Society, the Health Foundation and the ‘Closing the Gap Communities Programme’.

The catalyst for this project was a 2008 report which suggested that the operative mortality rate following elective abdominal aortic aneurysm (AAA) repair in the United Kingdom did not compare favourably with our European and Australasian counterparts. The goal of the Quality Improvement Programme (QIP) was to halve the mortality rate to 3.5% by 2013.

In March 2012, the Vascular Society published a report entitled “*Outcomes after Elective Repair of Abdominal Aortic Aneurysm*”, which showed that the mean mortality rate in the UK had fallen to 2.4%; i.e. well below the threshold set by the QIP programme for it to be deemed a success.

Today’s report details a huge amount of information regarding the mechanics underpinning the regional implementation of the AAA QIP programme. It highlights how patients, commissioners, nurses, surgeons, anaesthetists and many others interacted positively in order to identify new pathways/processes of care that would optimise outcomes and enhance patient well-being. Many of these positive experiences have now been translated into clinical practice elsewhere.

We have identified ‘good points’; most notably that collaboration through multi-disciplinary team working can contribute towards a significantly reduced operative risk. However, we can also identify areas of practice where there is room for improvement. These include, improving data-quality submission, ensuring that centres with (still) less than optimal outcomes can learn from practices elsewhere, and that we should target greater effort and resources towards improving the information given to our patients and their families during what is otherwise a very stressful time.

On reading the report, I was repeatedly struck by the same message from our patients and public representatives. As surgeons, we like to think that we offer a high-quality (and safe) service, but we sometimes pay insufficient attention towards patients and families fears regarding aspects of care. This includes discharge procedures, transfers to other hospitals and follow-up arrangements. I had never really appreciated that quite a proportion of our patients remain worried that the graft or stent used successfully in their operation might leak in the future. Our information sheets have changed considerably as a consequence of what has been learnt during this project.

Projects like these require a huge amount of work and the Society is indebted to the QIP team, the Audit Quality and Improvement Committee and the many patients and clinicians who have contributed to the delivery of this project.

2 | BACKGROUND

Local Problem and Context

Between 4% and 8% of older men are affected by an Abdominal Aortic Aneurysm (AAA). Every year, in England and Wales, about 7000 men die from a ruptured AAA [Vascunet 2008, Jimenez and Wilson 2005]. Most AAAs do not produce symptoms. They can rupture without warning, causing sudden collapse or death of the patient. A ruptured AAA carries a mortality of about 75%. Clinical trials have demonstrated that screening and intervening to treat larger AAAs reduces aneurysm related mortality [Ashton et al., 2002; Lindholt et al., 2006]. This evidence led to the introduction of a National Abdominal Aortic Aneurysm Screening Programme (NAAASP) to identify and treat at risk aneurysms prior to rupture [NAAASP 2010].

Screen detected and non screen detected aneurysms may be treated by either open surgery (OR), or by endovascular repair (EVAR) involving the insertion of a stent graft through the groin. Both operations carry a risk of death. For a screening programme to be effective it is necessary to reduce the associated peri-operative mortality to a minimum. Reports of high mortality rates in UK AAA surgery have been available for a number of years [Bayly et al. 2001, NCEPOD 2005]. The 2008 Vascunet report was the final catalyst for change.

Reflection on these poor results prompted action by the VSGBI to formulate a plan to improve the quality of care offered to patients. Following multi-professional discussion involving patients and clinicians, a quality improvement framework was produced in 2009 and adopted by the VSGBI membership. This committed vascular teams to improving the outcome of interventions for elective AAA, reducing mortality to 3.5% or less by the end of 2013.

This programme was introduced to implement the quality improvement framework. It followed successful grant funding from the Health Foundation in 2009, allowing the appointment of a dedicated team to deliver the AAA QIP. The programme began in March 2010 with funding for two and a half years. The Health Foundation grant is delivered through a scheme called "Closing the Gap through clinical communities". Closing the Gap aims to improve the quality of care delivered to patients by bridging the gap between known best practice and the routine delivery of care. It anticipated that the best way to achieve this was by developing clinical communities that would work together to deliver improvements in care. The belief is that mutually supporting communities are more likely to deliver sustainable change than those organized by edict.

Baseline Measures

Approximately 4000 aneurysms per annum are treated in the UK by elective repair. A 4% reduction in mortality represents an absolute reduction in peri-operative deaths of 160 per annum.

At the start of the AAAQIP in 2009, there was evidence in the National Vascular Database of considerable variation in data contribution and mortality rates. Previous organisational surveys carried out by the VSGBI (as part of the carotid intervention audit) have identified significant variation in team numbers and clinical practice between centres. One particular area of concern at the outset of the AAAQIP was a lack of consistent multi-professional working. There was no clear standard for multi-disciplinary team decision making, and no formal standards for risk assessment of patients.

For patients to be confident that they are receiving high quality care, it is necessary for the VSGBI to be able to demonstrate that interventions are being delivered consistently. This requires the following 4 key quality challenges to be addressed in order for vascular units to standardise practice to ensure high quality care:

- Poor death rates
- Poor data entry to national clinical audit
- Inconsistent team working
- Lack of patient input to care provision

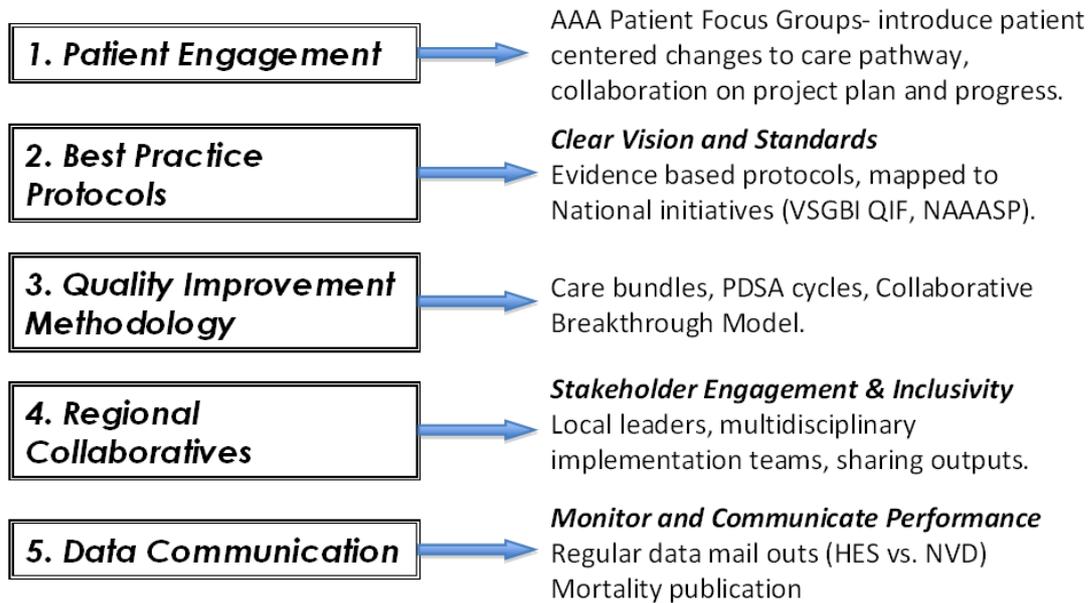
Change in the first two challenges can be measured fairly straightforwardly. The second two areas are less easy to measure and require a culture change in team behaviour.

Aims

The AAAQIP seeks to address the high peri-operative AAA mortality rate in the UK, through the standardisation of care delivery, moving towards best practice in all units. This involves the implementation of 5 key aims:

1. To reduce the elective mortality for infrarenal AAA repair in the UK to 3.5% by 2013.
2. Increase data contribution onto the National Vascular Database (NVD) from 65%-90% by April 2012. To encourage convergence of Hospital Episode Statistics (HES) and NVD data by improving both clinical audit data entry and clinician involvement in coding.
3. Standardise the management of patients through the AAA care pathway in regions throughout the U.K.
4. Engage and collaborate with patients to improve informed consent, communication throughout the care pathway and patient satisfaction.
5. Measure unanticipated consequences and adverse events (e.g. increased turn down rates) as a result of implementing the programme.

Key Areas for Implementation



1. PATIENT ENGAGEMENT

Patients, carers and the wider public have a significant role to play in implementing QI changes. They were involved at all levels of the project, helping to design improvements in communication and care delivery. Their personal experiences of the patient pathway provided a strong narrative to emphasise the importance of clinical quality improvement to clinicians. A network of patient groups was built around the UK to explore patient experiences and to identify areas for improvement. The early outputs from this group work resulted in significant development of written information for patients both pre-operatively and following AAA repair. The patient groups were also involved in helping to develop Patient Reported Outcome Measures (PROMs) for assessment of the quality of care.

Patients additionally attended regional meetings to provide clinicians with face to face accounts of patient experiences. A national patient representative attended the meetings and advised on the evolution of the programme.

2. BEST PRACTICE PROTOCOLS

Reducing harm to patients can be achieved by reducing variation in care delivery [Nolan 2000]. Identifying standards of practice helps to draw a consensus about what constitutes vascular team working for clinicians involved in AAA treatment. The development of the AAA Quality Improvement Framework specified the components of a vascular team and reduced ambiguity about team working.

i. Framework for Improving the Results of Elective AAA Repair (2009)

The Vascular Society published a Quality Improvement Framework for improving the results of elective AAA repair which maps to standards set by the National AAA Screening Programme. This provides clear, unambiguous and reliable standards to identify the necessary steps in the care pathway to provide optimal patient care. As part of the QIP, best practice protocols were mapped to these standards to help vascular clinicians introduce changes to their vascular practice. These were brought together in care bundles to allow measurement of the consistency of care delivery.

ii. Elective AAA Safe for Intervention Checklist

One of the QIF standards was that pre-operative care should involve formal risk assessment and correction of adverse clinical features to reduce the risk of intervention. Evidence for best clinical practice was available from the EVAR 1 trial which demonstrated that the 30-day mortality following elective AAA surgery was 4.8% for open surgery and 1.6% for endovascular aneurysm repair, with an overall mortality rate of 3.2% [Greenhalgh et al, 2004]. This was based on a protocol for pre-operative work up including assessment of cardiac, respiratory, and renal function, with defined indications for surgery. The QIP met with Professor Greenhalgh and agreed to adopt a modified version of the EVAR trial protocol to provide clinicians with a “safe for surgery” checklist (Appendix B). It was reviewed and adopted for use by the VSGBI and VASGBI. The document forms a preliminary checklist to highlight patients in whom attention should be given to improving fitness prior to intervention for their AAA. It also helps to identify those patients at very high risk who may be better cared for without intervention. It was advised that all patients being considered for abdominal aortic aneurysm surgery should be assessed against this checklist prior to being brought forward for AAA repair.

This checklist is designed to be easy to use and allow any member of the team to perform an initial assessment of significant risk factors affecting outcomes. It divides patients into groups, denoted safe (green), caution (amber) and unsafe (red). It is used to flag up the need for further assessment and optimisation in the amber and red category before proceeding. It should be used to inform choices around further investigation and discussion at the MDT.

iii. Multi-Disciplinary Team (MDT) Proforma

As part of the process of improving care, the evidence from other specialities, especially in cancer care, is that formal assessment is best done as a team. MDTs provide more consistent decision making and improve progress along the pathway [Junor et al. 1994]. We believe that this should involve surgeons, anaesthetists, radiologists and vascular nurses in pre-hospital care as a minimum standard. The MDT functions to ensure that all risk factors are identified and minimised prior to intervention. It also provides for shared decision making, this is particularly important for complex problems and to help guide decision making for patients with borderline fitness.

The ideal structure is a single meeting at which knowledge about the patient is shared to inform optimal decision making. To achieve best practice, units should move towards vascular anaesthetists attending vascular MDT meetings. If this is not currently achievable, applications for sessions for anaesthetists to attend the MDTs, and to provide formal pre-operative assessment, should be supported by NHS Trusts. Multi-site working and inflexible clinical programmes may prevent simultaneous attendance, and in these situations, a document that can be reviewed and added to by each team member may be useful.

Formal documentation should be used to record the involvement of all members of the MDT prior to admission to hospital. This report contains a document (Appendix B) that can be adapted for this purpose. A clinical co-ordinator (not necessarily a surgeon, but someone clearly identified in the role) needs to be responsible for ensuring that the process of consultation is completed, and requirements for patient optimisation are met before patients are listed for intervention. It is important that the need for multi-professional decision making does not delay patient progress to intervention.

iv. AAA Pre-Operative Care Bundle

Making clinical processes consistent and reliable reduces error and harm to patients. The systematic quality improvement approach through 'care bundles' was used to create error-free processes that deliver high-quality, consistent care and use resources efficiently [Fulbrook and Mooney 2003]. The AAA pre-operative care bundle (Appendix B) was developed. The care bundle groups together best practice guidelines to help standardise practice and improve patient outcome.

Each element in the bundle acts to ensure a vital intervention is undertaken to reduce the risk from AAA repair and improve patient safety.

The first bundle outlines the essential guidelines for AAA patients proceeding to intervention. These include:

1. Patients should undergo standard pre-operative assessment and risk scoring. (Complete AAA Pre-Operative Safe for Intervention Checklist).
2. Patients should be risk assessed by a Vascular Anaesthetist prior to listing for intervention.
3. Patients should be reviewed by a Multi-Disciplinary Team that includes a Vascular Surgeon, Vascular Interventional Radiologist and a Vascular Anaesthetist as a minimum requirement. (Complete MDT Proforma).
4. Patients agreed for intervention should undergo CT angiography to assess their suitability for OR or EVAR.
5. Patients should be given evidence based written information about their condition and the proposed treatment.

RECOMMENDATION

1. Units should audit their ability to deliver the care bundle to each patient consistently.

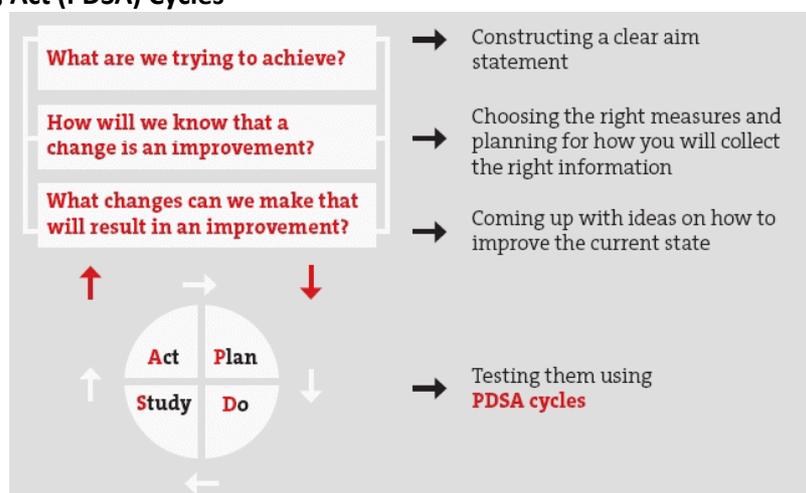
3. QUALITY IMPROVEMENT METHODOLOGY

Care Bundles and AAA care pathways were tested through Plan, Do, Study, Act (PDSA) Cycles.

The core principle of this model is empowerment of local teams of staff to develop and undertake small scale testing of our care bundles and make local amendments to ensure full implementation into practice.

- Testing a change in the real work setting.
- Small rapid scale testing.
- Minimises resistance.
- Indicates whether proposed change will work in environment in question.
- Provides opportunity to refine change as necessary before implementing on a broader scale.

Plan, Do, Study, Act (PDSA) Cycles



Step 1: Plan

- Plan the test or observation, including a plan for collecting data.
- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)

Step 2: Do

- Try out the test on a small scale.
- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.

Step 3: Study

- Set aside time to analyze the data and study the results.
- Complete the analysis of the data
- Compare the data to your predictions.
- Summarize and reflect on what was learned.

Step 4: Act

- Refine the change, based on what was learned from the test.
- Determine what modifications should be made.
- Prepare a plan for the next test.

The PDSA cycle allows for small repeated rapid tests of change. Typically the first cycle would be one patient. Subsequently, after modification if necessary, the change would be tested in a small number and in varying circumstances. This would be followed by larger numbers building confidence in the team to make a permanent change to practice.

4. REGIONAL COLLABORATIVES

The QIP is delivered using a regional approach. The focus is on engaging clinical communities at a regional and local level whilst providing a consistent set of standards nationally.

The process for delivering the programme is to hold regional meetings to which local teams come. The meetings are designed to be inclusive of both clinicians, patients, managers and commissioners. Each meeting has an initial information giving section during which national audit data is fed back. This allows teams to see how they are performing against national benchmarks and permits regional comparison of performance. This data supports the case for change. Teams then break out into discussion groups and discuss the patient pathway, communication and data, using national standards documents as guides.

Each element in the AAA care pathway was covered:

1. Patient consultation: Information leaflets and consent forms.
2. The decision to treat: pre-operative screening and risk scoring.
3. MDT: Who should be involved in the decision to treat?
4. Intra-operative care: team composition, processes and facilities.
5. Post-operative and discharge care.
6. Measurement of outcomes and patient experience.

Moderators for each area of discussion feedback to the collective group following the discussion, drawing out themes for development, highlighting

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QI LEARNING

Key Factors for Successful QI Implementation:

1. Participation from all key stakeholders; vascular surgeons, radiologists, anaesthetists, nurses, managers, patients, C&S Networks and SHA/Commissioning teams.
2. A minimum of 3 team members within each unit to carry out an intervention.
3. Agreed national standards to provide a focus to standardise practice.
4. Allow regional and unit flexibility for integration of the standards and adoption of protocols. This flexibility improves ownership of processes.
5. Share current practice and agree ideal best practice for the region (meetings and via WWW).
6. Letting improvement work develop over time (i.e. arranging follow up meetings with clear targets for progress).
6. Trusts/teams test ONE best practice protocol/ intervention initially (i.e. there is collective focus on one important task).
7. Regional lead to gather engagement and keep up momentum.
8. Local leads within each unit to drive QIP interventions.
9. Follow up meetings to report back on progress, share outcomes and learning.
10. AAAQIP team to provide ongoing support, track data contribution and outcomes.

gaps in care and identifying areas of consensus. Clinical teams are then introduced to the IHI model for improvement with emphasis on PDSA cycles.

The final part of the initial day is for clinical teams to choose an area for intervention in their practice and to devise a plan to test this using PDSA cycles. A date is chosen to meet again, providing a deadline for reporting.

Subsequent meetings are used to allow teams to feedback on progress and share the knowledge and learning gained. Information is shared and a further meeting planned. The third meeting is used to try and embed local developments and to create a sense of shared purpose. Teams are invited to commit to meeting without the on-going support of the QIP central team.

5. DATA COMMUNICATION

We recognise that there is significant variation in both clinical behaviour and measurement of outcomes, and that standardising care delivery and contribution to national audit were the key issues facing the QIP. Without accurate measurement of outcomes and performance it is not possible to determine acceptable levels of care. We developed a measurement strategy to improve contribution to national clinical audit through regular feedback coupled, with VSGBI approved contribution standards. It is through these standards that progressive improvement can be measured over time, at both a national and local level. Complete and up to date clinical data ensures any areas for improvement can be highlighted. Improving data entry also provides higher quality information about NHS AAA services for patients.

The process used by AAAQIP to improve data contribution onto the National Vascular Database (NVD), focussed on providing information to clinical teams. A direct unit comparison of NVD and HES data for each unit is reported quarterly (Appendix A). The data are sent to Vascular and Clinical Governance Leads within each Trust performing AAA surgery in the UK. Trusts are asked to validate the data between the two datasets, enter missing cases onto the NVD and correct any coding errors. A Traffic light system, introduced through the Vascular Society, is used to provide clarity about unit performance against national standards.

At the outset of the AAAQIP there was a clear statement of intent to publish unit identifiable data in the future. We then provided each vascular unit with data from the NVD and corresponding HES data for a two year time period. Units were given three opportunities to validate their data and to correct any omissions in the NVD. This aimed to encourage units to develop a robust process for data contribution and improved data quality to enable the reliable reporting of patient outcomes and highlight potential areas for improvement. The first report was published in March 2012.

RESOURCES

Framework for Improving the Results of Elective AAA Repair (2009):

<http://www.vascularsociety.org.uk/library/quality-improvement.html>

Elective AAA Safe for Intervention Checklist:

<http://www.vascularsociety.org.uk/library/quality-improvement.html>

Multi-Disciplinary Team Proforma:

<http://www.vascularsociety.org.uk/library/quality-improvement.html>

AAA Pre-Operative Care Bundle:

<http://www.vascularsociety.org.uk/library/quality-improvement.html>

HES Vs. NVD AAA MailOut Distribution Contact List:

<http://www.aaqip.com/aaqip/2012/07/who-receives-the-nvdvhes-data-feeds-in-your-hospital.html>

HES Vs. NVD AAA Contribution Regional Graphs:

<http://www.aaqip.com/aaqip/nvd-v-hes-contribution-rates/#tp>

4 IMPROVING PATIENT EXPERIENCE

1. NATIONAL AAA PATIENT FOCUS GROUPS

A key part of the AAAQIP is to improve communication with our patients undergoing care for AAA. We recognised that we needed to develop measurement through a PROM. It was rapidly apparent that a validated PROM was beyond the immediate scope of this programme. We began work with a single patient group in Bristol, sponsored through the Avon, Gloucestershire & Wiltshire Cardiac and Stroke Network. The value of grouped patient input to our communication was immediately apparent, and we began encouraging other hospital teams to form patient groups to develop a more widespread input into our communication strategy.

Organisation

The aim of regionally held AAA patient focus groups was to gain insight into patient experiences and views to inform our Quality Improvement Programme. Based on the findings, we worked in collaboration with patients to design and develop remedial changes in the care pathway, with particular reference to ensuring high quality communication.

AAA patient focus groups were convened in seven locations in the U.K: Bristol, Newcastle, Leeds, Manchester, Aberdeen, Cardiff and London. The meetings followed a set structure developed centrally, exploring patients' experiences of AAA repair (diagnosis, information and communication, recovery and follow up) as well as patient views on decision making, MDT working, centres of excellence and outcome data.

A facilitator (Consultant Surgeon or Vascular Nurse) and note taker were used to ensure as accurate recording of proceedings as possible.

Two to three successive meetings were typically held in each region building on from initial findings. These included patient feedback on newly developed patient information leaflets, the development of an AAA Patient Reported Outcome Measure (PROM) as well as exploring patient preferences for risk information.

Patient Group Findings

Summary of Key Findings:

1. It is felt that ultimately patients themselves should make the decision to proceed or not with surgery.
2. There is agreement that clinicians must move away from ageism. **“Not chronological age but fitness factors.”** The following factors were considered to reflect factors for fitness:
 - i. Mental health
 - ii. People being able to look after themselves
 - iii. Patients' outlook/attitude to life
 - iv. Quality of life is very important
3. Patients particularly value their surgeon's explanations, but also found explanations by vascular nurses, or anaesthetists very reassuring.
4. Percentages/statistics have less meaning. Patients would rather know about functioning after surgery.

QI LEARNING

The Value in Regional and Local Patient Focus Groups:

Seven regional patient groups were set up around the U.K. This proved to be beneficial as it has provided local clinicians with direct contact with patients and stories of their experiences. As well as this, it highlighted local issues and areas for improvement. Regional groups additionally allowed the comparison of patient experience around the U.K in order to make national recommendations. It required time to set up the groups, but we used a consistent model that allowed all regions to explore similar issues and compare outcomes.

5. Information should be in different formats: written information to digest as well as verbal reassurance.
6. Drawings to explain an AAAs and descriptions particularly on 'coming round' (recovering from anaesthesia) is valued.



Recovery Information: A wordle chart showing what patients feel is important.

7. General consensus among patients that not enough post-operative information is provided, *“Nothing was provided to give confidence in recovery”*. The effects of EVAR & OR procedures are underestimated. Clinical teams need to give more realistic information.
8. All patients wish to be seen in clinic post-operatively, even if just for a quick check of their scar at 6 weeks. Patients felt it achieved a degree of closure, even for those on EVAR follow up programmes, *“It is so important to know the operation has been successful”*.
9. Benchmarks for patients post surgery would be very useful. Whilst they were generally happy with information provided in hospital, the group members frequently commented how isolated they felt after discharge.
10. A telephone point of contact to a named individual in the vascular service post discharge was felt to be beneficial.

RECOMMENDATION

1. There is a clear need for vascular teams to provide high quality information at all stages of the pathway. Good quality information about recovery from surgery is missing from many patient experiences.

This chapter details more specific findings from patient experience surveys and demonstrates how these findings led to changes in the care pathway.

2. MEASURING PATIENT EXPERIENCE

Inpatient Picker Survey Findings



Mr Arindam Chaudhuri, Mr Patrick Chong, Mr Mustafa Kadam and Mr Benjamin Tan.

Understanding patients' experience of care is essential in making a complete assessment of service quality. This can only be achieved by asking the patients themselves. It is important to adopt systematic and effective ways to ask patients about their experiences, and use this information to shape and improve the way healthcare is delivered.

The Adult Inpatient Questionnaire from the Picker Institute was used to capture most recent inpatient experiences of AAA patients in the National Health Service. The questionnaire reflects the priorities and concerns of patients and is based upon what is most important from the patient's perspective. The quality of care is captured over 9 domains from admission, doctors as well as discharge and overall experience of care. The questionnaire was developed through consultation with patients, clinicians and trusts through the Picker Institute.

The survey can be used to:

- Improve services based on patient feedback.
- Track changes in patients' experience over time.
- Provide evidence to support local quality improvement initiatives.
- Evaluate success of service improvements.

Survey Methodology

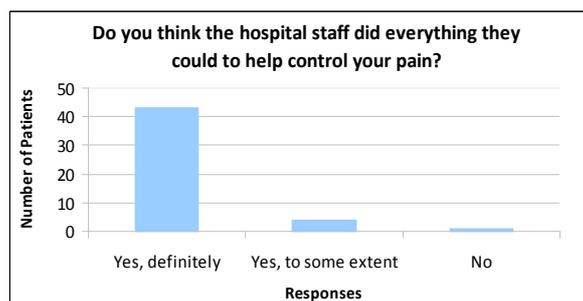
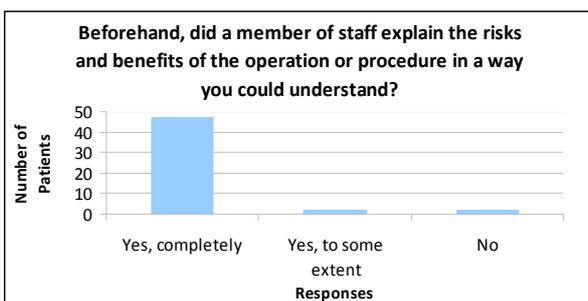
Bedford, Derby and Frimley Park Hospital took part. Patients were provided with the questionnaire in hospital post-operatively or via post. Patient participation was voluntary and all answers provided were treated as entirely confidential.

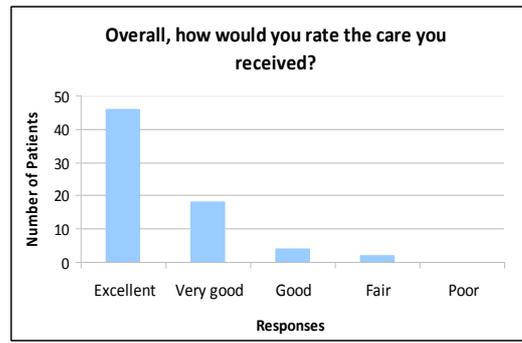
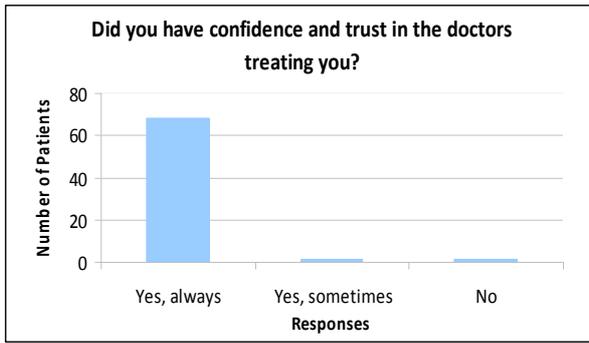
Patient Cohort

82 patients responded; there were 64 men and 6 women (12 missing data). The median age of patients was 76 ranging from 112 to 60. 76% had elective repair and 24% emergency. 45% patients underwent open repair, 41% underwent endovascular repair and 7% fenestrated endovascular repair with 5 patients missing this data.

Results

DOCTORS AND OVERALL CARE AND TREATMENT

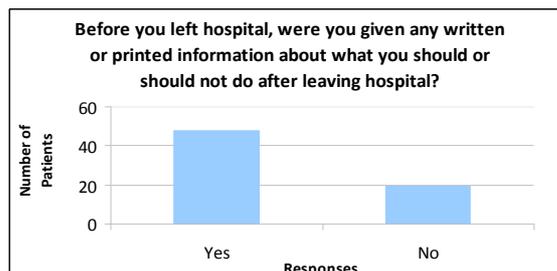
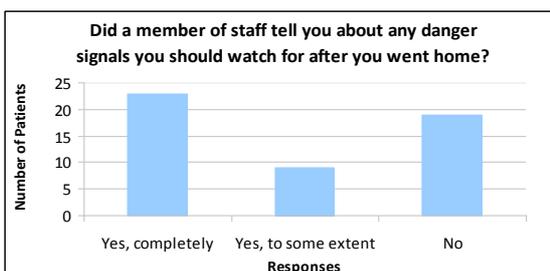
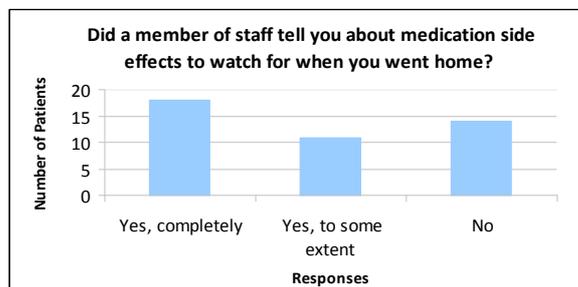
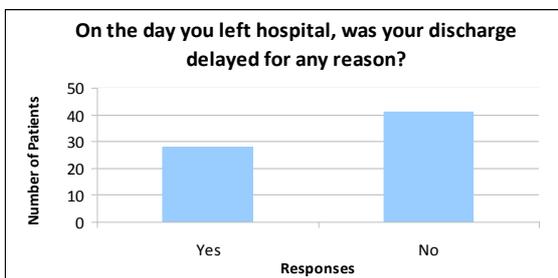




DOMAIN OF CARE	% PATIENTS (YES ALWAYS)
ADMISSION TO HOSPITAL	
When you were told you would be going into hospital, were you given enough notice of your date of admission?	100%
WARD	
Were the visiting times convenient for your friends and family?	83%
DOCTORS	
If you ever needed to talk to a doctor, did you get the opportunity to do so?	61%
NURSES	
Did you have confidence and trust in the nurses treating you?	83%
CARE AND TREATMENT	
Were you involved as much as you wanted to be in decisions about your care and treatment?	74%
Did a doctor or nurse explain the results of the tests in a way that you could understand?	71%
LEAVING	
Did hospital staff tell you who to contact if you were worried about your condition or treatment after you left hospital?	84%
OVERALL	
Are you confident that the hospital is keeping your personal information / health records secure and confidential?	92%

Overall, most patients rated the care they received to be excellent. Scores were higher pre-operatively with the majority of patients being given sufficient notice prior to surgery, being involved in decision making and having high confidence in their doctors. On the ward, pain was well controlled, upon leaving patients were given a contact number and the majority had confidence that the hospital was keeping their personal information secure. Pre-operative information giving and explanations of tests was found to be good mirroring the AAAQIP national patient group findings. Fewer patients reported always being able to talk to a doctor.

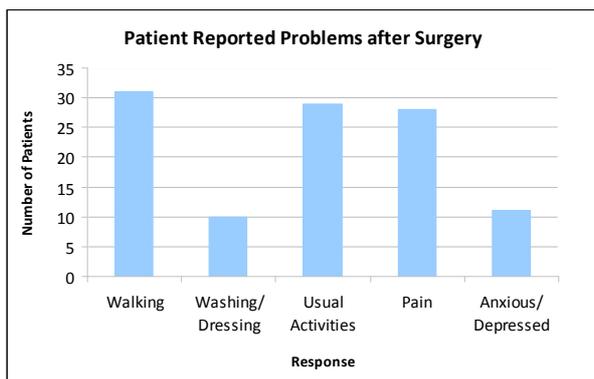
DISCHARGE FROM HOSPITAL



DOMAIN OF CARE	% Patients
DOCTORS	
Doctors: talked in front of patients as if they were not there.	26%
NURSES	
Nurses: talked in front of patients as if they weren't there.	24%
OPERATIONS AND PROCEDURES	
Surgery: not told how to expect to feel after operation or procedure.	15%
LEAVING HOSPITAL	
Discharge: did not feel involved in decisions about discharge from hospital.	10%
Discharge: was delayed.	41%
Discharge: not given any written/printed information about what they should or should not do after leaving hospital.	28%
Discharge: not fully told side-effects of medications.	24%
Discharge: not fully told of danger signals to look for.	28%
Discharge: family not given enough information to help.	22%

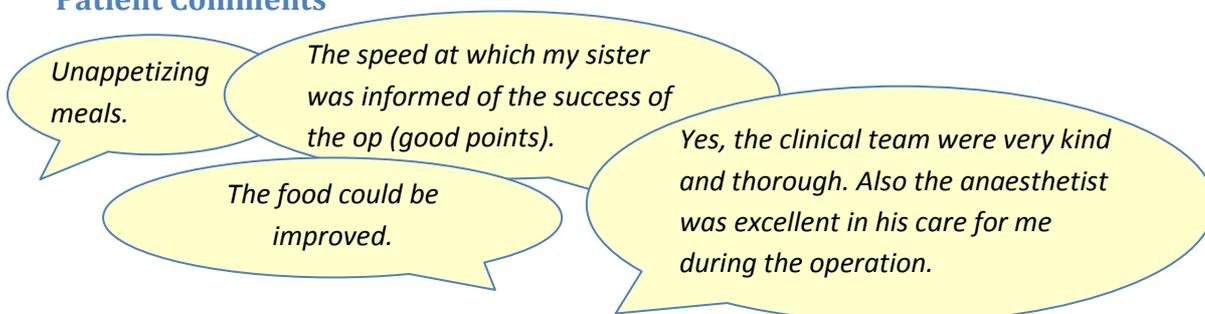
Patients reported that hospitals performed less well during discharge from hospital. This included 41% of patients having a delayed discharge. Poor performance was also indicated in the information given upon discharge. This included a lack of information on how to expect to feel following surgery, medication side effects, and danger signs during recovery and what patients should/should not do upon returning home. Again, these findings were replicated in our national patient focus groups. As a result of these findings, the AAAQIP developed new recovery patient information leaflets as well as standards for information giving at discharge and these are detailed later in this chapter.

PATIENT FUNCTIONING AND QUALITY OF LIFE (QoL) FOLLOWING SURGERY.



A large proportion of patients reported having problems after surgery particularly walking and performing usual activities. Fewer patients reported feeling anxious or depressed. This maps to findings from regional interventions where patients reported less anxiety post operatively as they no longer had a ‘ticking time bomb’ inside them.

Patient Comments



Patient’s comments revealed that patients were satisfied when they received timely communication pre-operatively as well as post operatively about the success of their operation. The main patients’ complaints were about the quality of food served within the hospitals.

Patient Story: My Ruptured AAA.

Ruptured AAA patient

Prior to Repair of my Ruptured AAA

I was 63, and had been a producer of post-grad medical teaching films, mostly in cardiology and pharmacology. I enjoyed excellent vision for my age and overall good health, about 6ft 1inch and 200lbs never having been a hospital in-patient before. I am a non-smoker and non-drinker and I had been enjoying a healthy diet of mainly home grown produce for at least ten years.

Emergency Care

On 13 Oct 2009 I was alone at home on an island in the River Thames. At about lunch time I noticed an unusual ache in my lumber back region and thought I must have strained a muscle somehow. I was taken to casualty the local hospital and doctors tried to diagnose my problem.

In the late evening, maybe about 11pm, I started to become more conscious as the sedation was wearing off, I recall there was a shift change, a new doctor appeared and I was able to talk to him. I remember telling him that my own father has died of a ruptured AAA when he was 66 back in 1973 and I asked if this could be what was happening to me. He quickly arranged an ultrasound scan and my aorta was found to be 8cm dilated and ruptured. I had not been able to discuss this with the previous doctors probably because of excessive sedation and my resulting incoherent thought and speech.

Once correctly diagnosed, I was sent by emergency ambulance to a central hospital and my family were telephoned and told to go there urgently, which they did. I remember very little else from that night except telling my family that I loved them and warned them that I thought I may not survive this.

Very fortunately for me there was an excellent vascular team on call and I was operated on overnight. They made a 15" full midline incision from sternum to pubic bone and I had a straight graft inserted in my aorta. The surgeons and ICU staff were excellent. Particularly towards my family, keeping them well informed and making sure they knew what was going on and what risks and complications there could be at every stage.

After my Operation

I was in ICU for three weeks and during most of that time I was presumably deliberately kept unconscious, as there is very little I recall of where I was and what was going on. But I do know I suffered renal failure, I had a stroke (R, cerebral hemisphere) with Left side hemiplegia, hypoxia post op, I had a tracheostomy followed by a chest infection.

While all this was going on I was experiencing terrifying ICU deliriums. Whilst I understand these are hardly a medical priority considering all of the other issues I was suffering, they are the ones that have remained with me and are probably responsible for any Post Traumatic Stress I subsequently experienced. These should not be dismissed as unimportant.

After three weeks I was moved to a vascular ward and gradually became more aware of my body and its condition. I felt the physios were excellent and within a few days I was walking a few steps along the ward corridor with the aid of a stick. I still had areas of paraesthesia on my upper legs but this was minor. I was made to feel I was special as I was one of the few that had survived this ordeal.

It was at this point I was transferred back to my local hospital and I asked one consultant why I had been transferred to another hospital. He said it was the way the NHS worked which I did not

understand. This was a big step backwards for my recovery. So I then had a new team of doctors, of nurses and physios who did not at first fully understand what I had just been through.

My Recovery at Home

I had an awful journey back home in a cold ambulance van after a 2 hour wait in the hospital transport dept. There were no wheelchairs available so I had to walk to the ambulance and climb the steps to get in it which was very difficult.

Once at home again this is where my recovery really began. I had tremendous support at first from the community physios and local care team providing me with equipment to get in and out the bath, and bed to use toilet even a special chairs to sit at the table and a wheelchair for when I visited the doctor.

We bought an exercise bicycle and my community physio visited twice a week. With a routine of quite strenuous daily exercise the paraesthesia went and soon I was walking with just a stick for support and I was shown the techniques to how to climb stairs and get out of bed without having to use my abdominal muscles.

After a couple of months of tremendous support from the community physios the visits suddenly stopped and it was at that stage that I realized we would be on our own from then on. This made me anxious as I had no individual to contact other than my GP. When I did try to contact my GP by phone I could only get a locum who had no understanding of my condition.

Probably the most difficult thing for me do deal with was the absence of specialised advice from that moment on. I felt I needed someone to talk to who knew about what I had been through and could give good advice. Even on the telephone. My partner felt that too.

My long term drug regime included Dipiridimole, Amlodapine, Aspirin, Ranitidine and Simvastatin. After discussion with my GP she reduced the Amolapine dose from 10mg to 5mg and stopped the Dipiridimole all together. That stopping of Dipiridimole made a big improvement to my general awareness and quality of life (QoL).

I have a continuing anxiety that the implant may leak. This is only relieved during the immediate period following an ultrasound scan when I get confirmation there is no endoleak. I have spoken to my GP about this but she can only refer me to the surgical team. My original surgeon has now retired and I have tried to make contact with the vascular team but so far failed to do so. The sonographer told me that if I am ever worried about the implant or feel there is an endoleak then I can ask for a extra scan at any time as there is someone always on duty in their department but when I have tried to do this I am told it has to be ordered by the surgical team. And they are very difficult to contact. It is very frustrating.

I still need to walk with a stick in most situations. I cannot lift anything of significant weight without pain from my abdominal muscles or even bend down without feeling faint. I am extremely "dodderly" when compared to how I was before and my accuracy in taking measurements for example, which I regard as a good test, has deteriorated markedly. I am very forgetful as my short term memory is clearly damaged and I am in many ways, what I would call "slow witted" compared to how I was before. I assume all of this is associated with hypoxia at the time of the AAA rupture

I do not wish to complain and I realize how lucky I have been to get through this as far as I have and I am very grateful to all the surgical, medical and nursing staff who have contributed to my survival.

I have been asked to write this account in the hope it may be of value to other patients in the future. I just point out that what my family were told - that having survived the initial surgery I should be able to live a normal life - is not really true, there are many many reasons why this has not been the case.

I may recover further although at the time of writing this it is almost two years post op.

WHAT MIGHT HAVE BEEN IMPROVEMENTS FOR ME?

The difficulties of being transferred to another hospital before I was discharged should not be underrated. Not only was it confusing for staff but very disconcerting for me as I lost contact with all of my team of professionals whom I had come to respect and rely on and who knew what I had been through.

My QoL was increased substantially when my GP took me off Dipiridimole in the first year post op. This drug made me lethargic and mentally subdued.

I do not think that one appointment at outpatients each year, and one scheduled GP visit a year is enough to monitor my condition. I would like more regular ultrasound scans as I become very anxious about endoleaks. My partner and I felt as if we had been cast adrift and left without support.

Making contacting the surgical team at the hospital for advice is extremely difficult and can take a very long time. It would help enormously to have a named person to contact within the hospital so I could get rapid advice before involving the surgical team. Even a lay person with the ability to contact the relevant nursing, medical or surgical staff would be a great advantage for me.

Improvement Case Study: Collaboration with Patients to Develop Tailored Patient Information

University Hospital Wales: Working with AAA patient to refine patient information.

Mrs Kate Rowlands; Vascular Nurse Specialist

My involvement with the AAAQIP began in the summer of 2010, when I was asked to help organise the first patient group in Wales. I felt that this would be an exciting opportunity to gain more insight into patients' experiences and perspectives of having AAA surgery. This also came at a time when I had been planning to update our own patient information. The patients had either had open surgery or endovascular repair (EVAR) for their AAA, with the latter group being the larger due to the increasing numbers now suitable for EVAR.

For the group in Cardiff, our aim was to discover more about the patient experience, by facilitating a semi-structured discussion within the group, allowing the group to talk about their experience of discovering their aneurysm, their pre and the post-operative time and their recovery once home. Discussion naturally touched on the communication and information they received, or that they needed. Most patients had discovered they had an aneurysm through an incidental finding.

The initial meeting was attended by 5 patients and 1 spouse, who had had either an open or endovascular repair. It was evident that most of the patients were eager to talk about their experience, with some having unresolved questions about their recovery, despite in some cases it being over a year since their surgery. Whilst feeling prepared for the operation they felt less prepared for their recovery at home, and still had unanswered questions, and anxiety about their recovery, and whether their stent or graft was still in place. Difference in follow-up between the open surgery and EVAR patients raised questions within the group, which were explained, and reinforced throughout the session.

Interestingly, in this first meeting the Consultant Vascular Surgeon joined for the second half, and although prior to this the group had been discussing their experiences, at this point the patients began asking specific questions concerning their operation and health that they had been clearly been waiting to ask for some time. A clear outcome from this initial meeting was that the patients wanted more information concerning their recovery at home. As a consequence, we developed a recovery leaflet, for open surgery and EVAR, which would be sent to the group to review, and fed back at a second meeting. Two formats of information leaflets were designed; a combined leaflet with the updated pre-operative information *and* recovery information, along with the leaflet containing just the recovery information.

Subsequent feedback on the leaflets was positive, but the group again highlighted the need for verbal reassurance and information from the vascular surgeon both post-operatively and at the follow-up appointment.

Suggestions to improve the leaflets included:

- More information on the risks of wound infection and what to look for.

- Information on the risk of having a low mood after the operation.
- Inclusion of a diary in the leaflet to document queries and questions that can then be asked at the follow up appointment.

In June 2011, a further group was held for EVAR patients, and their partners who were sent the final updated leaflet prior to the day.

There were a few issues that became apparent:

- The varying experiences were often related to co morbidity.
- Some felt they had been 'lucky' to have their aneurysm found, while others discussed the concern of living with a small, but growing aneurysm.
- Many stressed the importance of having reassurance both during the procedure, and after, to know that the stents or grafts had 'stayed in place'.
- All gave positive feedback about the updated leaflets.
- Spouses expressed a need for written information as they often missed information given verbally to the patient.

For me, the patient group discussions highlighted the need for clear and understandable verbal and written communication, and it appears to have a direct affect on patients' experiences of their AAA intervention and reported outcomes. Communication breakdown can lead to patients remaining troubled for several months or years after their surgery. It is possible that healthcare professionals may well be underestimating the importance of on- going communication, for all patients including those patients whose surgery has been clinically successful.

The work with the AAAQIP and the Health Foundation has been a valuable experience, and prompted areas for further study including health literacy. Deciding on the type of risk information to present to patients, to facilitate discussion and informed choices, prior to treatment decisions, would benefit from review. This is balanced with the information patients tend to be expressing, a preference for which does not seem to involve statistics or in depth figures of risk. In our groups it appeared that patients were fairly prepared for their surgery, with the risk information given in measured amounts, without the over use of statistics. Further work may demonstrate how patients understand and interpret risk and the associated statistics related to AAA surgery, and how this information might be given in a meaningful way for decision making and for the process of consent.

3. PATIENT PREFERENCE FOR RISK INFORMATION



Miss Roxanne Potgieter, Mr David Mitchell, Ms Kate Humphries, Mr Paul Bachoo, Mr George Peach, Mr Vince Smyth, Mr Tim Lees, Ms Lelsey Wilson, Ms Jane Todhunter, Ms Jackie Trant and Saranjeet Brar.

Patient feedback from all seven focus groups held as part of the AAAQIP consistently revealed that patients felt that they were not receiving the right amount and type of information. Clinical teams reported that they were uncertain about the information leaflets they should be presenting to patients. They also were uncertain how to give appropriate advice about the risks of interventions and how to best describe those risks numerically. Therefore, the AAAQIP sought to investigate patient preferences for written information whilst undergoing AAA repair.

Methodology

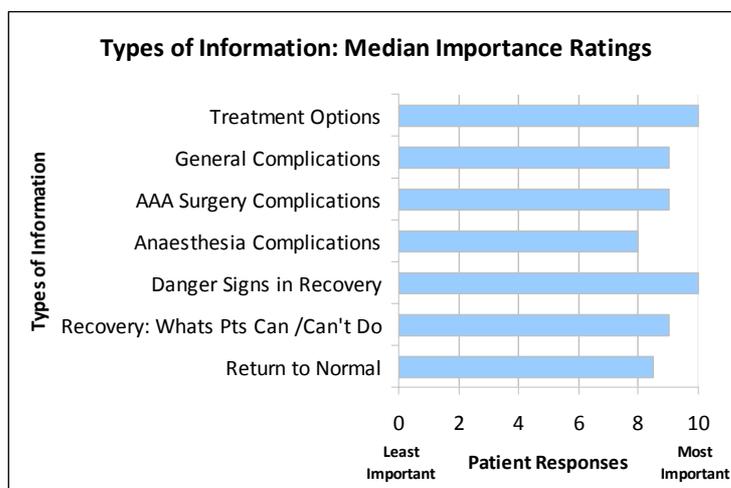
A postal survey of patients was carried out in seven Trusts around the UK. We compared the AAAQIP and EIDO patient information leaflets, using a visual analogue score over six domains. Patient participation was voluntary and all answers provided were treated as entirely confidential. A patient group was held alongside this at Manchester Royal Infirmary, using semi-structured focus group methodology.

Patient Cohort

82 responses were received from patients with a median age of 75 (68-78). There were 70 men and 11 women. 82% had elective repair and 12% emergency. 63% underwent EVAR and 33% open repair. 2% were surveillance patients. 7 men and 3 women participated in the focus group.

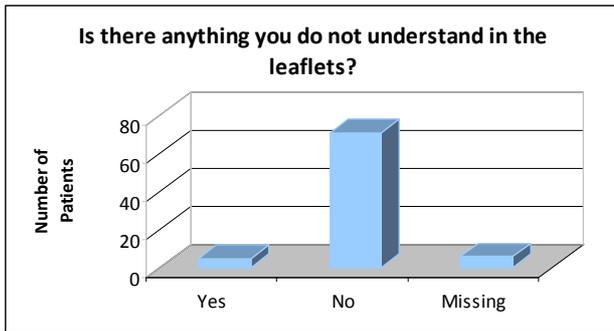
Results

TYPES OF INFORMATION



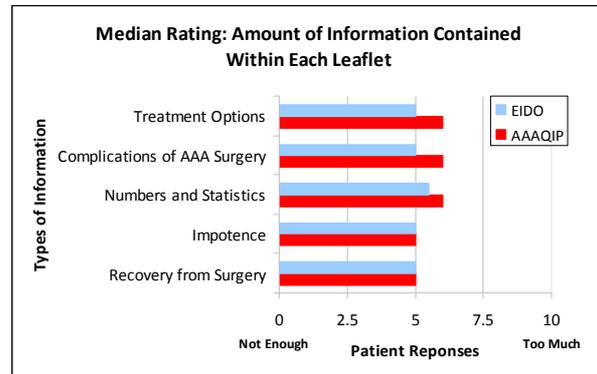
All patients expressed a strong preference for wide ranging information. They were most interested in information on treatment options, and on detailed information about what to look out for as danger signs during recovery.

AAAQIP vs. EIDO INFORMATION LEAFLETS



87% of patients reported no problems with understanding the information contained within both leaflets.

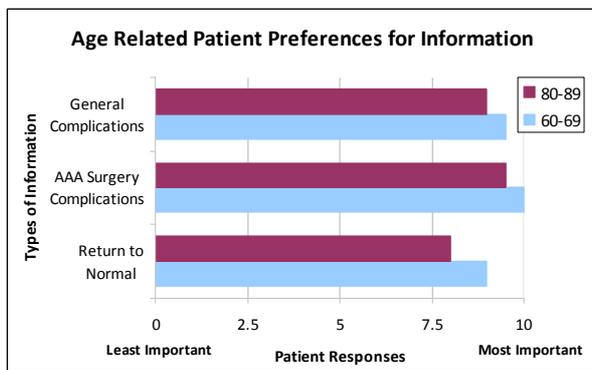
Patients felt the right amount of information was provided in both leaflets with median scores of 5 and 6 on a 0-10 visual analogue scale.



Patient Comment:

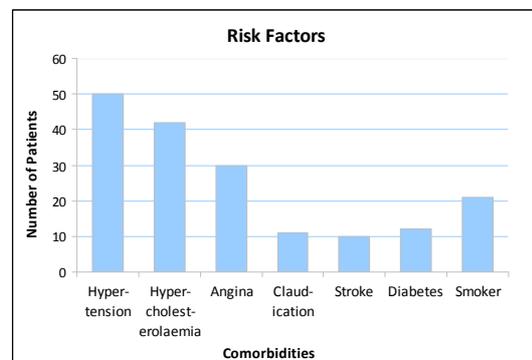
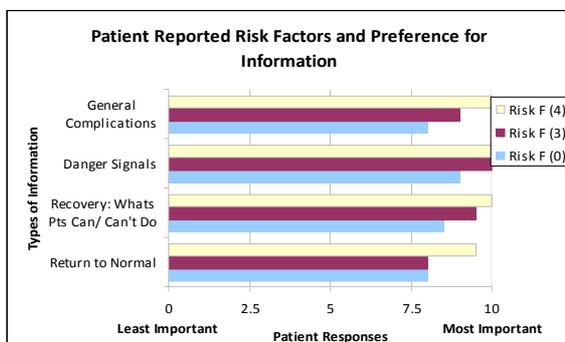
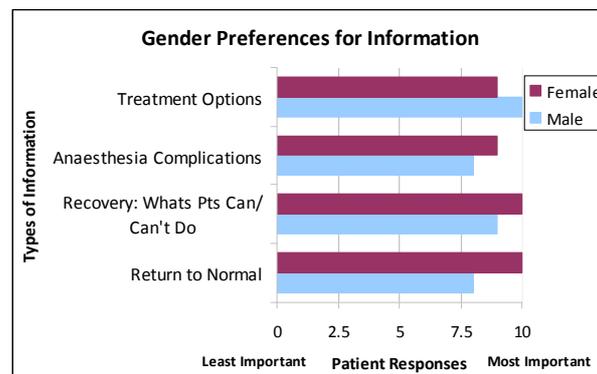
"Both leaflets very informative and answered lots questions I did not get answers to."

INDIVIDUAL DIFFERENCES AND PREFERENCES FOR INFORMATION



Older patients were less concerned about receiving information than younger patients. As you would expect, 60-69 years old patients wanted more information on returning to normal than 80-89 year olds.

Female patients wanted more information than male, particularly around returning to normal and what patients can and can't do following surgery.



Patients with higher numbers of risk factors wanted more detailed risk information. Patients with 4 self reported risk factors felt information on complications, danger signs in recovery, recovery milestones and returning to normal were more important than patients with no self reported co morbidities.

AAA PATIENT FOCUS GROUP FINDINGS

A separate patient focus group identified that different patients liked different leaflets.

- Patients wanted different information at different stages:
 1. Surveillance patients wanted information about their disease.
 2. Pre-operative patients wanted information about the procedure that they were about to undergo.
 3. Ward patients wanted to know about what would happen in hospital care and then what to expect after discharge home.
- The information leaflets were felt to have too many numbers and patients wanted more a positive slant on risks.
- There were also felt to be too many categories of risk, patients just want an overall success rate and any particular risks that are high for them.
- Post discharge expectations were poorly covered in existing information.

The meeting itself was popular; the patients all expressed a wish to have had more time to discuss the operation than they felt they got in the busy clinic.

AAA PATIENT COMMENTS

“Personally & with hindsight, I would have liked more information on the possible effect of open surgery on the performance/return to normality of bowel function, which has been a difficulty for me in an otherwise classic recovery. It was put to me after the operation that “bowels” that have been in place for 86 years are disturbed and they naturally “don’t like it” and can take time to return to normality - a comment we can’t take issue with!”

“I had a huge amount of bruising around my groin and upper thigh area after surgery which was scary as I was not aware that this could happen.”

“There is no mention of bruising, which in my case was extensive. Also the timescale for ultrasound to check for leakage could be made clearer.”

“Information on Leaflets most informative and answer all your questions, could cause some people to worry unnecessarily. I had keyhole surgery and went home the next day, been fine since, but these leaflets have made me think.”

RECOMMENDATIONS

1. Clinical teams need to provide context sensitive written information to patients. The information must be appropriate to the stage of care.
2. Risks associated with interventions need to be explained in broad terms and then a member of the team needs to provide time and support to explain individual risks to patients
3. Information should be presented positively and be personally relevant to the patient.

4. PATIENT CENTERED CHANGES TO THE AAA CARE PATHWAY

A consistent theme that has emerged nationally is that AAA patients feel they do not receive enough post operative information, in particular **what to expect**. Many patients report that they face unexpected consequences from AAA surgery. This leads to anxiousness about their recovery. Vascular clinicians taking part in our regional action plans consistently reveal that they are unsure about what information patients receive, when to provide it, and particularly what the patient gets out of the information.

The AAAQIP strategy that aims to:

1. Standardise the process of providing patient information and obtaining consent.
2. Address the lack of post operative recovery information that has been identified nationally.
3. Ensure patients are fully informed upon discharge (including the impact of complications, medication, pain relief and follow up).
4. Ensure patients are provided with a point of contact post-operatively to address concerns.
5. Integrate telephone follow up to address patient and carer issues early in the post-operative period.

The Importance of Communication and Patient Information

Fulfilment of expectations is a strong predictor of patient experience [Jackson et al, 2001]. High quality communication helps to set expectations appropriately so that patients are mentally prepared for their operation.

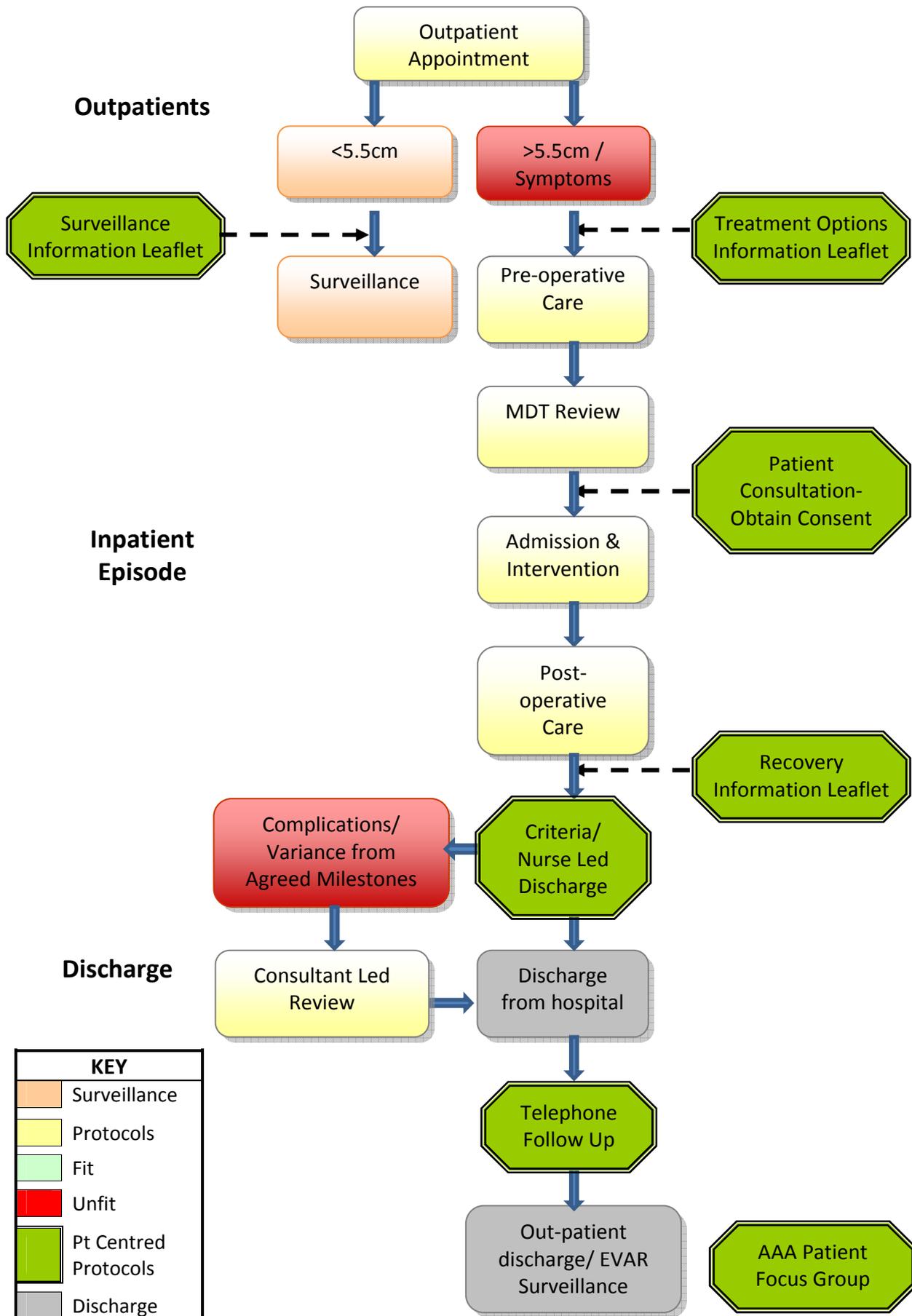
High Quality Patient Information:

- Enables patients to participate in decisions about their health and health care.
- Clarifies treatment options, highlighting risks and benefits and any areas of uncertainty.
- Encourages patients to take responsibility for maintaining their health.
- Clarifies what the hospital can and cannot provide.
- Reinforces verbal information as part of the process of informed consent.
- Reduces patient anxiety and improves patient outcomes.

Communication with patients should be of a high quality both pre-, peri and post-operatively. This ensures patients are fully informed and able to make an appropriate choice about intervention, as well as receiving information about what to expect during the pre-, peri-operative and recovery phases of their care.

Part of the AAAQIP is focussed on addressing the gaps in communication. The aim is to place the patient at the centre of the care pathway. Part of this process is developing specifically tailored patient information leaflets and part is about describing the process of information giving, stressing the need to use verbal reinforcement to individualise information. The patient information leaflets were developed in collaboration with patients and tested through our focus groups. The details of the components of our information strategy are outlined below.

AAA Care Pathway: Patient Communication Strategy



Information for Surveillance Patients

Both AAA patients and carers reported that they found it difficult to take in all the information presented to them during their patient consultation. They felt patients should be provided with information in a staged process appropriate to their current treatment plan. Surveillance patients in particular do not want excessive information on surgical treatment options and risks when their AAA is not currently at a size for intervention.

Patient preference for information at this stage includes:

- What is an AAA?
- Symptoms.
- Do I need an operation?
- The surveillance process.
- The chances of a small AAA rupturing.
- Impact of a small AAA on quality of life. Do I need to take things easy?
- Practical implications such as driving.
- Health advice.
- What to look out for.
- Sources of further information.

Patients also revealed that they find it difficult to track the changes in size of their AAA and this can lead to anxiety. As a result, a place to record the size of their AAA at each scan as well as the dates of follow up scans was integrated into the AAAQIP surveillance patient information leaflet.

Information for Patients Proceeding to Intervention

AAA patients found existing patient information leaflets to be too risk orientated and defensive. A lot of statistics were presented that were not found to be helpful. These were often in different formats leading to confusion. Patients within our focus groups prefer risk information presented positively and in a consistent manner. Diagrams are useful to help explain what an AAA is.

Patient preference for information at this stage includes:

- What is an AAA?
- Causes and Symptoms.
- The chance of rupture.
- ***Treatment options (Medical Treatment/ Open Repair/ Endovascular Repair).**
 - To include risks, impact on QoL and practical implications for returning to work and driving.
- Overview of most common risks associated with AAA surgery.
- Health advice.
- What to look out for.
- Sources of further information (both local and nationally available).

Patient Consultation and Consent

NICE guidelines (NICE technology appraisal guidance 167 - Endovascular stent-grafts for the treatment of abdominal aortic aneurysms, 2008) published on endovascular repair indicate that the decision on whether EVAR is preferred over open repair should be made jointly by the patient and the clinical team, taking into account aneurysm morphology, patient age, fitness for surgery and general life expectancy, also the short and long term benefits and risks of the procedures including aneurysm related mortality and operative mortality.

AAA patient focus groups appreciated written information to take away, digest and share with family members. However, patients emphasised that verbal explanations are crucial to provide understanding and reassurance.

The QIP recommends that teams develop a communication strategy that uses high quality written information backed up by consistent verbal explanations. Risks and benefits of any proposed intervention need to be explained in clear and consistent language. Not all patients understand medical language and estimates of risk, so these should be explained in plain language to avoid misinterpretation (i.e. risk should be expressed as a number out of 10 or 100, rather than a percentage). It is also important to give the risks of not undergoing intervention to allow patients to be fully informed. Patients should be told about the need for pre-operative assessment and that they may need formal tests (e.g. CPEX) or to see a Vascular Anaesthetist. They should be reassured that this is a normal part of care. During these investigations, patients should ideally be able to talk to a Specialist Nurse and Vascular Anaesthetist, as patient focus groups revealed that their opinions are highly valued. Provision of high quality information is linked to improved patient satisfaction (Jackson et al, 2001).

Consent: Patients should be provided with written information and consent taken or reviewed at this stage (including collecting personal data for national audit of outcomes). The clinical team should discuss with and agree an expected discharge date with patient.

Relatives and Carers:

Feedback from Patient Questionnaire: York Hospital

Mr Steven Cavanagh, Ms Nicky Wilson and Mr Andy Kordowicz

York carried out a patient satisfaction questionnaire (Oct 2011-Jan 2012). 63 questionnaires were distributed, 41 questionnaires were returned. The mean age of respondents was 75.7 years (range 65-89), and 90% were male.

- *"I would have appreciated my wife being in all the discussions."*
- *"At the time I had no understanding of what was happening to me."*
- *"Casual at best from surgeon – failed to attend one post-op assessment and in a terrible rush the second time."*

Patients were largely satisfied and thought that they had been well treated by a professional and caring team (36/41 would recommend the hospital). Explanations of surgery were found to be good pre-operatively. Some suggestions were made about the need for improvement particularly around communication of post operative recovery. A consistent theme in patient responses was the desire to have a relative present during the consultation.

Using feedback from national patient groups, the majority of patients feel that a relative in the consultation is important. Close relatives provide a back-up to ask key questions and take in more information to help plan for discharge. The QIP recommends that patients are warned in advance to bring a relative or friend to the consultation.

RECOMMENDATION

1. Out-patient invitation letters should invite patients to bring a relative or friend to accompany them at the consultation.

Post-operative Communication and Recovery Information.

i. Recovery Patient Information Leaflets

All seven national patient groups identified a lack of post operative information about recovery both within hospital and after discharge, to be lacking from the current UK care pathway. Patients are not informed about the routine care, such as mobilisation, that is carried out on the ward. This adversely affected reported experiences of care. As well as this, patients are under informed about the common effects of surgery including bowel problems (both constipation and diarrhoea) and also a lack of appetite. This was a cause of embarrassment as well as worry for both patients and carers.

Based on this feedback, the AAAQIP developed 'Recovery from AAA Repair (OPEN & EVAR)' patient information leaflets in collaboration with patient groups. These include information on what to expect on the ward, mobilisation following surgery, pain, medication, returning to driving and work and important information about follow up and what to do if problems occur. They also include findings from our patient groups such as feeling low in spirits, the possibility of longer recovery times and post operative symptoms. Practical advice on exercise as well as an area to record any concerns for patients to take to their follow up appointment are included. This aims to provide patients with the tools help them manage their own recovery.

ii. Post-operative Communication and Discharge Consultation.

Many patients are not informed about the consequences of complications once they have occurred and patients lack explanations on discharge medication particularly the use of painkillers and statins and when to reduce or discontinue medication. The vascular team should have a consistent approach to communication about progress along the pathway and reinforce these clearly at discharge. Variance should be clearly explained along with implications for discharge from hospital and future recovery. Upon discharge, patients should be given a written recovery information sheet. This should have contact telephone numbers to the unit providing care, and advice about what to do if problems occur out of hours. A named contact for day time discussion of problems should be provided.

iii. Telephone Follow Up.

Patients in both our patient groups, as well as patient representatives at our clinical regional meetings, often described how they felt they had been "kicked out of hospital", isolated and anxious following discharge. Patients should be contacted by a named individual member of the team between 48 - 72 hours following discharge. This provides an opportunity to ensure that recovery is proceeding as planned. Where problems are identified, these may be resolved by discussion or early out-patient review. It also allows carers to be reassured when necessary.

iv. Post-operative Communication Care Bundle.

We designed the 'Post-operative Communication Care Bundle' (Appendix C) to introduce required changes into the AAA care pathway based on feedback from patient groups. This included:

1. Recovery specific information leaflets to address the lack of post operative recovery information that has been identified nationally.
2. Information about criteria led discharge to ensure patients are fully informed upon discharge (including medication, pain relief & follow up).
3. Telephone follow up to ensure patients are provided with a point of contact post-operatively to address concerns (Appendix D).

Patient Focus Groups

Patients attending our AAA patient focus groups are hugely appreciative of the opportunity to talk to both vascular clinicians and fellow AAA patients. The meetings provide a forum in which patients are able to ask previously unanswered questions. Patients are able to share stories and be reassured by sharing their experiences. Vascular clinicians running the groups report that the meetings expose patient views and aspects of their service with which they are unfamiliar, identifying areas for

improvement. Many units continue to hold these meetings beyond the QIP and patients are happy to aid in the development of new information and new protocols.

The AAAQIP recommends units hold patient focus groups routinely in order measure patient experience of care, identifying areas for improvement and designing changes in care. Regular meetings will ensure patient care is regularly reviewed and a high level of patient safety and satisfaction is maintained.

RECOMMENDATIONS

1. Patient focus groups provide invaluable feedback to clinical teams about the quality of care provided. All vascular units should seek the views of their patients and use them to inform changes to the care pathway.

Patient Story: Participating in a Regional Vascular Meeting

Mr Barry Wilson; AAA Patient

I have been very pleased to be able to contribute and be a part of the AAAQIP programme. I found it very enlightening and it gave a fascinating insight into the professional's dedication to their own speciality. It was clear that the performance of the surgeons, anaesthetists and managers etc, was dependent on the others performing their jobs to the same standard. It was very reassuring to hear them all reading from the same page. Clearly the will was there to improve the quality of service to the patient.

I did, however, feel that there was little concern for the patient either before he entered their sphere or perhaps more importantly, after leaving their immediate care. I understand that each specialist has a window of contact with the patient, but it must have an effect on how he/she treats the patient if they are aware of the ramifications of their decisions later in the patient's life. Perhaps being given a précis of the patient's progress 6 months after their treatment might help to direct their actions, or affect decisions made in the "heat of battle".

I would not presume to suggest that the medical staff do not care about the patients and a certain amount of tunnel vision is inevitable with each member having specific areas of responsibility, it would be nice to think that there was no chance of falling through the cracks though.

I personally found the meetings fascinating and the chance to meet surgeons away from their normal habitat e.g. on the other side of a desk, gave me a much better understanding of them. I accept that during a normal hospital consultancy, it is time controlled and for a specific purpose of discussing an operation etc. This showed a side far more informal and, whereas I understand it is impossible, it would do the reputation of surgeons a power of good if such contact was widely available to patients.

I hope the surgeons did find our contributions meaningful; the only way to know is for you to ask them. I did feel that had we (the patients) been better represented by greater numbers they might have grasped a wider range of opinions. The experience that we offered was very limited with only one patient having had an operation which fortunately went perfectly. Clearly, as one surgeon said, "the dead ones don't tell us much".

RESOURCES

Surveillance, Treatment and Recovery Patient Information Leaflets:

<http://www.aaqip.com/aaqip/patient-involvement.html>

Telephone Follow Up Protocol:

<http://www.aaqip.com/aaqip/rap-group-session-documents.html>

Post-operative Communication Care Bundle:

<http://www.aaqip.com/aaqip/pi-patient-groups.html>

Guidance for Conducting AAA Patient Focus Groups:

<http://www.aaqip.com/aaqip/pi-patient-groups.html>

Regional Patient Group Feedback:

<http://www.aaqip.com/aaqip/pi-patient-groups.html>

5. IMPLEMENTATION OF PATIENT CENTRED INTERVENTIONS

The AAAQIP patient centred interventions and protocols were tested and implemented as part of regional action plans.

AAA Recovery Patient Information Leaflets

The new AAAQIP patient information leaflets were tested against local and national leaflets through regional action plans. These were constantly found to be favoured by patients due to the practical recovery advice. Broomfield and Harlow compared EIDO patient information leaflets to the new AAAQIP patient leaflets. Both types of patient information leaflets were felt to be useful, patients liked statistics contained within EIDO leaflets but found too much information on complications to be frightening when compared to the AAAQIP information sheets. The AAAQIP information sheets were favoured for the practical information and advice on treatment options and driving. There has been a large uptake of the AAAQIP leaflets throughout the U.K.

Patient Feedback on the New AAA Recovery Leaflets

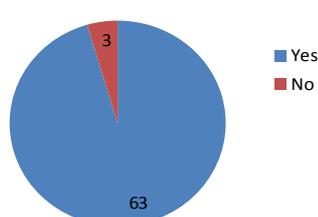
Leeds Vascular Institute

Mr David Russell and Mrs Anne Johnson;

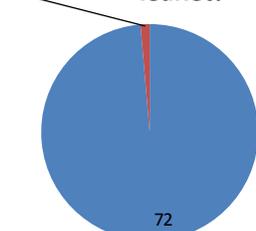
Consultant Vascular Surgeon and Vascular Research Nurse

Leeds Vascular Institute adapted the AAAQIP recovery leaflets to reflect local information. Feedback was gathered from 90 patients (30 OR, 30 EVAR and 30 under surveillance) with a response rate of 86% (77/90). The majority of patients liked and understood the leaflets and felt they were the right length. Practical recovery advice, illustrations and exercises were felt to be particularly good aspects. When surveyed on their preference for telephone follow up, patients were very supportive of this. These findings were replicated elsewhere in the U.K. by units seeking patient views.....

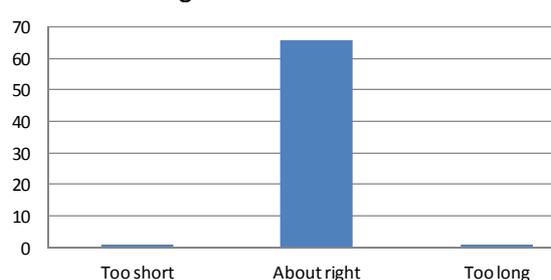
Would you have liked new information leaflets?

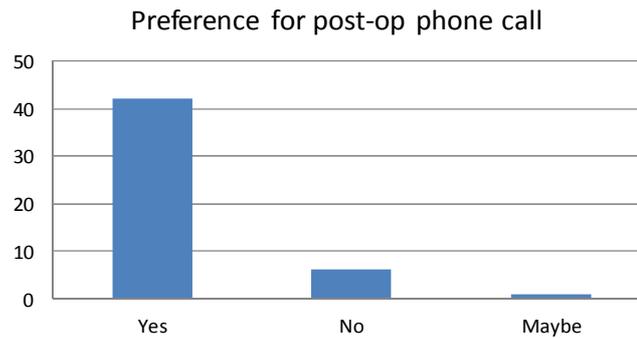
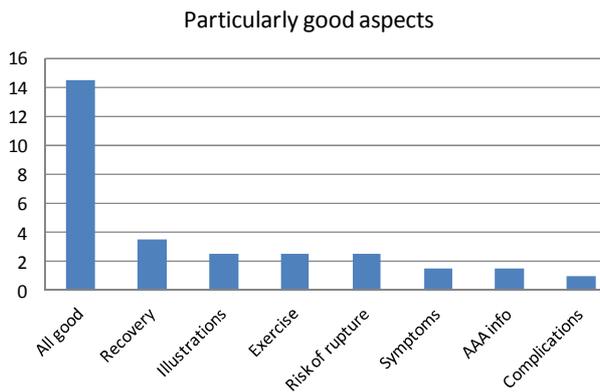


Understood information leaflet?



Length of information leaflet





Tailored Patient Information Leaflets and Recovery Plans

Pennine Acute Hospitals Trust

Ms Debbie Ruff; Vascular Nurse Specialist

The AAAQIP patient information leaflets were tested in both Pennine and Tameside hospital patient groups, 19/20 patients completed the questionnaires with a 95% response rate. Patients reported that the small AAA leaflet was an appropriate length and not too negative or scary but stressed the importance of verbal support with written information to back this up. Changes were made to the leaflets including a section for surveillance patients to record the date of their last scan and size of their AAA.

Work was also undertaken to integrate individualised care plans. Surveillance patients were informed of the size of their AAA at the time of their scan. A section was incorporated in the 'Surveillance' leaflets to record the date of the scan, size of AAA and date of next scan. This aimed to give patients control to track the size of their AAA. Contact details were also provided for patients to use if needed in between scans. For patients who had their surgery, a place to record concerns as well as a section for the physiotherapist to note down individualised recovery plans was incorporated. This followed physiotherapist discussion with patients on length of stay and activities they can and can't do following their operation.

Findings: Patients under surveillance in whom their AAA did not change size, found the process of recording this reassuring. When an AAA had increased in size, patients wanted to be able to talk to a qualified clinician in order to discuss their management plan. For elective patients, the recovery plans proved problematic for EVAR patients discharged early who may not have seen the physiotherapist.

RESOURCES

Leeds Vascular Institute's adapted Patient Information Leaflets:

<http://www.aaqip.com/aaqip/rap-yorkshire-outcome-documents.html>

Pennine Acute Hospital's adapted Patient Information Leaflets:

<http://www.aaqip.com/aaqip/rap-north-west-outcome-documents.html>

Improvement Case Study: Engaging Patients

NHS Grampian: Holding AAA Patient Focus Groups.

Mr Paul Bachoo; Consultant Vascular Surgeon

This was a very interesting experience which introduced me to several new areas for future consideration.

Firstly, it brought home the fact that traditionally, certainly in Aberdeen; the thought of sitting down with a group of individuals who had received surgery in our department, without with the traditional outpatient clinic review, was in itself a novel experience. The process of organising the facility to accommodate this meeting in a relaxed and informal setting presented an interesting challenge, as space for such meetings within the Department is certainly not available during office hours. However, once facilities were secured in our new education centre, it soon became very impressive that across the Department, whoever they had been operated on by, these individuals were only too willing to come in and contribute to the discussion process. Given that abdominal aortic aneurysms occur predominantly in men, I was somewhat surprised that this older group of male patients were indeed willing to participate in open and intimate discussion. My recollection was that not only did they give up their free time, but only a few of the individuals took the offer of travel claim reimbursement.

I was soon impressed on how the information technology and the World Wide Web were not only domains of the young, but a great source of information albeit of variable quality to individuals of a much older generation with specific health needs. Many despite not having grown up with the World Wide Web were familiar with this resource, and each and every person had explored the Internet for self-education regarding their condition. In hindsight, why this should have been such a surprise is merely a reflection of my own bias and probably reflects on the changing profile of our patient. Patients are no longer passive but instead are informed, interactive and able to challenge clinical pathways intellectually.

A recurring theme that was very pleasing despite high-profile adverse cases in the media was that the Vascular MDT was still held in good standing. They considered the availability of options and choices in treatment essential, disregarded age as a determining factor in decision-making for intervention, and agreed that quality-of-life was without exception the most important feature in determining treatment decision plans. Whilst they appreciated the importance from a medical perspective of technical outcomes, they strongly felt that much more consideration be given through extended roles of staff in supporting future patients during recovery. Interestingly, one of the subjects, who had undergone an endovascular repair, said that he felt abandoned following very successful surgery in that he seldom if ever saw medical staff for review, either in hospital or the community. This was despite being on a formal surveillance programme after surgery.

In conclusion, the ideal department offering AAA service for patients should have access to a facility for such focus group meetings within office hours. A mechanism should exist whereby periodic review of specific treatment outcomes are constantly audited against the standards set by previous patients. There is a need, particularly in aneurysm patients undergoing endovascular repair, for a more human component of surveillance. This could be achieved through telephone interviews by nursing staff. I certainly am much more aware of this. The Internet is often a source of information and that greater use of this should be made during the preoperative consultation process. We personally put much more emphasis now on trying to forecast and describe the post discharge phase of the treatment pathway.

RECOMMENDATIONS

1. All patients should receive written information about their condition, supplemented by the opportunity to discuss treatment options. Clinicians should try to individualise risk estimates for each patient.
2. Patients should be informed that they can bring a relative or friend to each consultation.
3. The provision of patient information needs to be tailored to the phase of care. It should be presented consistently and be relevant to each stage of the care pathway.
4. The consent process should be completed before admission to hospital for intervention when patients are undergoing elective aneurysm repair. This should include consent to hold personal data for national audit and tracking health outcomes.
5. Patients being discharged from hospital require written information about recovery at home. They also need to be given verbal information about new medication, contact points for queries and follow up arrangements. A brief telephone follow up by a Vascular Nurse is highly valued.
6. There is value in developing self help tools for recovery at home (e.g. exercise plans).
7. Patient experiences should be measured locally to identify gaps in provision of care.
8. When a suitable PROM is available, it should be incorporated into measurement of service quality

Clinical Practice Prior to AAAQIP: Findings from Regional Action Plan Meetings

As part of the launch event for the AAAQIP within each region, vascular clinicians discussed current practice in their unit for each area of the care pathway. This revealed variation not only between units in each region but also within clinical teams. Patients were not receiving the right care at the right time, every time. Teams were encouraged to reach a consensus on how best practice could be introduced. The key findings for each area of the care pathway are outlined below.

Assessment

- Most hospitals have vascular x-ray meetings but not specific MDTs. Anaesthetists are not included in discussion of patients, although most express a strong desire to be involved.
- Recording of the MDT decision making is variable across and within regions. There is broad agreement that a coordinator should be responsible for recording decisions and ensuring that they are implemented. Units need to audit MDT performance.
- Risk assessment is variable, or not performed. Clinicians need to be consistent in assessing patient risk.

Post-operative Care

- There is a lack of clear protocols for pathway progression with discharge reliant on medical team members. Most units are supportive of nurse led criteria based discharge to smooth pathway flow. Nurses' state that they need guidance about how to manage pathway variance, but are supportive of plans for protocol led discharge.
- There is support for setting planned discharge dates to manage patient expectations. These should be agreed with patients and carers prior to admission. Patients requiring complex packages of care in the community should be referred to OT and social services prior to admission wherever possible.

Communication with Patients

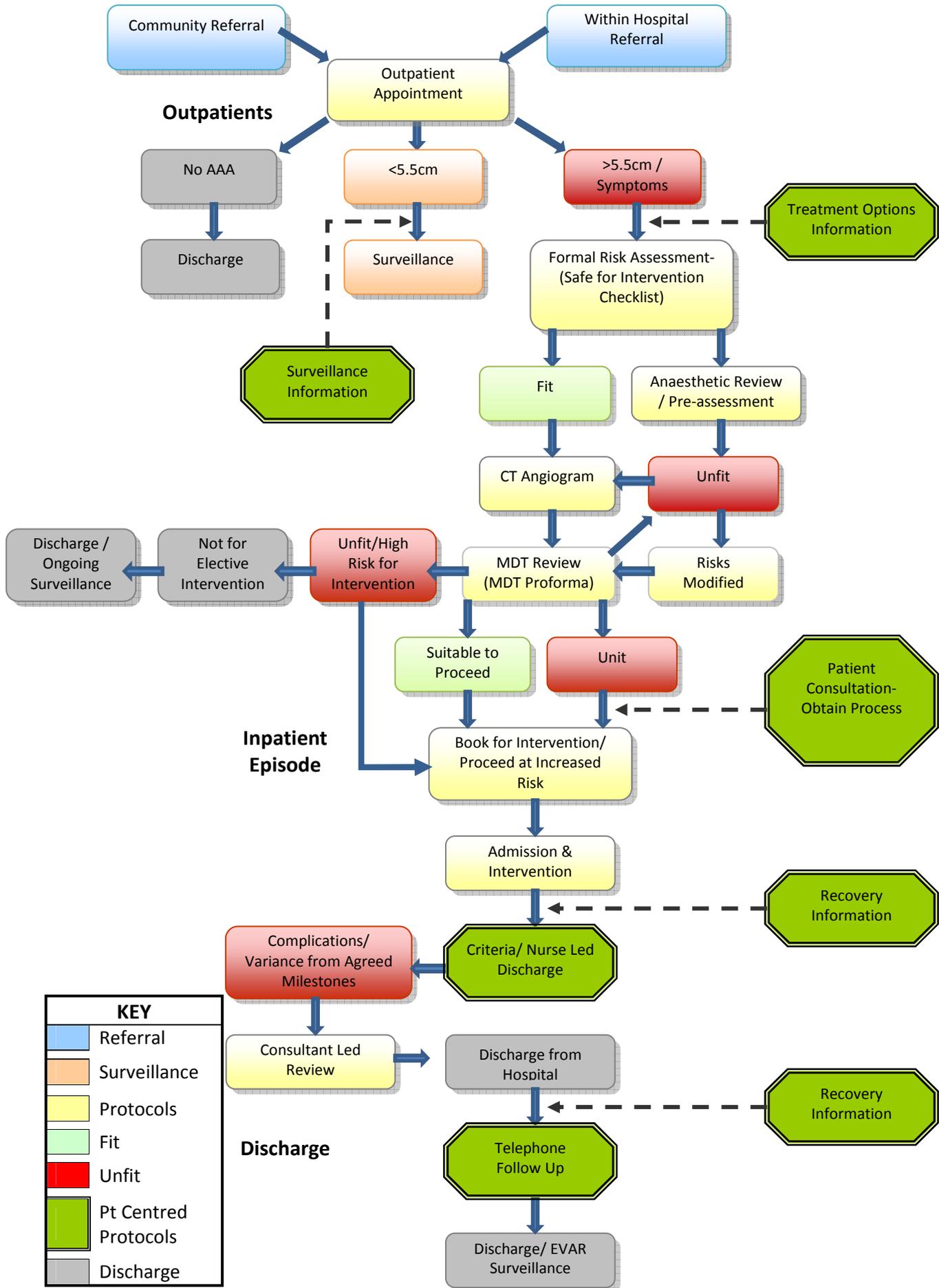
- Surgeons tend to provide risk information based on personal experience of complications, rather than a formal assessment of risk.
- Patients want to be given individualised risks. Sicker, higher risk patients want more information than those with little co-morbidity.
- Patients often expressed a feeling that they had been 'kicked out of hospital'. This seemed to relate to a failure to provide post operative follow up information and advice.

Development of a Standardised Pathway of Care

Using findings from the Regional AAAQIP meetings as well as AAA patient focus groups, an outline AAA Care Pathway was developed. This aims to clarify the critical steps in care provision and the communication that is required at each phase of the pathway. Its purpose is to standardise the patient journey and to ensure all appropriate procedures and checks are undertaken. In addition, it provides clarity to all members of the clinical team about the process of care delivery.

The pathway illustrated below is intended for local adaptation to allow teams to co-ordinate both the steps of care and the points at which formal communication is required.

1. OUTLINE AAA CARE PATHWAY



Guidance on using the Pathway of Care

Units should adapt this pathway to suit their local needs, incorporating local assessments, rather than trying to create de novo documentation. The core components of assessment, MDT, intervention and recovery should be used by all units.

- National processes (e.g. nursing documentation, VTE assessment) should be incorporated into the pathway as standard, instead of being considered as separate to the delivery of high quality care.
- Local unit based audit of pathway performance should be part of care delivery. It should be used to provide feedback about consistency and completeness of care.
- Where patients are assessed as “amber” for risk, progress along the pathway will be determined by local protocols. Further studies are needed to refine levels of risk more accurately for this part of the pathway.

RECOMMENDATIONS FOR PATHWAY IMPLEMENTATION

1. Make sure to involve everyone in the proposed changes.
 - i. To include the whole vascular team: clinicians, nurses, secretaries and managers.
 - ii. Ensure each team member has input, and understands both the proposed changes and his/her role before implementing changes.
2. At the outset it helps to collect baseline data of current practice. This allows measurement of change and encourages involvement in change.
3. Carry out PDSA cycles, testing initially in one patient, then a few and in differing circumstances.
4. After each PDSA cycle review progress and make necessary changes to ensure the new protocol becomes fully embedded in practice.
 - i. Measuring the effect of changes helps to encourage team members and to embed change as part of routine care.
5. Involving local management can also help to ensure that changes become embedded as routine part of care and gains are not lost.

QI LEARNING

Breaking Down the Care Pathway into Separate Interventions:

One of the original aims of the AAAQIP was to develop a national care pathway and encourage units to adopt this in order to standardise care.

Experience in regions early in the programme identified that trying to adopt the whole pathway in one go was a significant challenge to clinical teams. There was variation in enthusiasm for the pathway, with units being at different stages of development. In addition, there is significant variation in NHS Trust attitudes to the adoption of new paperwork and processes that prevented easy introduction of a national pathway of care.

As a result, the care pathway was divided into defined steps with units encouraged to trial one element of the care pathway. This made QI work more manageable among a busy clinical workload and allowed units to select interventions to address specific problem areas within their units. Grouping standards of care into care bundles was also provided a structure for both implementation and measurement of change.

2. REGIONAL IMPLEMENTATION OF THE AAA CARE PATHWAY

1. Consent

Trial of Consent Documentation. North Cumbria University Hospital Trust

Ms Jane Todhunter; Vascular Nurse Specialist

North Cumbria identified a shortfall in their current consent process, failing to address individual patient needs and priorities, joint decision making and providing recovery specific information. A Plan, Do, Study, Act cycle was undertaken investigating 5 AAA consent forms retrospectively. The consent process was found to be inconsistent with variation between surgeons, lack of functional outcome information and no record of NVD consent.

PDSA CYCLE

1. **Plan** - Aim to provide consistent, informed, timely consent
 - Data needed - review of current practice
 - recommendations for good practice
 - Predict that consent process not consistent
 - Retrospective look at 5 AAA consent forms
2. **Do** -Variation between surgeons and within surgeons
 - Functional outcomes neglected
 - Documentation of NVD consent lacking
 - Written information given in advance of procedure

PDSA CYCLE CONT..

3. **Study** - predictions were correct, consent process is inconsistent.
 - patients do not receive all the information they may need to make an informed decision about treatment.
 - consent process appears to be timely.
 - need to remember to ask and document NVD consent.
 - need standardised documentation to prevent omission of information / omissions within the written record.
4. **Act** - review current AAA Care Pathway Proforma's (N.E).
 - design documentation to support consent process.

Following the AAAQIP meeting in October 11, the vascular team agreed to trial the new consent documentation to standardise the consent process. Patient experience was reviewed post procedure with a patient experience questionnaire. Patients received the new documentation along with the original consent forms at their last Outpatient appointment prior to admission. Consent for retention of personal data for national audit was recorded; however, patients were not required to sign the new documentation. Recovery information was provided through amended AAAQIP leaflets and risk factors were mentioned in the Outpatient consultation as well as on the ward pre-operatively, this was felt to be appropriate.

Findings: Patient experience was found to improve and inconsistencies were addressed. However, the form lacked authority as a stand alone document and thus needs to be formally incorporated into the clinical record.

2. Risk Assessment

Risk Scoring Electronic Database. Addenbrooke's Hospital

Dr Pete Bradley; Consultant Anaesthetist

The screenshot shows a web-based form titled "View AAA Scoring Form". It includes a "Patient Demographics" section with fields for CRN (123456), Forename (Second), Surname (Patient), Date of Birth (02/01/1900), Date (12 July 2011), Creator User (Bradley, Peter), Last Edited By, and Anaesthetist Approved By. Below this is a "Criteria" section listing "Age over 70", "History of COPD", and "History of Cardiac Failure or Unstable Angina or Recent MI". An "Action To Take" section contains instructions: "Inform the consultant anaesthetist by Addenbrooke's email ASAP. Book patient on high vascular MDT meeting (held on first Tuesday of the month, at start of usual MDT)." A "Comments" section contains the text "Also has severe Rheumatoid". At the bottom are buttons for "Print Results", "Edit Results", and "Close".

Addenbrookes aimed to formally adopt standardised risk assessment through a safety checklist. Initial assessment of the AAAQIP traffic light safety checklist with the anaesthetic dept suggested that it was too cumbersome, so a shortened version was produced based upon a study from the US (Predicting 1-year mortality after elective AAA repair. Adam Beck et al J Vasc Surg 2009;49:838). Both checklists were used for 12 patients. As paperwork on either form was not found to be reliable, an electronic version of the shortened checklist was produced. This contained automated advice to refer complex cases to the monthly high risk MDT meeting and an e-mail to the anaesthetist.

EVAR Database. Leeds Vascular Institute

Dr Christopher Hammond, Consultant Vascular Radiologist.

The screenshot shows the "Leeds EVAR database" interface. It features a "new patient" button at the top left. Below are five main columns: "Work up" (containing "Enter AAA QIP data" and "Enter physiological data"), "Procedural" (containing "EVAR procedure details"), "Device" (containing "Device sizing" and "Device arrived and checked"), "Booking" (containing "Procedure dates"), and "Administration" (containing "Print MDT meeting lists" and "Follow up imaging organised"). At the bottom, there are several utility buttons: "MDT list", "View MDT printed list", "Australasian College of Surgeons data", "View Suspended patients", and "Unsuspend or undelete patient".

Dr Hammond developed an electronic EVAR database in Microsoft Access. This arose from finding patients were not being assessed and delivered to intervention in a timely manner.

The database works to capture the pre-operative risk, the time from referral, the complexity of the planned EVAR as well as anaesthetic and other medical assessments. The database is used to inform decision making at the MDT by ensuring that all information is available at the

point of decision. It is accepted by all members of the clinical team, as it has clear utility for tracking decision making to intervention. As some fields are directly related to those in our national audit, data can be provided in a form that can be directly uploaded.

Successes: Improved documentation, smoothed patient flows and improved ordering of stents for EVAR.

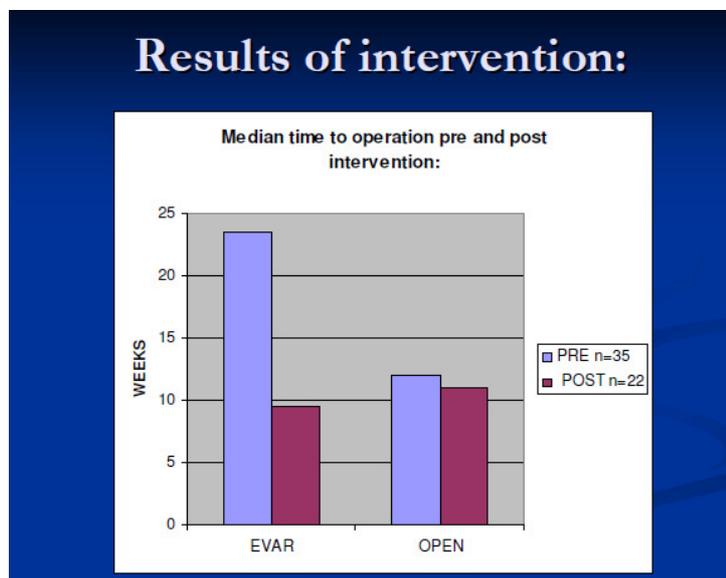
Challenges: Only focused on EVAR so patients not intervened upon, or sent for OR not captured. It currently relies on radiology nurse input to capture follow up information.

Next Steps: Capture all AAA including those turned down for intervention.

3. Time From Decision To Intervention.

Decreasing Time from Diagnosis to Operation Coventry and Warwickshire County Vascular Unit

Mrs Colette Marshall; Consultant Vascular Surgeon & Dr Soorly Sreevathsa; Consultant Anaesthetist



Coventry and Warwickshire aimed to reduce time from diagnosis to operation in order to meet the 8 week NAAASP target as well as avoid a two-tier system with better care for screened patients.

Results of a pre-intervention audit on 35 patients revealed a longer median waiting time for EVAR compared to OR patients.

As part of the intervention a Plan, Do, Study, Act (PDSA) cycle was carried out in order to proactively manage patients on the pathway.

This included a tracking database coordinated by a VNS, patients reviewed

at the MDT as well as creating EVAR theatre slots. As well as this, proactive ways of working were introduced; patients were booked onto the next available list and not necessarily on that of the 'consultants looking after them'. Following the intervention, the median waiting time decreased for both EVAR and OR with 17% of EVAR patients and 20% of OR patients meeting the 8 week NAAASP target.

Next Steps: Further refinement of protocol to reach 8 week NAAASP target.

4. Multi-Disciplinary Team Process

A trial of the Multi-Disciplinary Team (MDT) proforma. Bedford Hospital

Arindam Chaudhuri, Consultant Vascular Surgeon.

As part of the AAAQIP, Bedford decided to conduct a trial of the MDT proforma. This was modified using versions from Addenbrookes and Bedford as well as versions on the web. A document was produced that provided a linear description of pre-operative patient care from Outpatients to the MDT. It was felt important to record MDT member details to ensure a collaborative decision took place. In a decision about the need for high dependency care was required to make the process more robust. Anaesthetists did not attend X-ray meetings but were required to formally comment prior to admission. All parties were required to sign-off their part of the document. This has become a useful document that can be taken to various departments in the hospital, and is particularly useful if the notes are not available. Resistance to the proforma was present but its completion became easier as it became routine practice. The unit reported that it allows them to track patient progress and they plan to extend it into a whole care pathway.

RESOURCES

Bedford and Addenbrooke's MDT Proforma:

<http://www.aaqip.com/aaqip/rap-east-outcome-documents.html>

Patient Story: My Experience of the MDT Process

Mr Peter Traves; AAA Patient

I was very fortunate that whilst having the scan for the prostate that my GP had sent me for, the lady doing the scan took the time to do a thorough examination. It was in the course of the scan that she found the aorta walls in my abdomen were thinning and she thought that I had an aneurysm.

I went along to my usual check-up scan at the hospital in late September, early October 2011 and the person doing the scan informed that they thought there had been some changes that needed specialist opinion. The AAA had grown in size to over 6cm and it was an irregular shape with a bulge also evident on the left hand side of the iliac artery, so not a straight forward situation to deal with.

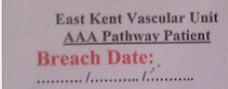
So with this information to hand I went to the Out- patients Department at Yeovil where I met my Surgeon for the first time. He took a thorough history and because of my pre-existing cardiovascular history (I had a quadruple by-pass in 2000) he explained to me that my case would be reviewed by a multi-disciplinary team of himself, the Anaesthetist and a Cardiologist.

I got an appointment with a Cardiologist very quickly and I had a dopamine stress echo which resulted in me being told I had atrial fibrillation, which I was unaware of until this point. The results of the DSE were reviewed and the MDT felt the next assessment that was required was an angiogram to see if my heart was strong enough to undergo the repair of the AAA. My Surgeon informed me that if it was possible, EVAR was the best course of action rather than open surgery.

So, in December I had my angiogram and it was a superb service. The Cardiologist reviewed my case and decided to put me last on this list as I was quite a complicated patient given my CABG history, and so he placed me at the end of the list to ensure that he had plenty of time to find all the vessels and assess my cardiac function.

In my opinion, I could not have had better treatment if I had paid thousands of pounds. The service was more than first class. Everything was explained in detail - what they were doing and how it would affect me.

SNAPSHOT OF EXPERIENCES OF DEVELOPING THE MDT

Organisation	Process of Setting up MDT	Successes	Challenges	KEY LEARNING
<p>North Bristol NHS Trust <i>David Mitchell, Kate Humphries, Michael Milne, Neil Collin.</i></p>	<p>Anaesthetist joins current x-ray meeting Wed 8-9.15am. Vascular Nurse acts as coordinator, providing a patient list for review, notes. She records decision and circulates following meeting.</p>	<p>Anaesthetist provides essential perspective on patient risk encouraging a more patient centered approach.</p>	<p>Inconsistent completion of safety checklist by consultants. Poor data recording as secretaries unclear about role and use of MDT form</p>	<ul style="list-style-type: none"> • Include the whole vascular team in changes e.g. secretaries. • MDT coordinator requires power to organise meeting and chase pre-op investigations.
<p>Belfast Health and Social Care Trust <i>Paul Blair, Andrew McKinley.</i></p>	<p>Wednesday 8-11am. Belfast City Surgeons already available. Royal Victoria Hospital surgeons significant job plan changes. Radiologists. Anaesthetists.</p>	<p>MDT arranged and functioning</p>	<p>Trying to fix a date for everyone. Compromise, co-operation and coffee are needed.</p>	<ul style="list-style-type: none"> • Cases for discussion needed by Monday before meeting. • Chairperson makes it work. • Record decision. • Secretarial support and recognition in job plans.
<p>Barts and the London NHS Trust <i>Jane McNeill</i></p>	<p>Barts have undergone a major move into a PFI, merging with Whipps Cross and Newham. An anaesthetist began attending weekly Friday MDT meetings, Dec 2011.</p>	<p>Anaesthetists were able to pick patients up earlier in the preoperative process in order to risk assess, optimise and complete CPEX.</p>	<p>Arranging cross cover for the meeting.</p>	<ul style="list-style-type: none"> • Build in admin support to ensure timely access to medical notes. • Written and agreed plan is needed (actual meeting & follow up plan: key risks, medication, and destination plan -ITU/HDU/ward).
<p>Northampton General Hospital NHS Trust <i>David Ratliff, Davis Thomas, Peter Jameson, Sue Johnson.</i></p>	<p>1hr high risk MDT meeting, once a month: vascular surgeons, anaesthetists, nurses and cardiologists. Patients are risk scored on a number of parameters. Those with a score of 3 or more are considered for a stress echo. A cardiologist then gives the percentage 1 year mortality rate. Vascular anaesthetists take a history, risk score and discuss destination procedures with the patient. High risk patients remain in ITU/HDU for 48-72 hours.</p>	<p>Anecdotal evidence to support a reduction in critical care LOS. The work only requires an additional 2 hours per week by an anaesthetist</p>	<p>There is a need to capture all referrals and refine the MDT proforma.</p>	<ul style="list-style-type: none"> • Due to the recent merge with Kettering there will be a need to increase the MDT meetings to at least once per fortnight.
<p>East Kent Hospitals University NHS Foundation Trust <i>Lal Senaratne</i></p>	<p>Current Network solution between Medway: joint MDT via video link for AAAs involving surgeons, radiologists, anaesthetists and trainees. The meetings take place weekly on a Wednesday, with the list finalised by 12pm every Tuesday.</p>	<p>A proforma states the reason for discussing the patient- allows consultants to be aware of patients in advance. Meeting, minutes are circulated along with the decisions for intervention.</p>	<p>Absence of a protocol when there is no consensus, delays in investigations, the inclusion of symptomatic patients and documentation issues.</p>	<ul style="list-style-type: none"> • Vascular Nurse Practitioners are central along with a Secretary taking notes and coordinating patients. • Following previous delays with cardiology tests, a 'Breach Date' sticker is placed on the patient proforma and this has acted to speed up the pre-operative investigations process. 

RECOMMENDATIONS FOR IMPLEMENTATION OF MDT

1. Include surgeons, radiologists and an anaesthetist as the ideal.
 - a. Where anaesthetist unable to attend, they must be included in decision making process
2. Develop and agree a written plan for the meeting as well as follow up procedures.
3. Ensure the whole vascular team is aware and agrees to any changes in practice.
4. Appoint an MDT co-ordinator (e.g. vascular nurse specialist/ secretary).
 - a. Ensure they have appropriate access to patient notes, pre-operative investigations and the power to request and chase investigations.
5. Set a deadline by which patients must be notified for discussion at the MDT.
6. Appoint a chairperson to ensure each team member inputs into discussions.
7. A final decision/ further investigations need to be recorded for each patient.
8. Make use of 'breach date' stickers to make other departments aware of need for timely assessment.

Development of an Integrated Care Pathway Doncaster Royal Infirmary

Helen Findley, Alaisdar Strachan, Siobhon Gorst, Julia Perry, Martha Mayhew, Sewa Singh and Nandan Haldipur.

Doncaster undertook a detailed programme of development of their care pathway. This involved stakeholder engagement and PDSA cycles. Pre-operative assessment and in particular the post-operative care pathway including discharge from ICU/HDU and the use of adjuvant therapies, such as CPAP in high risk respiratory patients is included. The pathway was supported by surgeons, anaesthetists and nurses, allowing patients to be moved along quickly with the aim of reducing time in high dependency care. They focused on standardisation of processes, by developing flow charts with key decision points allowing nurse led decision making for patient care. The AAAQIP meeting in February 11 provided motivation, ideas from other centres and highlighted the need to improve communication channels with patients. The AAAQIP pre-operative care bundle is included along with pre-operative flowcharts for assessment of complex patients, documentation of the MDT, plans for patient education/preparation, peri-operative documentation and an enhanced recovery pathway which is used on critical care. Publicity campaigns were conducted using email, newsletters and posters.

Findings: Work has been ongoing to formalise the pathway into routine Trust documentation but this process has proved challenging. There is now a focus on measurement. There was no change in median critical care stay at 5 days post OR and 2 days post EVAR (Jan 12), despite implementation of the pathway. Respiratory outcomes were still to be measured. Informal physio feedback suggested a reduced rate of post critical care ward chest infections.

Challenges: It took a long time, high workload, required commitment and was managed by using the process as a supervised QIP/management project for an anaesthetic trainee.

Next Steps: Need to educate nurses about pathway and management of epidurals. Need to be able to accept critical feedback and have good communication. Senior trainees have a role in this type of work, but need mentoring. PDSA cycles highly effective.

RESOURCES

Doncaster Integrated Care Pathway:

<http://www.aaqip.com/aaqip/rap-north-west-outcome-documents.html>

5. Intra-Operative Care

Intra-Operative Vascular NVD Proformas: Royal Glamorgan Hospital

Mr Kevin Conway; Consultant Vascular Surgeon & Ms Josephine Brown; AAA Nurse

Royal Glamorgan Hospital developed intra-operative pathways to standardise the quality of care in AAA repair. They have developed a two sided proforma based on the AAA component of the NVD dataset to capture patient care. The paper form has been found to be suited to all, with the local vascular nurse and junior doctors helping to enter data onto the NVD. The coding list has additionally been simplified with an option available for clinicians to circle the relevant code to facilitate accurate coding onto the NVD. This has been distributed to other units within Wales.

RESOURCES

Royal Glamorgan Intra-operative NVD Proformas

<http://www.aaqip.com/aaqip/rap-wales-outcome-documents.html>

Standardised Bail Out Kit In Theatres: Nottingham University Hospitals

Dr Richard O'Neill; Consultant Vascular Radiologist

EVAR planning is important in order to predict and avoid complications. This is undertaken in Nottingham by a consultant surgeon and radiologist involved in deployment and included within radiology job plans. A number of complications in theatre can occur including endoleaks, stenoses, kinks, failure to cannulate etc. Nottingham have set out a standardised bail out kit protocol for EVAR planning, in order to be able to address procedural problems and avoid complications due to lack of equipment. The QMC has a large consignment of stock from two manufacturers. This is updated by the manufacturers and supervised by a Vascular Nurse Specialist. As well as theatre stock, there is a 'trauma trolley' in which the VNS moves going out of date stock to the angio-suite. The 'trauma trolley' is a tall trolley and a number of individuals are aware of its location including porters to ensure it is easily accessible.

RESOURCES

Nottingham's Standardised Bail Out Kit.

<http://www.aaqip.com/aaqip/rap-east-midlands-outcome-documents.html>

6. Post-Operative Care

Patient Story: My Care on the Ward.

Mr Brian Lewthwaite; Ruptured AAA patient

During the next few days I have only a few memories. Notable was asking a nurse in the small hours to hold my hand because I felt lonely and frightened. This she did and I slipped back happily into unconsciousness. I also remember fighting with a male nurse who I thought was trying to kill me! Overall I was being extremely well cared for clinically. I think a little "touchy feely" during this period would go a long way to making a patient feel cared for (even though in fact he is) and less like a piece of meat being processed. And it costs nothing.

I was well cared for clinically but under-informed. I had no bowel control which was embarrassing and nobody told me whether this was normal or not. I struggled with the food, which I found unappetising at a time when I needed to be eating to recover my strength. The toilets were not signed. I had to ask a fellow patient where they were. I can only praise all the staff involved for their very professional care. Information was the only thing lacking.

SNAPSHOT OF REGIONAL HDU VS. WARD CARE AUDITS

Organisation	Audit Process	Findings	Next Steps																																				
<p style="text-align: center;">Belfast Health and Social Care Trust <i>Gemma Mckevitt & Kathy McGuigan</i></p>	<p>To look at the post-operative destination of elective open AAA repairs. Retrospective audit using the NVD. 40 patients collected (01/02/10 to 01/05/11). Excluded all EVARs and emergency AAA. Data collected: age, vPossum physiology score, place of discharge post-operatively, length of stay, recorded post-operative complications & consultant surgeon.</p>	<p>Data was collected on 40 patients (32 Males, 8 Females). 13 Patients went to HDU whilst 27 went directly back to the ward. 11 patients in each group had full data in the NVD to allow completion of a Possum score. There was reduced length of stay for those patients who went to the ward compared to those in HDU/ICU with equal complications in each group.</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;">HDU/</th> <th style="text-align: center;">ICU</th> <th style="text-align: center;">Ward</th> </tr> </thead> <tbody> <tr> <td>Average length of stay</td> <td style="text-align: center;">14.31</td> <td></td> <td style="text-align: center;">10.96</td> </tr> <tr> <td>Average age of patient</td> <td style="text-align: center;">76.2</td> <td></td> <td style="text-align: center;">73.6</td> </tr> <tr> <td>Average possum physiology score</td> <td style="text-align: center;">17.2</td> <td></td> <td style="text-align: center;">16.9</td> </tr> <tr> <td>Average possum operative severity score</td> <td style="text-align: center;">10.6</td> <td></td> <td style="text-align: center;">10.1</td> </tr> <tr> <td>Average possum % predicted mortality</td> <td style="text-align: center;">1.944</td> <td></td> <td style="text-align: center;">1.765</td> </tr> <tr> <td>Average possum % predicted morbidity</td> <td style="text-align: center;">25.97</td> <td></td> <td style="text-align: center;">24.1</td> </tr> <tr> <td>Number of documented complications post-op</td> <td style="text-align: center;">5</td> <td></td> <td style="text-align: center;">5</td> </tr> <tr> <td>Number of patients with return to ICU/HDU post-op</td> <td style="text-align: center;">1</td> <td></td> <td style="text-align: center;">0</td> </tr> </tbody> </table>		HDU/	ICU	Ward	Average length of stay	14.31		10.96	Average age of patient	76.2		73.6	Average possum physiology score	17.2		16.9	Average possum operative severity score	10.6		10.1	Average possum % predicted mortality	1.944		1.765	Average possum % predicted morbidity	25.97		24.1	Number of documented complications post-op	5		5	Number of patients with return to ICU/HDU post-op	1		0	<p>Introduction of a more accurate risk assessment model in place of the vPossum score to aid in deciding the appropriate post-operative care setting.</p>
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<p style="text-align: center;">Belfast Health and Social Care Trust <i>Dr Peter Gordon.</i></p>	<p>Audit undertaken of bed usage on the vascular ward of Royal Victoria Hospital. All bed occupants were assessed as delayed/ non delayed for two periods; 6 weeks preceding the amalgamation of two units and 5 weeks following. A variety of clinical categories for bed occupants were identified (pre-op, post-op, fit for discharge, urgent admission, elective investigation, urgent investigation, outlier, empty/closed bed, other).</p>	<p>For the 5 weeks following (Period 2), a larger proportion of bed delays arose in the fit for discharge (47%) and post operative (34%) categories. 49% of discharge delays were due to the lack of rehab/step down bed, whilst 30% were due to home and social issues. Post operative delays were the result of wound management (30%) and major post operative complications (20%). 75% of elective investigation delays were due to the multiple modalities required. Overall, the ward did not meet the number of beds required 30% of the time.</p>	<p>Use findings to refine links with social care as well as clear pre-operative pathways and destination protocols.</p>																																				
<p style="text-align: center;">NHS Lanarkshire <i>Donald Bain, Mirghani Mirghani</i></p>	<p>Investigate the safety of sending EVAR patients directly back to the ward. Estimate the delays/cancellations due to lack of HDU beds. Prospective audit of EVAR patients sent to HDU. A variety of factors were assessed including BP stability, epidural removal, oxygen requirement etc...</p>	<p>All patients had their epidurals removed on the same day. There were issues with abnormal blood pressure, oxygen requirements were not excessive, urine output was normal and patients were all suitable for discharge between the first and second post-operative day. An analysis of computerized theatre records since 2008 was undertaken. 16 vascular cases were cancelled due to lack of an HDU bed and 10 patients had been delayed since January 2012. It was concluded that patients require limited HDU input.</p>	<p>It was felt vital to implement pre-operative safety systems to identify patients in need of higher level care.</p>																																				

Improvement Case Study: Reducing HDU Level Care for EVAR

Norfolk and Norwich University Hospitals NHS Foundation Trust.
Mr Darren Morrow, Consultant Vascular Surgeon.

The vascular surgery unit at the Norfolk and Norwich University Hospital performs about 60 elective EVARs per year. Until last year all patients were admitted to the High Dependency Unit post-operatively. This often led to delayed starts and sometimes even cancellations due to a lack of HDU beds. A retrospective audit of 50 consecutive EVARs showed most patients did not need HDU care, and those that did could usually be identified pre-operatively.

We proposed that in future all EVARs would be performed in the mornings and most patients should be admitted directly to the Vascular Ward post-operatively. Those likely to need HDU care should, if possible, be identified in the anaesthetic pre-assessment clinic. There was unanimous support for this change amongst the vascular surgeons, anaesthetists, intensivists and nursing staff.

A multidisciplinary EVAR Integrated Care Pathway (ICP) was developed, which detailed the necessary medical and nursing care on each post-operative day and aimed for discharge on the third day. A surgeon and an anaesthetist gave small-group tutorials to the ward nurses explaining the procedure and the possible post-operative complications. The nurses asked that there should be no confusion over which doctor to call if the patient gave them cause for concern. It was agreed that this should be the Vascular Registrar during normal working hours, or the On-call General Surgical Registrar out-of-hours, both supported by the Vascular Consultant and HDU Registrar as required. An online EVAR booking diary was created which could be accessed by all relevant staff. This allowed the Ward Sister to roster an additional Staff Nurse on the twilight shift on those days when a post-operative EVAR patient was expected.

The outcomes of this new care pathway are being audited prospectively. Data for 34 consecutive patients is available. There were 3 planned and no unplanned admissions to HDU. Doctors were called for reasons of fever, epidural haematoma, bleeding from the groin wounds, hyponatraemia, low urine output, hypotension, urinary retention and exacerbation of COPD. The mean length of stay was 3 days.

Unexpectedly, due to increasing pressure to admit patients on the day of surgery, there were some delayed starts due to a lack of a Vascular Ward bed. We also found that the ICP was unpopular with the junior doctors who preferred to write traditional medical notes. We are therefore considering replacing it with a guideline.

Overall, we have found this to be a very positive change. There have been no adverse outcomes. We have reduced our use of HDU beds and our length of stay. The ward nurses feel more engaged and the patients certainly seem satisfied.

RESOURCES

Norfolk and Norwich Integrated Pathway:

<http://www.aaqip.com/aaqip/rap-east-outcome-documents.html>

7. Criteria Led Discharge

Implementing Criteria Led Discharge for EVAR. Huddersfield Royal Infirmary

Ms Melanie Addy; General Manager and Dr Jeremy Pinnell; Consultant Vascular Anaesthetist

Huddersfield Royal Infirmary utilized plan, do, study, act (PDSA) methodology to develop a criteria led discharge pathway for EVAR. Generic trust documentation was used as a basis to develop the pathway. Following this, the pathway was piloted on one patient. It was then analysed and the required changes were made. The pathway was then re-implemented on a further 10 patients, evaluated, amendments made and the final version agreed as the standard protocol for all planned EVAR patients. Huddersfield found that patients were discharged earlier in the day. As well as this, patient experience has improved, the discharge process is slicker and patients are not required to wait for a doctor for prescriptions.

RESOURCES

Huddersfield Criteria Led Discharge Proforma for EVAR Patients:

<http://www.aaqip.com/aaqip/rap-yorkshire-outcome-documents.html>

Carer Commentary: My Partner's Discharge from Hospital.

Carer of Ruptured AAA patient

After his eventual discharge we had some first class support from the community-based physiotherapy team, who got us useful aids and visited regularly for the first few weeks to institute and encourage a regime of exercise. This we continued to follow for some time after they concluded the service – John felt they left too quickly.

John's sons have been an important factor in his quality of life - and mine. They have been supportive and take on physical tasks that John feels he can no longer do. Without carers and family, I think that patients like John would have a very poor quality of life.

We get good (but infrequent) support from John's GP, but the visits to them do little for John's well-being as they simply seem to regard him as a walking miracle and say no more! I don't know why there is so little useful communication when we wait so long to see them - it could be a lot better I feel.

What would improve John's quality of life now, in the longer term, would be more professional advice, and more frequent checks. A scan every three months rather than every six would go a long way in reassuring John about his health. He has deep anxiety over the graft leaking, and this is compounded by the abdominal discomfort he tends to experience.

8. Telephone Follow Up

Patient Case Studies following Telephone Follow Up Medway Maritime Hospital

Ms Mary Miles and Ms Helen Stannett; Vascular Nurse Specialists

Patients:

- 12 EVAR/ 12 OR
- 5 Ruptures (4 OPEN/1 EVAR)
- Age range: 49 – 80 years
- Gender: 24 males, 5 females
- LOS: 48 hrs – 3 weeks
- Timing of call: on average 72 hrs post discharge
- Time taken per telephone call: 5 – 20 minutes
- Often need more than one call

Case Study A

Mr N, aged 64 had a routine open repair of his aortic aneurysm. He was deemed green (safe) on the AAAQIP safety checklist. He made a slow post operative recovery, complicated by underlying renal disease, which had been optimised pre-operatively, involving his renal Consultant. Telephone follow-up highlighted extreme anxiety from both Mr & Mrs N regarding his lack of appetite. This created huge tension between husband and wife and we rang twice weekly for almost 5 weeks.

Case Study B

Mr P, aged 68, had an open repair of a ruptured aortic aneurysm and recovered well, he was discharged home after three weeks. Telephone follow-up revealed similar dietary concerns expressed in case study A. In addition, Mr P became de-motivated and had taken to his bed, refusing to get dressed or get up. This also required twice weekly calls, involving many members of the family, for a period of weeks. We also involved the GP and district nurse.

Key Findings:

Although this only provides a snapshot from the patients contacted following AAA surgery, it highlights two main perpetual themes:-

- **Lack of appetite/dietary concerns**
- **Lack of motivation and depressed mood/low spirits**

Patients' lack of appetite causes tremendous stress on their wives. It is not only the patients, but their partners who often need reassurance and contact to help resolve issues, or just to listen.

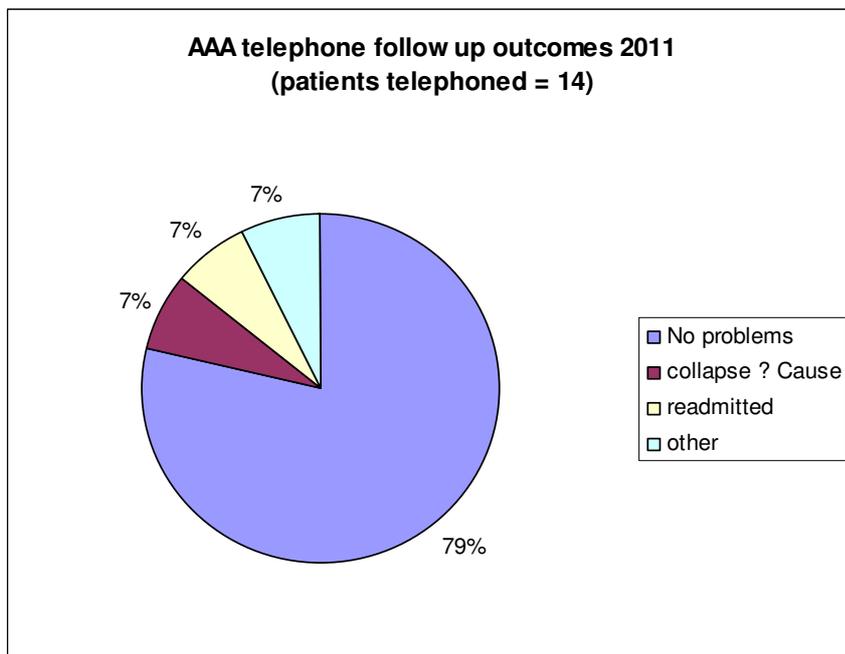
All patients undergoing vascular surgery are given our contact number prior to being discharged, however, on contacting them; they tended to say, "We didn't like to bother you".

Changes in Clinical Practice:

The telephone follow-up trial was found to enhance patient experience and was not only user friendly for the vascular team, but enabled the continuity of care. Following this, there are plans to formalise this as part of the patient pathway, integrating it into Vascular Nurse job plans. Nutritional needs will also be highlighted pre-operatively as well as a dietary advice sheet upon discharge.

Outcomes from Telephone Follow Up North Bristol NHS Trust

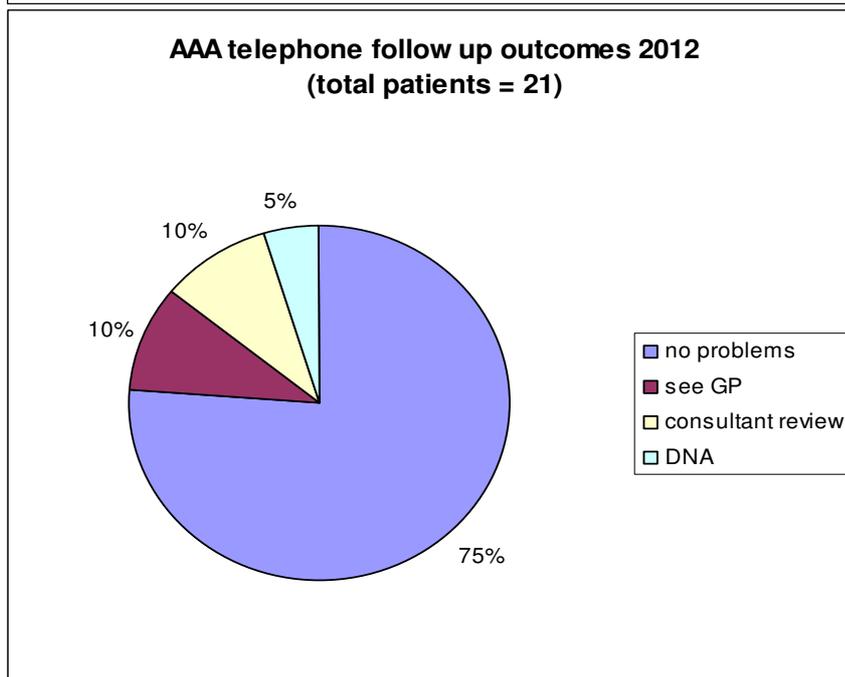
Ms Kate Humphries; Vascular Nurse Specialist



Background: Began in September 2011 with 35 patients called to date.

Procedure: I see patients on the ward post op. When they are near to discharge, I arrange a telephone follow up appointment with them and give them my contact details in case they have any concerns.

Findings: Patients find it reassuring that they had a point of contact. They generally take on a lot of information pre-op and are well supported but feel almost deserted after leaving hospital.



Key Patient and Carer

Concerns: Bowels – when does normal habit return etc, tiredness, diet, wound care. From this I am able to answer questions, provide reassurance or refer to GP.

Valid Process? The feedback has been positive; I feel this work should be included in my job plan.

Currently, patients have a check CT scan after 6 weeks, and are seen in outpatients following this. More research is needed as to whether

patients need to come back to clinic or if a telephone follow up would be enough.

RECOMMENDATIONS FOR TELEPHONE FOLLOW UP

1. Ensure patients are aware that they will receive a call. Arrange an appropriate date and time.
2. Provide patients with a contact number upon discharge for any concerns.
3. Talk to patients as well as relatives where appropriate.
4. The phone call should provide reassurance if all is going to plan. It can also be used to gather feedback on patient experience to improve service delivery.

9. Patient Reported Outcome Measures (PROMs) Pilot study using PROMs for Patients undergoing AAA Surgery.

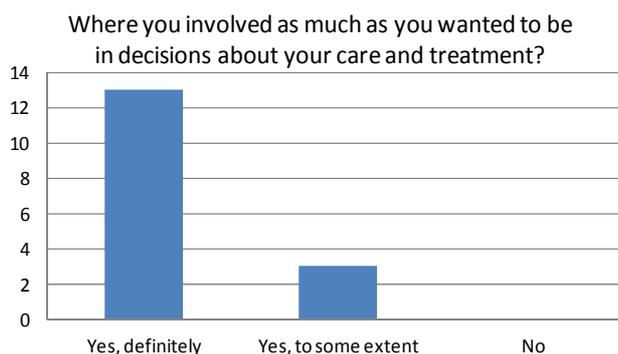
Frimley Park Hospital

Mr Patrick Chong, Consultant Vascular Surgeon

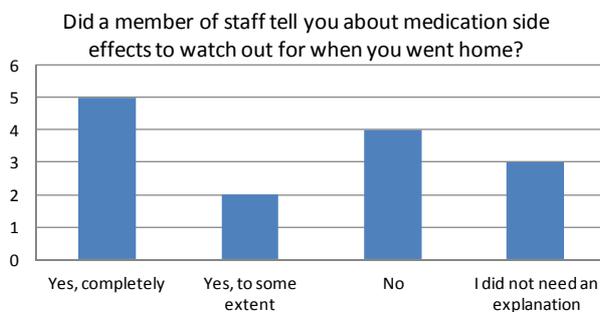
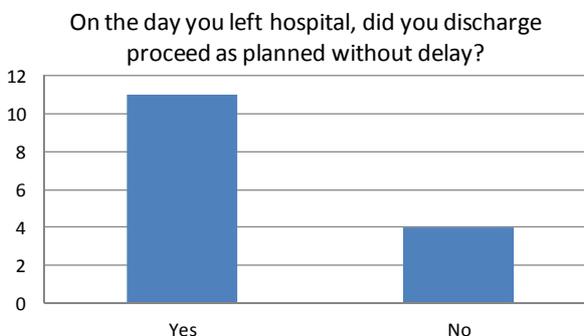
One of the quality improvement interventions at Frimley Park Hospital was to integrate measurement of the quality of care from a patient’s perspective. As a disease specific AAA PROM has yet to be developed, the generic Picker Inpatient Survey was used to assess the quality of care over 9 domains.

Key findings:

Pre-operative Care



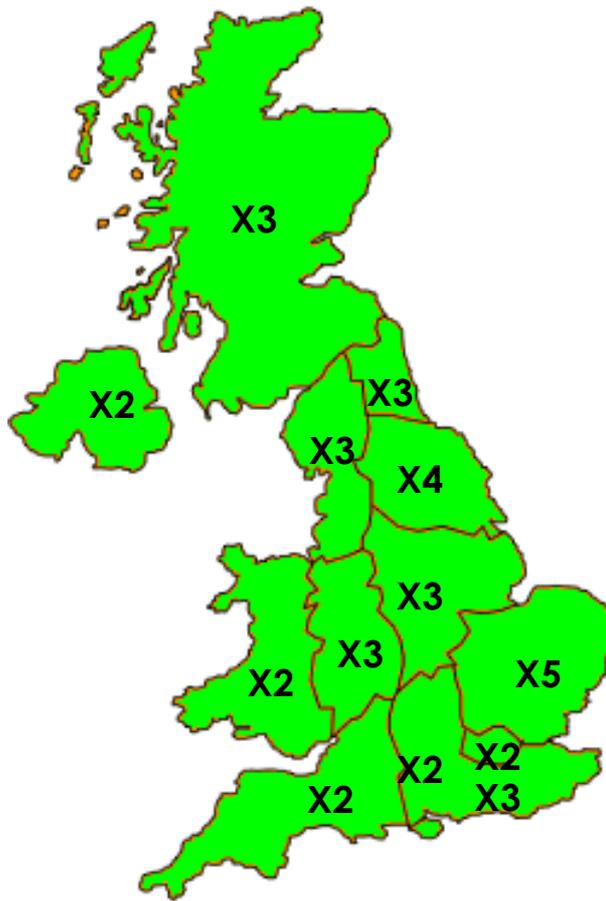
Discharge



Overall, patients reported the care they received to be excellent with particular praise for pre-operative care. Patients felt they were involved in the decision for treatment and both patients and relatives had the opportunity to talk to a doctor or nurse. However, areas for improvement were identified in post operative care. Delayed discharges occurred in 25% of cases with patients reporting that they were not fully informed about medication side effects and what to look out for when they got home.

Frimley Park reported this to be a really valuable exercise, identifying areas for improvement. They are continuing with a prospective study and plan to implement disease specific AAA PROMS once developed.

Regional Implementation



We visited all regions of the U.K during implementation of the QI programme. We aimed to hold at least 3 meetings per region, but this varied, due to the level of local support in the region. Involvement of cardiac and stroke networks helped to establish the QIP more firmly, and we tried to involve them and local (national in devolved nations) commissioners to support our programme locally.

The Role of Key Stakeholders

The Vascular Society of Great Britain and Ireland, Vascular Anaesthesia Society, British Society of Interventional Radiology and the Society of Vascular Nurses were vital to ensure attendance from all clinical disciplines and to disseminate information. Local Cardiac and Stroke Networks and Commissioners were invited to attend, to provide a wider perspective on regional standards and resources and how QI initiatives fitted in with local reconfiguration. In some regions, the Networks then agreed to run follow-up meetings and link local QI work to their service improvement initiatives in order to spread and sustain changes.

Patients were involved in the projects at all stages to ensure the service met the needs from patients' perspectives. The patient voice was particularly important during regional meetings and influenced attitudes within clinical teams. Not only was patient input useful in establishing service requirements from a clinician point of view, but new ideas and suggestions were also introduced by patients and through patient stories (e.g. telephone follow up, practical and AAA specific recovery information) during the delivery phase of the QIP.

“Most surgeons do provide the best possible care to their patients. Given this bias, I was unsure how the AAA QIP initiative would be received by my vascular colleagues. However, the first meeting was received with guarded enthusiasm. The subsequent meetings were well received and ideas/ models of care came pouring in. Contact with clinicians from other centres gave us insight into different pathways of care and ideas that we could incorporate in our own department to improve outcomes and patient care. Inviting and ensuring that all the teams in the region engage in the process was one of the most challenging steps. Having attended the first meeting, all the provider units were well represented with little persuasion. This is testimony to the fact that the meetings/agenda of the meeting has been of a very high quality. I hope that the meetings continue with the same level of enthusiasm and I have no doubt that the quality of care for AAA will continue to improve.”

Nandan Haldipur; Consultant Vascular Surgeon, Doncaster Royal Infirmary.

Patient Story: Taking Part in an AAAQIP Meeting

Mr Charles Victor Prior; AAA Patient

I was first diagnosed whilst having a very thorough scan for the vascular disease in my legs. My first impression was a bit shocking, not fully understanding the situation it had put me in. It was then explained exactly what the implications were which helped me to understand it better. My involvement with the AAA came from working with the ‘Vascular Patients Group’.

The meeting I thought was very informative, by attending the meeting you found out the amount of people and their skills that were involved in making sure that patients received the best care that could be given. I discovered things like ‘being in the checking system’ that would automatically continue. I found the meeting very useful in that meeting a cross range of people, hearing their views and putting their thoughts and points forward.

I think the surgeons and consultants really did listen to the patients’ views. I think they seemed to like the view of looking from the outside in at the meeting as opposed to inside out. I would certainly recommend that any patients that had the opportunity to attend a meeting and to put forward their own point of view and to air their views, would probably give some input to help the AAA in the future.

As you can see, a lot of positive comments and thoughts were shared. I think just one negative, some of the speakers had a tendency to use their own in-house words which I found sometimes difficult to follow.

QI LEARNING

Regional Implementation: IHI Breakthrough Series Model.

Originally the AAAQIP planned to implement and measure changes nationally through the Vascular Society. However, there were practical difficulties with this approach such as clinician engagement and ownership. It became clear that the QIP would need to work at the local level to secure clinician engagement to implement QI changes. This required adoption of a regional implementation plan.

We recognised that this would place a greater onus on regional leads to drive engagement and sustain momentum. This proved to be the most significant change to the programme and is one of the key factors in the success of this programme. Regional variation in clinical resources, Cardiac and Stroke Network input, roll out of the National AAA Screening Programme and service reconfiguration was evident from the outset. A regional approach allowed us to adapt the programme to meet the needs of participating regions and units. We believe that this increased ownership of quality improvement locally by making it more relevant.

Implementation Of The Pre-Operative Care Pathway In The North East

North of England Cardiovascular Network: Audit Report

Mr Tim Lees; Consultant Vascular Surgeon and Ms Vicci McGurk; Service Improvement Manger



Background

A regional event involving stakeholders from all the Trusts performing vascular surgery in the region was held in July 2010 to introduce best practice AAA protocols. This led to the development of a regional care pathway for patients undergoing elective treatment for AAA.

There are 4 documents associated with this pathway:

1. Patient information sheets (treatment and patients under surveillance).
2. Care pathway guidance detailing the various steps of the pathway including anaesthetic assessment protocols.
3. Care pathway proforma designed to be included in the patient record to detail outcomes of investigation and MDT decision making.

On a number of occasions during a pilot phase, the AAA care pathway documentation was reviewed by the clinicians that utilised the tool in practice. Suggested changes have resulted in the revision of information ensuring the documentation is appropriate and practical, culminating in a final version being introduced in August 2011.

The final care pathway was in place for approximately 6 months when an Audit was undertaken (March 2012) to assess the use of the AAA pathway documents and identify areas for improvement. A snapshot or results from the audit is detailed below.

Scope

The audit involved the 5 Vascular Centres in the North of England Cardiovascular Network. North Cumbria (Carlisle) is currently outside the remit of the NECVN but they have been involved in the development of the AAA documentation.

Trust	Hospital
1. Newcastle Upon Tyne Hospitals NHS Foundation Trust (NUTH)	Freeman Hospital
2. Gateshead Health NHS Foundation Trust	Queen Elizabeth Hospital
3. City Hospitals Sunderland NHS Foundation Trust	Sunderland Royal Hospital
4. County Durham and Darlington Foundation Trust (CDDFT)	University Hospital of North Durham
5. South Tees Hospitals NHS Foundation Trust	James Cook University Hospital

Snapshot of Result from the Audit: AAA Proforma

Are the AAA Patient Care Pathway Proformas being completed for all AAA patients?			
	Yes	No	Don't Know
Proforma 1 - Pre-operative Safe for Intervention Checklist	8 (53.3%)	5 (33.3%)	2 (13.3%)
Proforma 2 - MDT Care Pathway for Elective AAA Intervention	12 (80.0%)	2 (13.3%)	1 (6.7%)
If you have answered No to any of the above, please indicate why:			
The safe for intervention sheet requires more input. Usually the Junior Doctors not completing.			
Do you think the proformas have:			
	Yes	No	Unsure
Improved patient outcomes?	5 (33.3%)	8 (53.3%)	2 (13.3%)
Enabled consistent practice?	10 (66.7%)	4 (26.7%)	1 (6.7%)
Assisted clinical decision making?	9 (60.0%)	5 (33.3%)	1 (6.7%)
Benefited patients?	9 (60.0%)	4 (26.7%)	2 (13.3%)
Benefited staff?	11 (73.3%)	3 (20.0%)	1 (6.7%)
Supported audit?	11 (73.3%)	3 (21.4%)	1 (7.1%)

Summary of Findings

- Overall the response rate was excellent. Total completed survey was 15 (75%). 100% of Surgeons responded, 80% nurses, and 60% Anaesthetists and Radiologists.
- Every Vascular centre in the Network holds an MDT meeting however their frequency varied. 2 centres held a weekly MDT, 1 fortnightly with an interim Angio MDT and 2 were held on a monthly basis.
- The majority indicated that the Proformas were being completed for all AAA patients - Proforma 1 - Pre-operative Safe for Intervention Checklist (53.3%) and Proforma 2 - MDT Care Pathway for Elective AAA Intervention (80.0%).
- Overall the responses showed that staff thought the proformas have had a positive impact on enabling consistent practice (66.7%), assisting clinical decision making (60.0%), benefited patients (60.0%) benefited staff (73.3%) and supported audit (73.3%) However a slight majority felt that the proformas had not improved patient outcomes (53.3%) The comments provided indicated that it is perhaps too early to evaluate adequately.
- The majority (73.3%) stated that written AAA information leaflets were given to patients.
- Improvements to patient case notes filing, anaesthetic input at MDT and simplification of the proformas suggested.

Recommendations

- Old versions of proformas should be removed from stock to avoid confusion.
- Consider filing proformas within the surgical clinical section of the patient case notes to allow ease of handling.
- An MDT Co-ordinator should be considered for all MDT meetings in order to ensure the meeting runs smoothly, adequate information is available for each patient and decisions are appropriately recorded.
- Anaesthetist input into the MDT is essential.

Conclusion

Overall the findings of the audit are very positive, reporting that the introduction of the AAA QIP pre-operative care bundle has been successfully embedded into practice.

Measurements

1. 4 out of 5 Trusts across the Network have successfully implemented the QIP AAA proformas into practice. Sunderland are planning to adopt shortly following slight modification locally.
2. The introduction of the proformas has proved difficult in some centres due to adding additional protocols to existing working practices and as well as extra paperwork for patient case notes. Only 41% (19 out of 46) completed Proforma 1 – Elective Abdominal Aortic Aneurysm – Pre-operative Safe for Intervention Checklist and 52% (24 out of 46) completed Proforma 2 – MDT Care Pathway for Elective AAA Intervention. It was uncommon however for the proformas to be completed in full; post MDT discussion with patient is rarely documented therefore it is difficult to assess whether or not written patient information is provided to patients.

Next Steps

- Re-audit in 1 year – January 2013.
- Develop a post-operative care pathway proforma once the pre-operative pathway is fully established in practice - August 2012.

Improvement Case Study: AAAQIP in the East of England 2011-2012

Mr Kevin Varty; East of England AAAQIP Regional Lead.

Introduction

The AAAQIP initiative in the East of England started with a well attended regional meeting in January 2011. Background information on data (HES/NVD) and care pathways developed in other regions (North East) were available as a guide to introduce the QIP principles. Historically the surgeons in the region have held meetings twice a year to discuss regional issues, both clinical and training. This provided a basis of good interaction between units on which to develop the AAA QIP process. The involvement of radiologists and anaesthetists was however a new, but welcome, challenge. Patient representatives attended the first meeting and contributed to discussions on information, patients understanding of “risk”, and PROMS. Motivating units to change established practices was clearly going to be the biggest challenge. The key “levers” available to assist in this process were;

1. The evidence base supporting the need to improve AAA mortality in the UK.
2. National Vascular Database, data to compare unit activity and outcomes.
3. National drive for reconfiguration of units based on volume/outcome.

The importance of this AAAQIP initiative for units continuing to provide AAA care was clear. This was the key driver for units to adopt change.

Main Areas of Development

14 months on from the first meeting, certain parts of the “care bundle” pathway have featured more than others and been developed further as a result.

1. Risk Scoring.
2. MDT meeting, recorded outcomes, anaesthetic input
3. NVD and HES data, how to improve coding and data entry.
4. Patient information and PROMS.

Many units “piloted” use of the above after the first meeting. A feedback meeting followed this in July 2011. Addenbrookes and Bedford described their versions of Risk scoring and MDT proformas. Although extra work was involved using these they proved to be clinically useful.

A mini-case summary of the AAA, readily to hand rather than needing to refer to the medical notes. Anaesthetic input varied widely, but was accepted by all as important for high risk cases, especially for open AAA repair. Norwich developed a post operative care bundle for EVAR with early return to the vascular ward and discharge. Harlow and Chelmsford reported on patient information and PROMS. Very positive experience largely driven by the Vascular Specialist Nurse. It became clear that the specialist nurse was a key player in much of the AAA QIP process, an essential team member in the Vascular Unit. Lastly, Ipswich reported an audit of turn down rates pre the introduction of EVAR. Rates were higher than expected. There was agreement that all cases should be recorded at MDT meetings including those turned down. Units should know their “turn down rate”.

In order to avoid an over prescriptive approach to introducing “care bundles” we adopted a set of regional standards agreed by all units. Standards were set for pre, intra and post operative care. Overall unit standards were included also. In adopting these standards units had a degree of freedom in the protocols and practices they each used.

At the final QIP meeting each unit reported on how they were progressing against the standards. There was much variation, and all units had areas in need of development. At this stage, the issue of service reconfiguration came to the fore. Uncertainty about which units were to continue with AAA care in the region was going to influence who developed their AAA QIP standards further. Currently the outcome of a regional review is awaited. The core vascular units emerging from this will need to look at the AAAQIP standards, and implement their protocols to achieve them.

Coding

One further meeting took place. A special event was dedicated to coders, in order to explore how NVD and HES data is brought together. Again a well attended meeting took place, active discussion. Coding is a precise and lengthy process, in order to standardise what is recorded. Coders frequently need clinical help. The overwhelming message from the meeting was that clinicians and coders need to meet and interact, in order to ensure AAA HES data concurs with NVD recording.

Reflection

AAAQIP was timely, the political / service backdrop focussed minds on the task. Despite this, real change was slow. Over a year progress towards fully implemented care pathways was underway, but no unit had completed the process. Data was better, mortality was down. Ensuring the AAA QIP process continues is the next challenge once regional reconfiguration is agreed. The standards provide one way of encouraging this, with new units / networks challenged to meet the standards. A regional review to look at this will be a useful way of taking things forward.

Improvement Case Study: Implementation of the AAAQIP into Vascular Networks

AAAQIP in the West Midlands

Mr Mark Gannon; West Midlands AAAQIP Regional Lead.

There was a time not too long ago when there were seventeen hospitals providing Vascular Surgical Services in the West Midlands. Initially, some neighbouring hospitals began local programmes of reconfiguration of service born out of practical necessity or organisational opportunity. In 2009, the compelling need to look at service provision and the drivers which highlighted this need were being brought into stark relief. The aim was to look at a Network Reconfiguration based on the need to improve outcomes, to comply with the requirements of the Abdominal Aortic Aneurysm Screening Programme, recommendations for early carotid surgery, and to prepare for the skills and training requirements of a newly developing surgical specialty.

The blueprint for reconfiguration supported by the clinicians was a seven network model providing for the six million people living in the West Midlands. The hub and spoke arrangements were agreed by the local clinicians in all but one network where a bidding process was needed and advice sought in making the decisions.

It was against this background that the AAAQIP came to visit the West Midlands. This was the penultimate region in the country to host a visit and all the West Midland networks sent teams to the Programme Meeting. The whole spectrum of involved clinicians included surgeons, radiologists, anaesthetist, nurse specialists, theatre and ward nurses, pre-assessment staff, vascular laboratory scientists, physiotherapists as well as managers. Commissioners and Cardiac and Stroke Network staff attended and contributed. The AAAQIP Team were very well rehearsed and brought with them the outputs and the fruits of their work in the eleven previous meetings. The Team were very well equipped to facilitate the different network groups as they negotiated their way through the discussions on the stages of the patient journey.

The seven networks attending the meeting were at very varied stages of development with some mature networks ready for rejuvenation and refreshment, and the newly formed networks keen to take advantage of all the previous experience available to them to select and learn in order to set themselves up with the most contemporary and refined systems and processes. The QIP Team's experience was invaluable and adapted flexibly to all the different needs of the networks. The Service Improvement approach helped to keep the focus of the groups and the interchange between and within teams was very constructive.

Every network agreed to undertake Service Improvement projects; these included a plan to develop referral pathways and the MDT process, a project to develop a database for managing the clinical investigational and radiological bundle of assessments which feed into the MDT, and an audit of diagnosis to treatment times. Intra-operative care was studied in an audit of the provision of trained personnel, equipment and availability out of hours. The factors impacting on length of stay and the patient expectations and the management of the ward to community pathway was investigated to improve awareness of this phase of recovery. The global assessment of patient experience was captured in one study, and a series of interventions which aim to improve that experience saw the use of information audited, the provision of telephone follow up explored and a DVD of the patient's journey. Finally, a tool was developed to assess outcomes of EVAR which go beyond simply looking at survival, to unpick some of the complexities of the endovascular approach. Reporting back on all of these interventions in June 12 facilitated by the National QIP Team formed the next stage in the evolution of improved Vascular Services in the West Midlands.

Improvement Case Study: The Role of Commissioners and Cardiac and Stroke Networks

NHS Midlands and East SHA: Working with AAAQIP

Ms Sally Standley; Director

In January 2010, the former East of England Strategic Health Authority's commissioning team were asked for comment on the robustness of local commissioning arrangements, to support local roll out of the National AAA Screening Programme. In order to ensure that this commentary was well informed, the SHA asked to attend a meeting arranged by the AAAQIP team. This meeting was exploring with vascular clinicians across the region, ways in which the quality and outcomes of elective vascular work could be improved. The SHA also asked to bring representatives of the three Cardiac and Stroke Networks, as they had the potential to support provider organisations in improving quality, having experience of making step change improvements in cardiac and stroke care.

The meeting, facilitated by the AAAQIP team, identified a number of key underlying issues that needed consideration:

- i) **The variation in practice across the region.** The AAAQIP team presented data which demonstrated the wide variation in outcomes, including 30 day mortality. They facilitated a programme of work from the meeting which engaged clinicians from every provider, between them, leading the work up of issues to bring back to the next meeting e.g.: exploring best practice; drafting regional protocols/ pathways etc...
- ii) **Issues with data quality and completeness.** The AAAQIP team also presented data which revealed significant and widespread discrepancies between HES data and the VSGBI datasets. Data needed to be made more robust as a key part of improving clinical practice, and informing sound decision making about service delivery. The Cardiac and Stroke Networks had recent experience of improving data quality and completeness in both cardiac and stroke services, and their supporting approach of route cause analysis was identified as being appropriate to support vascular providers. The SHA agreed to make this a priority for the Cardiac and Stroke Networks for 2011/12; adjusting their annual Accountability Agreement work plan to release capacity for their involvement at a local level.
- iii) **The 'elephant in the room' i.e.** the number of providers that were going to be unable to meet the minimum activity levels set out in the emerging VSGBI 2011 recommendations for maximising clinical outcomes. The AAAQIP team facilitated discussion of the issues associated with volume and outcomes, and the realisation that several East of England providers would not meet best practice thresholds for volume of activity. The SHA agreed to address this issue by exploring the options of how 100% of the region's population could access providers who did comply with the threshold criteria.

The meeting was the catalyst for all three areas of being taken forward concurrently. The AAAQIP team arranged and facilitated further meetings, to support the pace of work on the first two work streams, and through their auspices were able to maximise clinical engagement in leading the work.

Work on all three areas progressed, with AAAQIP gradually withdrawing its level of involvement, and passing this onto local ownership, supported by the Cardiac and Stroke Networks. Each network identified a vascular lead clinician and lead manager, to help lead and drive the work. The SHA facilitated cross network working to ensure consistency and support collaborative working.

The independence and neutrality of the AAAQIP team enabled the work to be embarked on with a clear sense that it was a level playing field. The team's style supported local ownership and engagement in addressing the issues.

As a result of the initial work of the AAAQIP team, substantial progress has been made on all three emerging areas of work. The AAAQIP team identified the 'case for change', and was able to engage all clinicians in exploring and taking ownership of the issues. The team facilitated a 'can do' approach to tackling the underlying issues. The willingness to engage other organisations, i.e. the SHA and the Cardiac and Stroke Networks, enabled additional supporting capacity to be brought to the work; and sustainable arrangements to be put in place to continue the work through to completion.

The AAAQIP team has enabled the NHS across the region to improve elective vascular services at both an operational and strategic level, working concurrently with and through provider and commissioning organisations. Data quality and completeness has improved; regional guidelines and pathways have been developed and adopted; and the regional review of elective vascular surgery is about to embark on formal public consultation about the emerging proposals.

In summary, the AAAQIP team's involvement was instrumental in identifying the need for change; initiating the forum for discussion; maximising clinical engagement; and facilitating an open and collaborative approach to addressing the necessary issues. It was a model of good practice bringing benefit to clinical care across the region.

7 RECORDING OUTCOME DATA

Data collection and measurement is essential to provide a robust and reliable account of performance. It provides quantitative substance to anecdotal accounts of practice and gives clinicians, managers and patients' information to accurately assess the quality of care provision. It may also be used to provide evidence to drive and support changes to care provision.

The National Vascular Database

The National Vascular Database (NVD) is a voluntary database for vascular clinicians run by the Vascular Society. It was established in 1997 as a tool for clinical governance. It is used to measure outcomes for the core procedures undertaken by vascular surgeons in the UK. The NVD gives clinicians control of the measurements that are used in our national quality improvement programme. With this control comes the responsibility to ensure that data is of high quality.

At the outset of the AAAQIP submission of data was variable across regions and nations of the UK. Contribution rates for AAA were at 65% nationally at the start of the project. It was clear that data quality would need to improve before the VSGBI could reliably report on patient outcomes.

Method: Increasing Data Contribution onto the NVD.

To determine the number of AAA procedures being undertaken in the UK national statistics data was accessed from the following sources; England – Hospital Episode Statistics (HES), Wales – Patient Episode Database for Wales (PEDW), Scotland – Scottish Morbidity Record (SMR01), and Northern Ireland – Department of Finance and Personnel Northern Ireland (DFPNI). This data became a benchmark for comparing NVD data contribution nationally.

We initiated a process of mailing out quarterly data from both HES (or equivalent) and NVD for AAA. The data were provided to clinicians and governance leads at each NHS Trust, with an explanation of how it was derived and advice about seeking help locally to improve data entry.

The AAAQIP sought support from the Vascular Society to set data contribution standards and these were endorsed in late 2010. We used a traffic light system to provide clarity. The numbers of AAA cases on the NVD are compared to those reported by HES (or equivalent) to calculate the percentage contribution rate.

QI LEARNING

Consistent Data Communication Strategy.

We believe that the clear intent to place information in the public domain was an important driver to improving data entry into national clinical audit. Patients can now access unit performance data and use this to inform decisions about where to seek treatment. It is our belief that the quality of the data is related to the communication strategy that the AAAQIP team adopted. It has served to focus not only clinicians on data entry, but also involved other stakeholders such as medical directors and commissioners. Many units who complained that they did not have adequate resources for data collection reported that the provision of data to their information governance teams and medical directors helped them to attract extra organisational resources for clinical audit.

Traffic Light Standards for Data Contribution to the NVD

Quality Standards: Percentage of AAA data entry onto the NVD as compared to HES	Coded Category
≤75%	Red
76-90%	Amber
91-110%	Green
>110%	Amber

Percentage contribution rates >110% were classed as amber as these indicate a strong likelihood of coding errors. Units were all encouraged to set up meetings with their coding departments to improve resolution of data discrepancies. These data entry standards were integrated into the quarterly AAAQIP reports from January 2011 and Trusts were encouraged to improve their contribution rates accordingly.

Patient Preferences for Collecting Outcome Data

Patient focus groups had strong views about outcome data. They unanimously expressed concern that data entry into national clinical audit was voluntary and felt that it should be compulsory for units to describe their clinical outcomes. There was a strong view that this would limit “maverick” behaviour by surgeons.

They were surprised that the standard of care and outcomes varied between units. There was a tension between accepting unit outcome data and a desire for individual surgeon data. When further discussion was held, the patient groups were strongly in favour of formal assessment and supportive of team based decision making.

Patient Comment.

Mr Peter Traves; AAA patient

I feel it is very important for patients and their families to have all the information they can get - death rates, the surgeons experience of treating AAA's and also how the quality of care is rated in the hospitals where they carry out the surgery. I needed this information so I could then make a decision on who does my operation and where I would like to be looked after.

The AAAQIP aims to standardise the pathway of care so that all patients are treated in the same way, wherever they present to the NHS. We believe that getting clinicians to work together in teams is the best way to achieve this.

Changes in AAA Data Contribution onto the NVD

The chart below shows the contribution rates of data onto the NVD compared to HES data at the start of this project (Figure 7.1). Figure 7.2 then shows the improvements in data submission as a result of the project data strategy and focus on AAA service improvement.

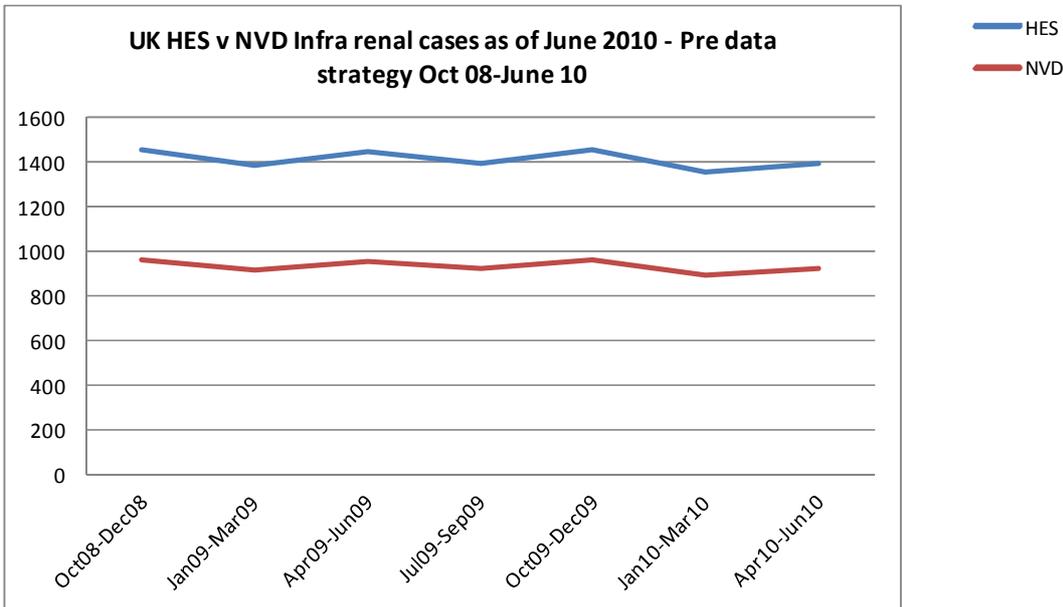


Figure 7.1 - UK Infra renal AAA cases as record via NVD and HES from Oct08-Jun10

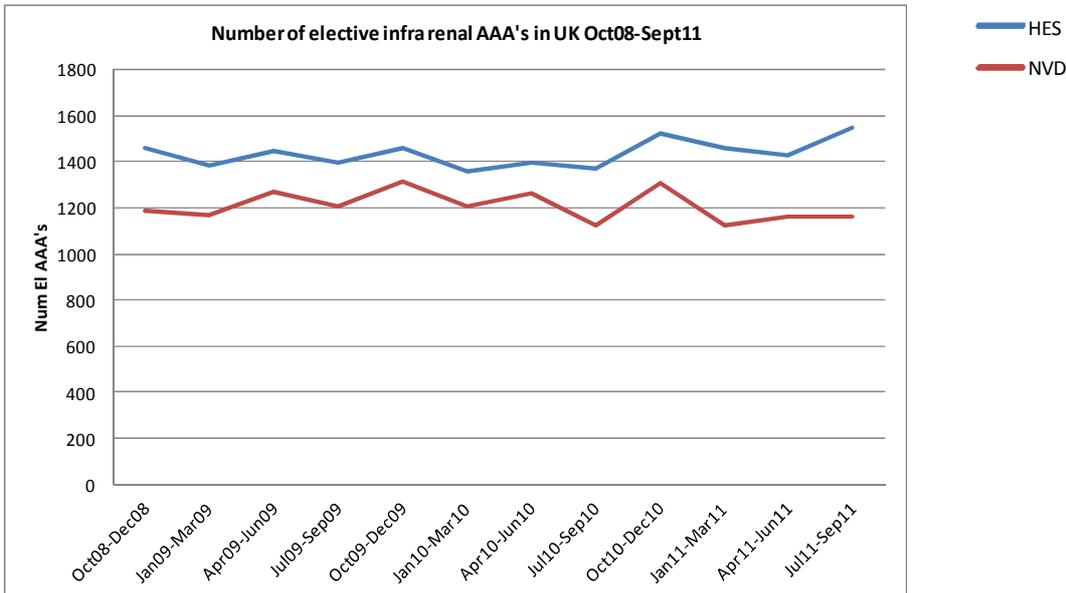


Figure 7.2 – UK Infra renal AAA cases as record via NVD and HES from Oct08-Sept 11

Average percentage contribution for NVD data in Figure 7.1 were 66% and this has improved to 84% for UK Infra Renal AAA data entry. This is clearly a significant increase in NVD data entry and this has been achieved by the following key steps;

- Quarterly feedback to all units
- Getting units to undertake data validation exercises
- Encouraging units to implement regular coding reviews
- Encouraging real time data entry, ideally at the end of the operation
- Identifying an individual who is responsible for reviewing data on a regular basis

- Encouraging units to document when data is entered onto the NVD
- Providing central support for data entry, resolution of problems and data validation

The central team was consistent in providing a clear message about the need for accurate data entry. There was a robust strategy to drive improvement coupled with a clear intent to place outcome data in the public domain. This had the effect of improving data quality over about a year. Temporary loss of HES data resulted in some reduction in data contribution rates in large parts of the UK. This leads us to believe that regular information feedback to contributing units is a key driver for maintaining standards. This is of interest as units can obtain both NVD data and HES data from within their Trusts. It would appear that providing this directly, rather than a facility to download it, is a key part of quality improvement in this project.

The NVD was originally set up with the focus of data entry dependent on solely surgeon data entry, but throughout the AAAQIP it has become evident that a team approach to data submission and review is a more successful method of working as responsibility becomes shared, although the surgeons retain overall accountability.

“We have learnt a number of lessons from this dataset analysis. For HES, we as a Trust must ensure that the correct OPCS codes are applied to each aneurysm patient, and data is recorded into the NVD accurately. We now have weekly meetings between Consultants, a senior data manager responsible for the NVD, and our coding staff. Every case going through the unit is checked from discharge summary to final code and NVD input.”

Ian Loftus; Consultant Vascular Surgeon, St George’s Vascular Institute.

Timeliness of Data Entry

Data entry into the NVD is a requirement for reporting outcomes and unit performance. The timeliness of data entry is also important. The closer to the event recorded that data are entered, the lower the likelihood that important data will be missed. The charts below show a reduction in delayed data entry at the same time as an increase in overall case submission. This would suggest a change in the approach by surgeons to data entry.

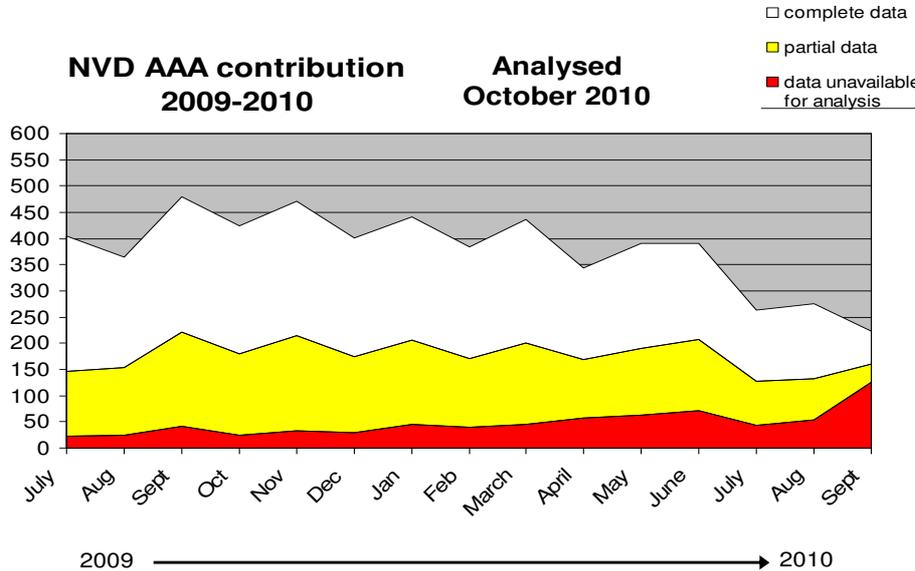


Figure 7.3 – NVD AAA contribution and level of case completeness as of October 2010

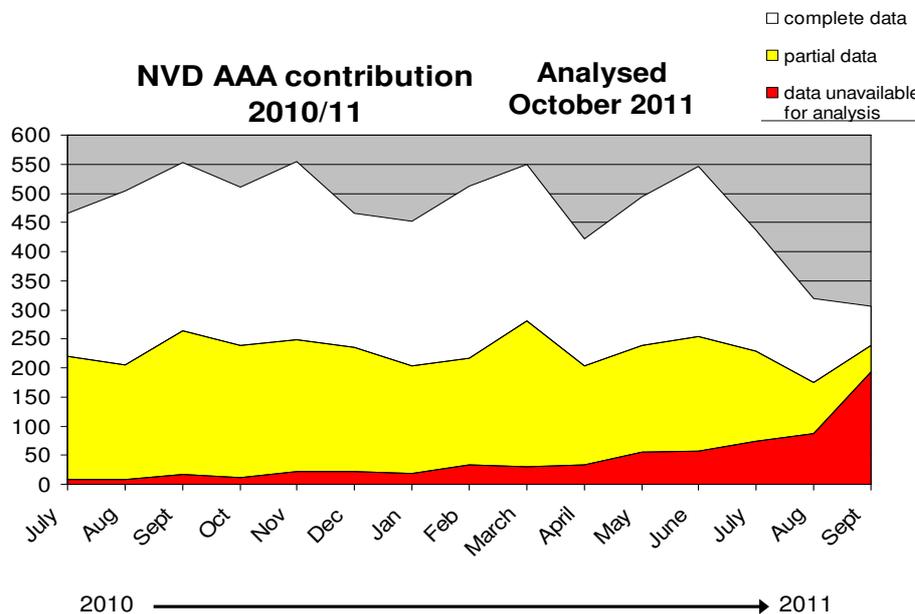


Figure 7.4 – NVD AAA contribution and level of case completeness as of October 2011

The delay in data entry has reduced from approximately 6 months to just less than 4 months, making the dataset more representative of current practice. The proportion of red records in figure 7.4 has increased in the last three months of recorded data compared to figure 7.3. This probably relates to more real time data entry, the records being red (indicating absence of core data) due to entry of discharge information being delayed. This is a clear improvement in data quality with a reduction in the number of cases that are missed. There is also a significant increase in the number of yellow and white cases in figure 7.4 making the data more readily available and more complete, with an increase of an extra 100 cases per month compared to the previous year.

Regional Increases in Data Contribution

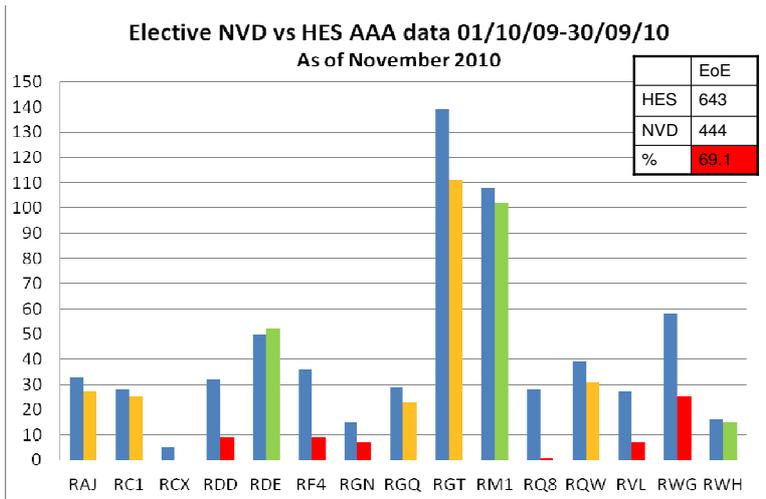


Figure 7.5 – Data contribution as of Nov 2010

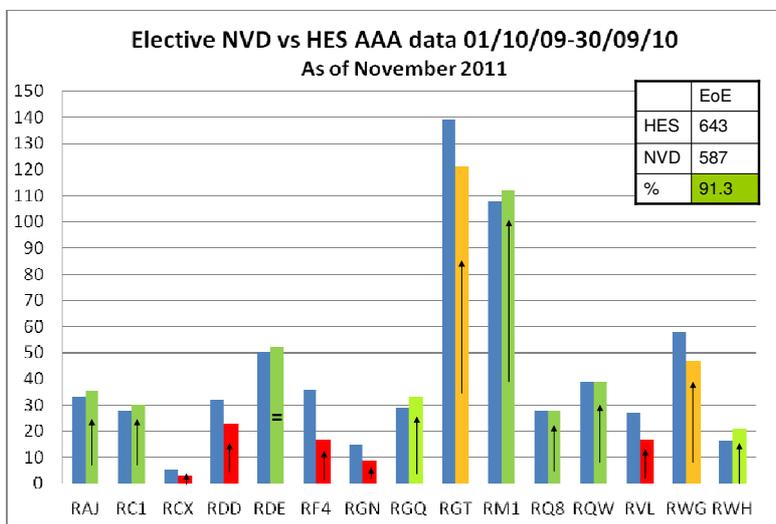


Figure 7.6 – Data contribution as of Nov 2011

The charts above show the data contribution rates for units within the East of England as they were in November 2010 (early in the project) and again in November 2011, following the introduction of data feedback. The blue bars identify the number of AAA procedures as reported through HES data. The red/yellow/green (as per the VSGBI data contribution standards) bars show the number of procedures on the NVD for the same time period. In November 2010, only 3 units out of 15 (20%) can demonstrate good data contribution rates, indicated by the green bars. By November 2011, 8 units out of 15 (53%) demonstrated good data contribution rates. Overall there was improvement in data contribution in 14 of the 15 units. As a region the overall improvements in data entry are clearly evident with previous data entry being reported as poor at 69.1%, compared to HES data. By November 2011 this had improved to 91.2%.

Increase in the Number of Clinicians Signed Up and Participating on the NVD

Since March 2010, there has been an increase of 69% in the number of surgeons registered to the NVD. Consultants who haven't previously submitted data are now participating. This will help to provide more robust and representative AAA outcomes at unit, regional and national levels. The number of

Anaesthetists and Radiologists registered to the NVD has also increased considerably from 10 to 214 and 24 to 200 respectively. We believe that this demonstrates a more collaborative and multidisciplinary team approach to care provision and data recording. There is a more work to be done in order to achieve complete data collection.

AAA Mortality

As part of the AAAQIP, two mortality validation exercises were undertaken and mortality figures were sent to all UK Trusts identifying their NVD mortality for elective AAA procedures compared to that reported by HES over a 2 year period (01/10/2008-30/09/2010). Trusts were encouraged to validate the mortality data provided and to resolve discrepancies where possible. The majority of units reported incorrect coding of HES cases with several units recognising lost revenue streams.

This mortality data was published at unit and regional level on 1st March 2012. The report “Outcomes after elective repair of infra-renal abdominal aortic aneurysm” can be accessed at: <http://www.vascularsociety.org.uk/news-and-press/2012/77-outcomes-after-elective-repair-of-infra-renal-abdominal-aortic-aneurysm.html>

National elective infrarenal AAA mortality data is shown below in table 7.1. The data looks at a 2 year time period from 1st October 2008 to 30th September 2010 based on date of discharge. OPCS codes (as shown below) and elective admission mode were used to ensure that only true elective infrarenal AAA procedures were captured and analysed.

	NVD OPEN (%)	NVD EVAR (%)	NVD OVERALL (%)	Data Contribution (%)
English				
01/10/08-30/09/10	4.4	1.0	2.4	87
Wales				
01/10/08-30/09/10	3.1	0.8	2.1	107
Scotland				
01/10/08-30/09/10	1.9	0.0	1.0	44.2
Northern Ireland				
01/10/08-30/09/10	5.0	0.0	2.4	117
UK				
01/10/08-30/09/10	4.3	0.9	2.4	84

Table 7.1: AAA mortality data as recorded on the NVD and HES (01/10-08-30/09/10)

OPCS codes used to generate this report are:

Open repair - L19.4, L19.5, L19.6, L19.8

EVAR repair - L27.1, L27.5, L27.6, L27.8, L27.9, L28.1, L28.5, L28.6, L28.8, L28.9

The mortality figures were colour coded to map to the standards outlined by the National AAA Screening Programme which categorises mortality into the following ranges; 0-6% Green, 6.1-10% Amber, >10% and above Red.

AAA Mortality Rates Compared to Data Contribution

As can be seen from table 7.1 and figure 7.7, the elective infrarenal AAA mortality rate in the UK has decreased significantly since the mortality rate of 7.5% that was reported in 2008. The overall UK elective infrarenal AAA mortality rate is 2.4%, with Open repair at 4.3% and EVAR at 0.9%. There remains significant variation in data quality.

We believe that continuing to report data contribution and mortality rates is a key component of driving quality improvement. This forms a key part of our sustainability plan.

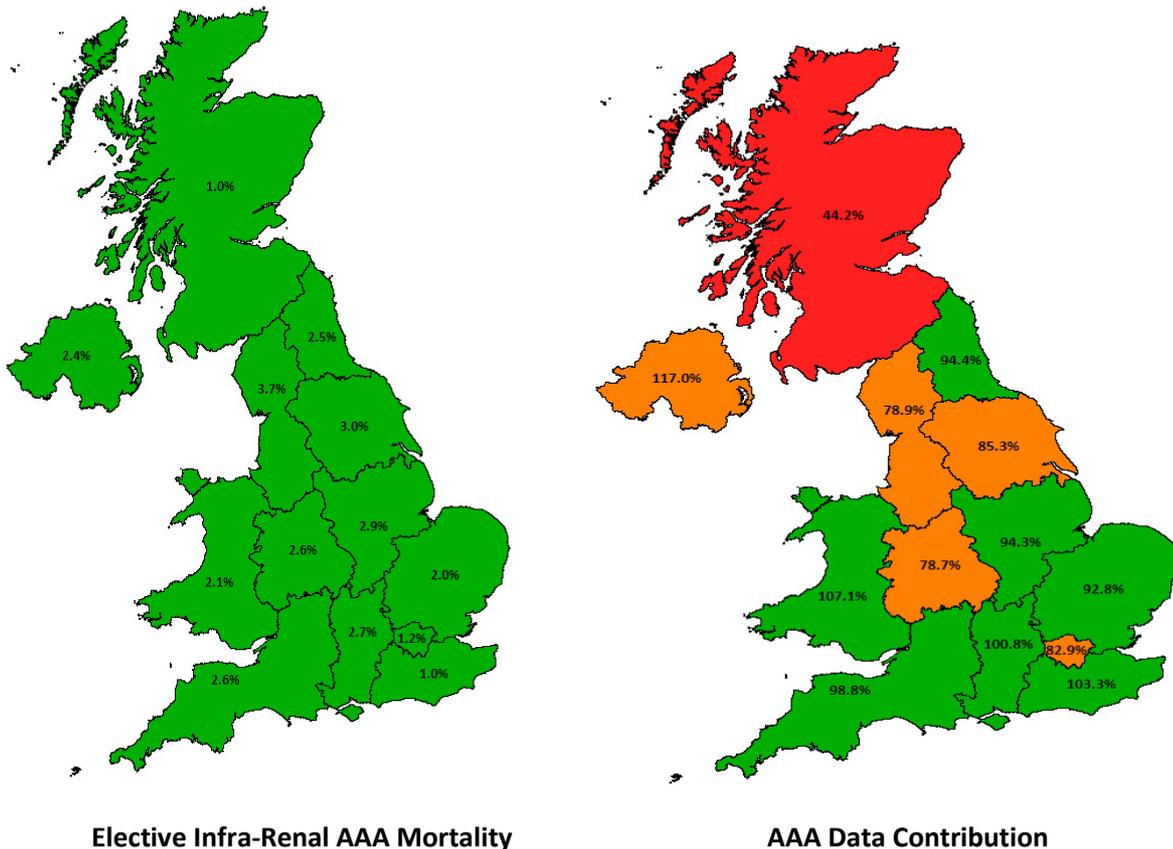


Figure 7.7 - Map of UK showing elective infra-renal AAA mortality by region alongside regional data contribution rates for England and the Celtic Nations 01/10/08-30/09/10.

Data Entry and Validation

The importance of relaying information back to units became clearly evident when access to the HES data feed was blocked due to changes in data sharing agreements by Dr Foster. It took 10 months to reinstate this feed through an alternative supplier NHS Information Centre (NHS IC). During this time frame there was slippage in the rate of data contribution for AAA cases into the NVD. This underlines the importance of providing feedback to units to encourage them to sustain their efforts to submit data. In focus groups throughout the UK, patients expressed the consistent opinion that data entry and reporting of outcomes was essential. They believed that all clinicians should be required to contribute data to national clinical audit. There was marked concern when it was explained that there was variation in compliance with this behaviour throughout the UK.

“Patients are no longer passive but instead are informed, interactive and able to challenge clinical pathways intellectually.”

Paul Bachoo; Consultant Vascular Surgeon, Aberdeen Royal Infirmary.

As a result of this feedback the AAAQIP team now displays summary charts of unit and regional data submission charts on the AAAQIP website for public consumption a quarterly basis. These can be viewed by visiting <http://www.aaqip.com/aaqip/nvd-v-hes-contribution-rates/#tp>. Regular reporting to NHS Trust governance teams encourages them to get involved in supporting data entry in their unit. These teams can often provide support by reviewing the quarterly outputs and then act accordingly by investigating missing cases, arranging coding reviews or circulating positive news if the unit is performing at a high standard. The involvement of governance teams increased in December 2011 a month before the national publication of AAA outcomes occurred. It is pleasing to see that this support has been sustained during 2012. Setting out clear aims and actions to be taken to improve helps to drive quality at a national level. To sustain improvement it requires teams to work effectively at the local level. Many units have appointed a clinician to take responsibility to review performance on a regular basis, often in collaboration with their audit and/or governance departments.

Data Improvement Case Study: How to solve the problem calleddata!

University Hospital of North Staffordshire: Staffordshire South Cheshire Vascular Network

Mr Arun Pherwani; Consultant Vascular Surgeon

The problem with most databases and registries remains the lack of entry of accurate data. The 2012 National Vascular Database report on AAA mortality confirms that surgeon contribution to the NVD remains variable. Of the 125 units data entry reported from October 2008-September 2010, 76 units had average, poor or no data reported, compared to only 49 who had good contribution to the NVD where there was a degree of similarity between HES data and NVD data.

That number is poor and we were one of the offenders. So how does one go about changing this, how to solve the problem around data.

1. Identify the problem.

Most units realise there is a problem with data entry onto the NVD, only some recognise the scale of the problem. It often starts with who is responsible for data entry

The Consultant – the overall responsibility does rest with us but one would argue many do not have the time, the drive, the desire or the commitment to enter every index case onto the NVD. Although contributions have increased incrementally over the years, it is true even now, not all surgeons enter their data onto the NVD.

Data Clerks, Vascular nurses, ANP's etc – perhaps the commonest and the more reliable. The major issues include time available for data capture, cost of employing these individuals, availability, cross cover arrangements when on leave and access to information on patients operated out of hours.

The data is best entered real-time to complete the dataset however, these individuals are rarely present in the operating theatre or have access to a computer in the theatre block.

2. Gather the evidence

Data entry to the NVD is mandatory to centralisation, vascular networks and AAA screening bids. Supporting documents are available on Vascular Society's website (www.vascularsociety.org.uk).

3. Engagement

The drive has to come from the clinicians and the initial steps are to include all clinicians involved in the provision of vascular services – vascular surgeons, radiologists, anaesthetists and nurses.

In our own network, as part of the AAA screening bid and setting up of the network, engagement with management and team working was essential as was convincing senior management that addressing the issue of data entry was as important to forming a vascular network and a successful bid for AAA screening. We bid for monies to employ a full time data coordinator as part of the screening bid to improve to clinical coding and network alliance.

4. The right person – data co-ordinator

It is important to appoint the right person for the job with the right attributes; motivated, interested, have some background medical knowledge and be fairly computer savvy. They also need to be able to encourage consultant and junior staff to help comply with data entry.

We appointed a full-time data clerk in April 2011 and by the end of 2011, had 100% compliance with AAA entry onto the database with complete retrospective data entry to Jan 2010.

5. Make it easy.

The NVD is not an easy database and rather daunting for first-time or occasional users. Some of the fields are onerous, and it is particularly difficult to gain access to information from case notes retrospectively. We devised a simple method to capture data in real-time but enter it subsequently onto the NVD. Ms Helen Hindley kindly emailed printable pdf versions of each data set – for AAA, CEA, IIB and major amputations and we printed each one of these on colour-coded paper – yellow, white, red and blue respectively.

Our data co-ordinator (provided with office space, a desk and computer with the vascular secretaries) places the forms in individual patient notes pre-operatively so they are available to fill in by hand, when they come in for surgery. It is much easier and the compliance rates with form filling sky-rocketed with this method. The forms are filled out in real time by the operating surgeon or deputy, vascular radiologist and vascular anaesthetist and the post-op information and results of investigations are picked up by the data co-ordinator off the hospital Clinical Information System. The post-operative follow-up being standardised, the data co-ordinator has an easier job completing the dataset for each patient.

6. Provide backup and support

The data co-ordinators job is not an easy one and they require to be supported. We have a vascular nurse who still helps one day a week and provides cover for annual leave. The consultant staff support and encourage the data co-ordinator who is required to present quarterly reports on data capture to the vascular governance meeting.

7. Next steps

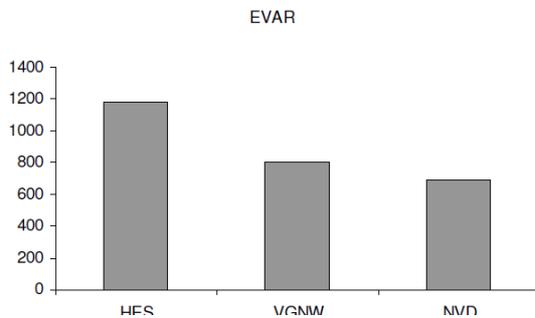
By no means have we completed our task. Our next job is to identify issues with HES data and address deficiencies between HES and NVD data and ensure we keep up the standards we have set for ourselves. In our large network with the most recently appointed 9th and 10th vascular surgeons, 3 further vascular radiology posts to be advertised, we would like to identify and ensure consultant responsible for data and audit.

Data Validation: Process of Improvement

Manchester Royal Infirmary

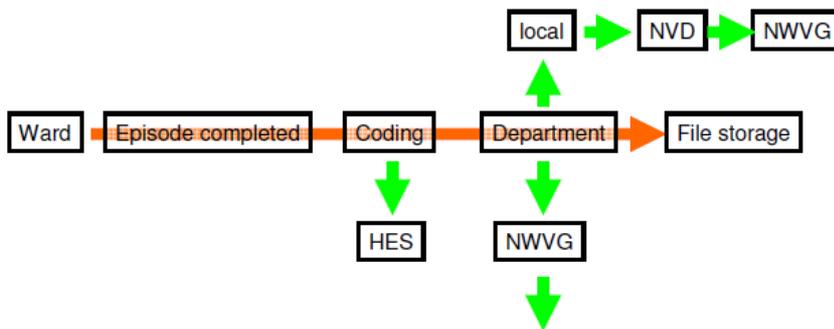
Mr Vince Smyth; Consultant Vascular Surgeon & Stuart Grant; Research Fellow.

Case numbers



Discrepancies between the HES/NVD/VGNW datasets (Sept 2007 to Oct 2010) had been found for all procedures and for all Trusts in the North West. Errors identified included EVARs coded as ORs, AAA coded as aortic bypass on HES etc...

Paper trail



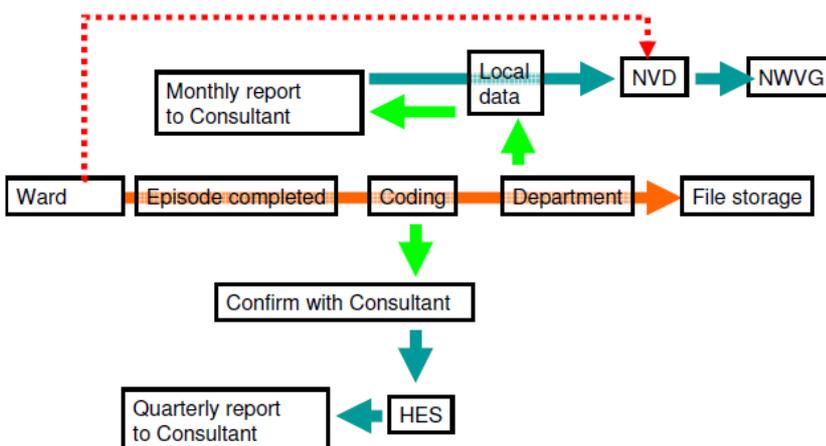
Method: A data validation exercise was undertaken. Period 1/10/10 to 31/3/11.

- Aortic codes from QIP letter
- NVD download
- Local data
- Hospital supplied HES.

Findings: Discrepancies were found in all 3 datasets.

Patients with a discharge summary were more likely to be recorded on the local dataset.

Revised paper trail



Next Steps: Plans to introduce coding rules for data submission. Regular validation of HES data returns. Place code on operation note in free text.

Revised Pathway: Enter patients into local dataset while on the ward. Ensure consultants check data before it is submitted to the NVD and VGNW.

RECOMMENDATIONS FOR DATA QUALITY

1. Data is likely to be more accurate if collected in real time
2. All units should involve their clinical governance team to help ensure data quality.
3. Larger units should consider employing a data assistant to ensure that contribution rates are high and to help assist with coding reviews.

Balancing Measures

Percentage of Patients Turned Down for AAA Surgery

A risk of the AAAQIP focusing on mortality was that vascular clinicians may be deterred from taking on difficult cases. Turn down rates were measured nationally through a 6 week snapshot turndown audit as well as at a local level through Regional Action Plans. The national snapshot audit was undertaken over a six week period between 05/09/2011 and 23/10/2011. A simple questionnaire was constructed to collect a minimal dataset about age and gender, AAA size and the reason that the patient was turned down for repair. Multiple responses were permitted for this part of the questionnaire. The questionnaire was accessed through the AAA QIP website and could be printed allowing paper returns to be posted to the QIP office. Data was analysed using multivariate analysis to look for significant differences between the intervention group and those turned down for surgery.

Results

194 patients were turned down for repair of their AAA in the time period of the audit and turn down rates were recorded at 24%. The mean age of the patients turned down for surgery was significantly older at 83 than the patients who received intervention (mean age 74). The primary reason for turndown was lack of fitness in the majority with a significant number deemed unfit for open repair and unsuitable for endovascular repair. A quarter of patients were turned down as they declined intervention. Dementia was a cause for turndown in 14% and terminal malignancy or severe chronic disease cited as a reason in 21%. As cases were only captured if entered by surgeons into the web tool. It is likely that these rates underestimate the true turndown rate in patients presenting acutely to medical services who are not referred on to a surgical service.

Conclusion

The literature on the management of AAA is heavily focussed on intervention and outcomes from repair. There is less evidence available to support surgeons in making complex decisions regarding the futility of repair in unfit patients. This audit provides a baseline measurement to inform both clinicians and patients about the totality of AAA care in the hospital sector in the UK. This will act as a baseline measurement for the Vascular Society and individual units to monitor rates of turndown as part of quality improvement to reassure patients that improvements in outcomes are not being made by increasing turndown rates.

SNAPSHOT OF REGIONAL TURN DOWN AUDITS

Organisation	Audit Process & Criteria	Final Cohort	Turn Down Rate	Details															
Ipswich Hospital NHS Trust <i>Isam Osman</i>	Evaluate AAA patients (>5.5cm AAA) who did not proceed to interventions (Aug 2009-March 2011). Data Collection: Age, co morbidity, rationale for decision not to operate, if dead,-cause of death and V-POSSUM.	40 turned down and 50 operated. • Mean Age: 80.8 • Cardiac disease: 55% • Respiratory disease: 13% • Mean renal function (eGFR): 50.3 • Diabetes 18% • Other 40% • Mean V-POSSUM risk of dying was 9.0% 90% of patients ≥1 comorbid condition.	44%	Those turned down were older with greater co-morbidity, particularly renal (CKD 4 vs. CKD 3) and higher predicted mortality on V POSSUM (9%). In follow up 3 died of rAAA, 2 of cancer and 1 each from heart and renal disease. Predicted death rate from V POSSUM in operated group was significantly lower at 6.4%, but no actual in-hospital deaths observed.															
Mid York Hospitals NHS Trust <i>Jon Hossain</i>	Jan 2011-May 2011.	39 AAA's discussed 8 turned down	20.5%	1 cancer, 7 unfit															
Doncaster and Bassetlaw Hospitals NHS Foundation Trust <i>Woolagasen Pillay, Siobhan Gorst</i>	Prospective data Jan 2007-May 2011. Non operative AAA form (elective & emergency) accessible throughout Trust. Database with over 400 patients. Mortality data from case notes and Office of National Statistics. Form used to identify pts previously assessed as unfit if presenting as an emergency	Total patients assesses-419. Turndown rates: Elective= 87/241. (26%) Emergency= 35/56 (38.5%).	Elective (26%) Emergency (38.5%)	<table border="1"> <thead> <tr> <th>Non-intervention Reasons</th> <th>ELEC</th> <th>EMER</th> </tr> </thead> <tbody> <tr> <td>Comorbidity</td> <td>90</td> <td>30</td> </tr> <tr> <td>Malignancy</td> <td>17</td> <td>5</td> </tr> <tr> <td>Age</td> <td>28</td> <td>12</td> </tr> <tr> <td>Patient choice</td> <td>37</td> <td>7</td> </tr> </tbody> </table> <p> Elective Median survival : 276 days (25-1881) Aneurysm was cause of death in less than 40% Emergency Median survival 2 days, pts lived longer than expected allowing time to spend with loved ones </p>	Non-intervention Reasons	ELEC	EMER	Comorbidity	90	30	Malignancy	17	5	Age	28	12	Patient choice	37	7
Non-intervention Reasons	ELEC	EMER																	
Comorbidity	90	30																	
Malignancy	17	5																	
Age	28	12																	
Patient choice	37	7																	
Oxford Radcliffe Hospitals NHS Trust <i>Jeremy Perkins</i>	Jan 2011-July 2011	39 AAA interventions: - 26 EVAR, 13 Open - 5 declined (12%), 3 men, 2 women. 4 infrarenal (10%), 1 mid abdominal aorta.	12%	3 men and 2 women all with significant co-morbidity or cancer.															
University Hospitals Of Leicester NHS Trust <i>Ross Naylor, Greg McMahon</i>	Ongoing prospective turn down audit (Mar 2011- Sept 2011). AAA ≥ 5.5cm- operated and turned down patients. Theatre diary used for overall no. of elective patients. Clinic letters and MDT minutes used to capture turn downs.	Total 64 patients identified, 25 turned down for surgery.	39%.	Age was cited as the reason for turn down in 14 patients along with additional factors including patient choice (5) and co morbidities; respiratory disease (4) cardiac disease (3). Where age was not cited in 11 patients; reason for turn down included cardiac disease (7) and respiratory disease (5).															

Improvement Case Study: Capturing Turn Down Rates Locally

Belfast Health and Social Care Trust: AAA Turn Down Audit

Mr Louis Lau; Consultant Vascular Surgeon

Introduction

The mortality rates of elective and emergency repair of abdominal aortic aneurysm (AAA) are well studied. However, some patients with large AAA are turned down for surgical repair for various reasons and the incidence and outcome of this group of patients are not well documented. This will affect the overall mortality rate of patients who are screen detected to have large AAA and referred to vascular centres for treatment.

Methods

We undertook a prospective audit of patients with large AAA who were turned down for surgical repair at the Belfast City Hospital between May and December 2011, using a modified data collection tool adapted from the AAAQIP Project Team.

Results

During the 8 months, 88 patients presented to the unit with large AAA (>5.5cm). Twenty-three patients (26%) were turned down for surgery (4 patients presented with ruptured AAA). Within the turn down group, 8 patients (35%) died (5 ruptured AAA, 1 CVA and 2 unknown causes). Only 14 patients (39%) were discussed at MDT meetings before being turned down. Fourteen patients (60%) were deemed unfit for any intervention due to co-morbidities, e.g. dementia, malignancy. Four patients (17%) refused intervention. For the 65 patients received surgical repair (46 asymptomatic, 5 urgent and 14 ruptured), 3 died (mortality rate 5%). Combined with the turn down group, the overall mortality rate of patients presented with large AAA was 12.5%.

Discussion

Involvement with the AAAQIP audit has proven to be a very useful exercise. It highlighted the lack of historical data on AAA turn down rate and its influence on the overall mortality rate of patients presented with large AAA. Less than 50% of the cases were discussed at MDT meetings. The MDT decision-making process will need improvement, but timely involvement in the MDT process may not be possible for those patients who present as ruptured or symptomatic AAA. The criteria for turn down was poorly defined, and continuing to capture the turn down data should be considered as part of the NVD strategy to improve the understanding and guide clinicians in the decision-making process. For those patients who were turned down for elective surgical repair, it is useful to capture the patient's choice of intervention in the event of rupture or development of symptoms so that unnecessary intervention could be avoided.

Length of Stay for Infrarenal AAA

Length of stay (LOS) is a measurement that is used to report duration of patient in hospital stay following AAA surgery. AAAQIP identified LOS as one of its key outcome measures to monitor change in hospital stay for AAA patients. During this project the LOS was a median of 9 days for Open Repair and 4 days for EVAR.

The number of cases undergoing both OR and EVAR has risen as data contribution has risen. The increased data contribution rates have not changed the median LOS.

Figure 7.8 shows the LOS for patients undergoing Open AAA repair for 2009-10 (blue lines) compared to 2011-12 (black lines). The number of days patients stayed in hospital for is shown along the x axis and the y axis shows the number of patients who stayed in for each number of days. There is an increase in the number of patients discharged on or around the median number of days in hospital. 90% of elective open patients are discharged from hospital ≤ 30 days post operatively.

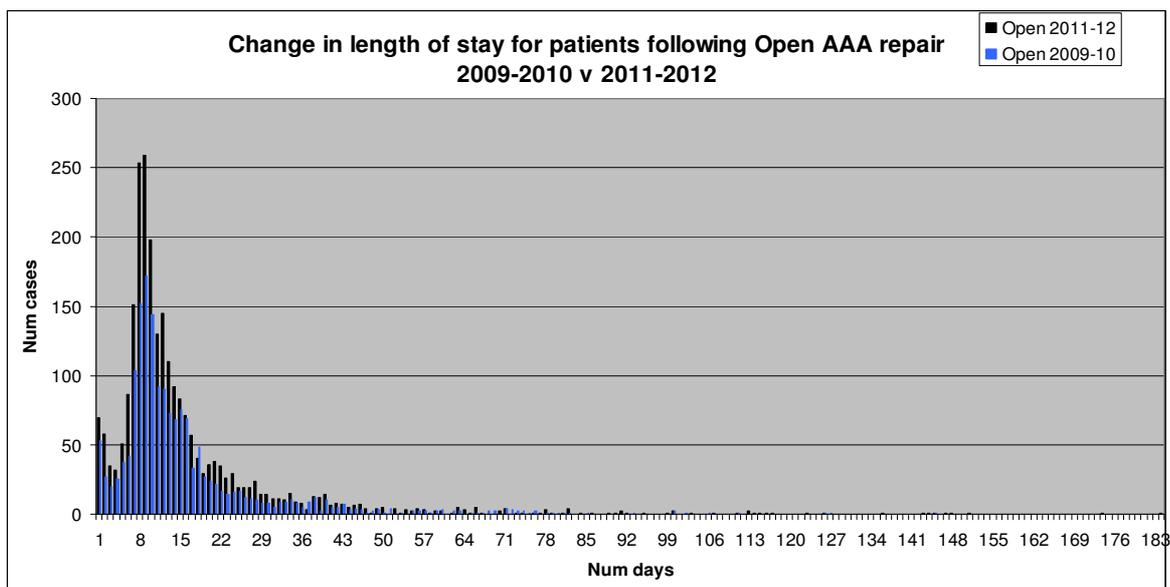


Figure 7.8 - Number of days in hospital following Open AAA repair 2009-2010 (project start) compared to 2011-12 (project end)

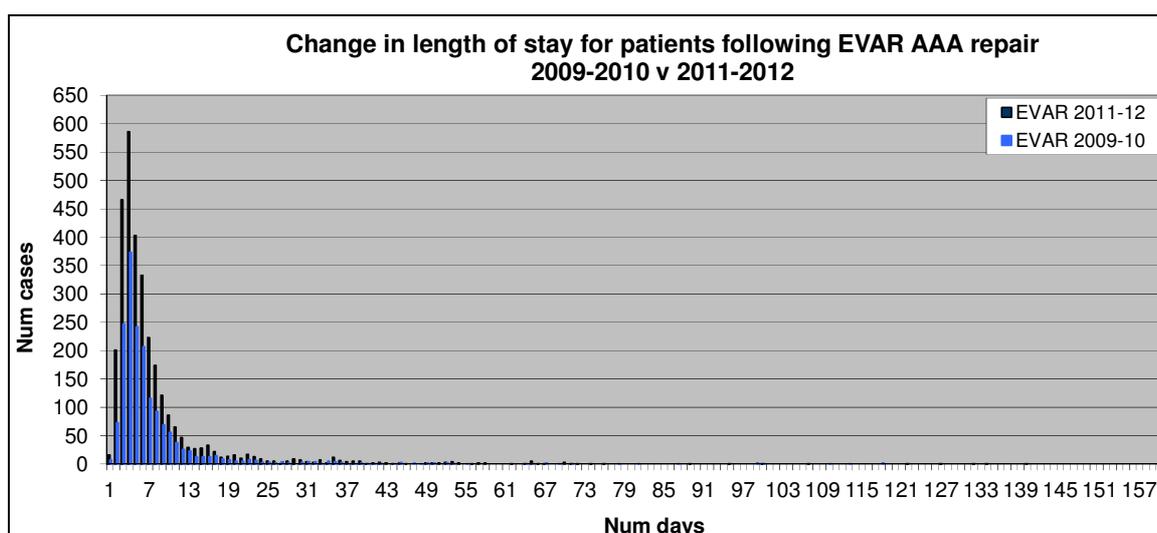


Figure 7.9 - Number of days in hospital following EVAR AAA repair 2009-2010 (project start) compared to 2011-12 (project end)

Figure 7.9 displays information in the same manner showing the length of stay for patients following EVAR. The number of EVAR procedures in the NVD has increased by 84% since the project started. The

number of patients discharged in ≤ 15 days has increased from 74% in 2010 to 92% in 2012. This reduction in stay may be attributed to increasing familiarity with the procedure as well as adoption of standardized pathways of care. Examples of ways in which units have introduced changes have been outlined earlier in this report and resources are available to download at www.aaqip.com.

There have been improvements in data capture and data accuracy during the course of the project. LOS will be tracked in the future as it provides a measure related both to quality and cost. At a local level, there has been evidence of reduced LOS through improvement of patient preoperative assessments and the introduction of discharge planning and protocol led discharge, the example quoted above from the Norfolk and Norwich hospital illustrates how this can be achieved. EVAR patients returning direct to the wards post-operatively were discharged earlier from hospital. Not only was their LOS reduced along with costs of care, but this change reduced pressure on high dependency beds. At East Kent Hospital there was ambiguity around the average LOS for EVAR patients. It was “thought” that EVAR LOS was 2 days. Formal measurement showed that 60% of patients were discharged in 2 days and 86% of patients left hospital within 3 days. The unit plans to reduce stay by moving to admission on the day of surgery and to have a consistent approach to removing epidurals and catheters at 6am the day after surgery rather than the current 11am. Progress on their intervention can be reviewed at www.aaqip.com/aaqip/rap-south-east-coast.html#tp.

Universal adoption of such policies will see LOS gradually reducing. Whilst such changes may seem modest, improving efficiency of services and reducing costs in the current climate will help to secure services for the future. The evidence from these studies is that the changes can be achieved without compromising the quality of care we offer our patients.

Re-Intervention Rates

Whilst LOS is one measure of service delivery to patients, it has limitations when used in isolation. Discharging a patient before they are fit to leave can impair a patient’s recovery and lead to re-admission. In the future it will be important to capture both re-admission and re-intervention rates as balancing measures to ensure that reducing LOS is not achieved at the cost of poorer outcomes. Anecdotally, units that carried out improvement interventions along the AAA pathway did not report any increase in re-intervention rates. This was not formally measured by all the teams. How this is developed through national audit in the future is an important part of re-designing national data collection.

1. Inclusion: Involve all Stakeholders

Input from the Vascular Anaesthesia Society, the British Society of Interventional Radiology and the Society of Vascular Nurses into the Project Plan, and refinement of best practice protocols ensured that our protocols were both fit for purpose and owned by all members of the clinical team. Publicising the QIP through the three societies also increased engagement at regional meetings and representation from all clinical disciplines.

Vascular surgery involves a wide range of clinicians including surgeons, radiologists, anaesthetists, nurses, sonographers and managers. Including all stakeholders and local commissioning groups in regional events has encouraged good levels of engagement. These meetings have also provided a forum for clinicians to talk together and to reflect on the views of other professionals and patients. For example, anaesthetists and nurses have been able to demonstrate that they would like to be involved in MDTs and have more responsibility to carry out criteria led discharge to manage patients post operatively. We believe that this process played a significant role in engaging clinicians in quality improvement.

Involving junior staff such as House Officers and Senior Trainees is beneficial for quality improvement work. This builds a pool of expertise that will be able to carry on QI work in the future. They also provide valuable information to senior clinicians, helping with adoption of changes in practice. There are direct benefits for their personal and professional development. The collaborative approach utilised throughout the AAAQIP has highlighted the importance of working within an MDT and help foster a collaborative attitude between specialities.

The involvement of commissioners and cardiovascular networks was very helpful and where this engagement was strong, the process moved forward much more robustly. Currently the North East, East of England, North West and East Midlands have strong leadership and a plan for sustaining the QI process around their re-configurations. We believe that this is the best model for sustaining change.

Improvement Case Study: Stakeholder engagement is important

Sheffield Teaching Hospitals NHS Foundation Trust: Implementing a Post-Operative Care Pathway. *Dr Sumayer Sanghera; Consultant Vascular Anaesthetist*

I got involved with this programme, as the initial meeting was on a day I was not scheduled to be at work and so you can see that this is done in our own time and is not recognised either by the Trust or our commissioning authorities.

It is time consuming trying to arrange meetings so that the relevant personnel are present, especially as it requires a multidisciplinary approach to make the postoperative care pathway work. I was lucky in that a Vascular Surgeon and a Critical Care Consultant were keen for this to work and so we each persuaded our colleagues to agree to the pathway.

I have to say to get consensus was a great achievement. The next problem was trying to make the Critical Care nurses understand and follow the principal that they could move patients along the pathway, rather than waiting for a doctor to say so, and so hopefully moving the patients along.

We have had a meeting regarding the first cohort of patients where we found that not all the nurses were aware. We are about to analyse the data from this set of patients, but this requires our audit office to approve the project, otherwise it does not get recognised by the Trust. Once we have made appropriate adjustments, the pathway can be incorporated into the patients' notes. This adds to the workload and again has to be done in our own time.

To actually achieve a change we have had to put a small group of patients through the pathway and present on outcomes including; decrease length of stay, improved quality etc. This aims to demonstrate a change to increase the engagement of our colleagues.

To show improvement in quality as assessed by the patients, will take longer and require someone to follow up the patients not just at 6 weeks, when seen by the surgeon, but say 3 months and one year later. This requires an assessment of their life style etc and is a manpower issue.

Overall the whole process will improve the patient journey and that is what keeps us motivated.

2. Evidence Base and Strong Leadership

Acceptance of the need for change was an important initial step towards engagement with the quality improvement programme. While most vascular surgeons were familiar with the criticisms of high mortality rates in the UK, other members of the clinical team were less so. Presentation of published data on UK mortality rates was presented along with evidence of significant variation in both data contribution and outcomes at regional meetings. Patient feedback of experiences of care provided further evidence of gaps in the care pathway. Even if clinicians did not agree with mortality data, most found the patient stories compelling and were prepared to engage in the process of improving the quality of care that patients receive.

Strong leadership at regional level proved to be important. Where it was present, workstreams moved forward quickly. When absent engagement was more patchy. Within local teams we quickly came to understand that QI projects worked best with at least three team members engaged. Having a local lead to encourage other team members was also important. Some of the most successful leaders were

anaesthetists and specialist vascular nurses. A key issue was ensuring that surgeons were supportive even if they were not leading QI change initiatives. Involvement of local managers was also helpful as they could present the value of this work to non-clinical opinion formers within their NHS Trusts. The most success was seen when all disciplines within the clinical team were actively engaged in QI work.

The VSGBI provided strong leadership. The structures of the society, a robust leadership with support for delegated chairs in education, research and audit, allow it to bring about change both quickly and flexibly. The support of the society for change and for setting clear standards (e.g. traffic light standards for data entry) has been invaluable in driving improvement,

3. Patient Engagement

Patients are the focus for all health care delivery. An essential part of the QIP was to involve patients in efforts to develop AAA services to ensure that they meet patient needs as well as achieving necessary clinical goals. Gaining patient involvement in the project gave an added dimension and richness to improvements that were being undertaken. Comments and feedback from patients and their relatives helped to shape the interventions to improve the impact on the patient experience. Through this process both clinicians and patients were given the opportunity to communicate in differing situations compared to the usual doctor patient relationship. This has enabled both patients and clinicians to understand issues around care provision from each others' perspective. The patient voice was particularly influential in shaping both the written and verbal communication strands of the pathway.

4. Manageable Strategy

a. Regional Collaboratives

The original application planned to implement and measure changes nationally through the Vascular Society, covering the whole of the U.K. Early central team meetings with the quality improvement and learning development advisors, highlighted practical difficulties with this approach and identified that the project might face difficulties with clinician engagement and ownership. It became clear that the QIP would need to work at the local level with clinical teams in order to secure engagement and implement QI interventions. This required adoption of a regional implementation plan. Regional variation in clinical resources, Cardiac and Stroke Network input, roll out of the National Screening Programme and Service Reconfiguration was evident from the outset. A regional approach allowed us to adapt the programme to meet the needs of participating regions and units. This increased ownership of quality improvement interventions, as it made them more relevant and applicable.

b. Small Tests of Change

Experience in regions early in the programme identified that trying to adopt the whole pathway in one go was a significant challenge to clinical teams. There was variation in enthusiasm for the pathway, with units being at different stages of development. In addition, there is significant variation in NHS Trust attitudes to the adoption of new paperwork and processes that prevented easy introduction of a national pathway of care. The core team effectively undertook a number of small tests of change to refine the regional model for quality improvement.

As a result, the care pathway was divided into defined steps with units encouraged to trial one element of the care pathway. This made QI work more manageable among a busy clinical workload and allowed units to select interventions to address specific problem areas within their units. Grouping standards of care into care bundles was also provided a structure for both implementation and measurement of change.

Respondents also noted a linkage between QI and Change; that trying things in small ways encouraged engagement, and that the data generated was also useful for then encouraging the adoption of further experiments in pursuit of additional improvements. It was reported that the strong sense of ownership at a regional and MDT level amongst the extended project team was a significant positive factor here.

Mr Jon Bentley: Berkshire Learning and Development Consultant

5. Communicate Data and Performance Regularly

Ensuring that the data was robust was a key focus of the AAAQIP from the start of the project and throughout. Data quality and outputs were also addressed at every meeting to highlight the importance, retain continuity and reinforce the responsibility to the clinicians to ensure the accuracy of the data.

Implementing progressive strategies such as the traffic light system helped to focus attention and provided clinicians with clear targets and progress comparisons with neighbouring units. Knowing that the information was going to be placed in the public domain was a new and additional incentive for units to ensure high data quality.

6. Organisational Resistance

A number of clinical teams faced significant resistance to the introduction of new pathways into their organisation. This seemed to relate more to the development of documents to be used in the clinical record. It is clear that there is no clear national standard for the introduction of such documents. We are aware of variation in attitudes to clinically led quality improvement within the NHS. This is an area that may need to be addressed in the future

7. Provide Consistent Standards

Ensuring that the AAAQIP, Vascular Society and the National AAA Screening Programme standards were aligned was a key driver in ensuring adoption of standards and implementation of best practice.

The introduction of AAA screening requires units to form networks and to demonstrate high quality contribution to national clinical audit. This is driving the re-configuration of vascular services. Ensuring that the standards articulated by the VSGBI, NAAASP and the AAA QIP were identical, is a critical component in engaging clinical teams. Some teams who viewed re-configuration as a threat initially disengaged, but found that either the desire to be involved in screening or the QIP drove the changes that had been resisted. Some small units recognised that they could not continue to provide a service alone and were prompted to join with adjacent units driving re-configuration from a clinical perspective. Unsurprisingly, units that had AAA services removed in this process were often reluctant to be involved in the QIP.

Improvement Case Study: Implementing Quality Improvement among the Reconfiguration of Vascular Services

Implementation of the AAAQIP in Northern Ireland

Mr Paul Blair; Consultant Vascular Surgeon & Northern Ireland AAAQIP Regional Lead

The Northern Ireland AAA QIP regional meeting took place on 26 May 2011. A teleconference was held in September and a regional progress meeting on 22 February 2012. The workshop provided a unique opportunity to bring a wide range of healthcare professionals and patients together to review our current practice and implement change. Standardisation of care between vascular units was particularly important as the two major units in the province merged in December 2011.

Attendance at the initial meeting in May was excellent, but maintaining interest and engagement amongst a wide range of specialties and ensuring projects were followed up proved quite difficult. Despite these problems we considered the effort involved to be worthwhile.

As we are in the middle of a reconfiguration of vascular services, representatives from Public Health and the Commissioners found the forum particularly useful. Similarly standardisation of care between units with respect to critical care bed usage and pre-assessment was also useful.

The small group workshops involved a range of medical specialties and input from nurse specialists and patients was particularly constructive. All clinical staff benefited from having the patient's perspective on consent, pre-operative information and expectations following surgery. A number of small audit projects were undertaken and these have already led to small but significant changes in clinical practice.

Although facilitating a regional meeting of AAA QIP proved somewhat time-consuming, it was extremely worthwhile. The importance of a national group, making a regional visit and engaging in the process should not be underestimated.

The follow-up meeting also ensured that at least some of the audit projects were undertaken with a reasonable outcome achieved.

Outcomes and Changes in Working Practices

The National AAAQIP set out to reduce the mortality from repair of unruptured AAA from a reported 7.5% in 2008 to less than 3.5% by the end of 2013. The first Elective AAA Mortality Report (2012) gives a national rate of 2.4% for in-hospital mortality.

A move from the traditional “surgical firm” structure to a more open team structure has begun. Surgeons are seeing the value of engaging in a team to provide high quality outcomes. The role of anaesthetists and radiologists in providing specialist care are more established. Specialist nurses are acting as a clear focus for communication and are a critical part of a successful team. However, this idealised team structure has yet to be widely recognised as the model for care delivery by clinicians. It needs to become part of the culture of how we care for patients.

At the outset of this programme, clinicians were variably engaged in data collection. Data were entered retrospectively at a delay of approximately 6 months following discharge. The regular focus on data during the lifetime of AAAQIP, changed attitudes and data are now entered in a much more timely fashion. The rate of data contribution has also improved. We believe that the QIP has created a cultural shift within the profession, so that having poor data is no longer acceptable. A change in attitude to collecting outcome data has taken hold. The VSGBI membership voted at the Annual Meeting in 2011 to support publication of unit outcomes.

Clinicians have benefitted from learning about QI methodology. Engaging teams at a local level in a collaborative effort, the AAA QIP has served to break down traditional barriers between team members. We believe that this change to team based working will help to improve the consistency and the safety of care for patients with abdominal aortic aneurysm. We envisage such practices being transferable to other aspects of vascular services.

Spread and Sustainability

I know that with our efforts in the EM AAA QIP, we have recognised, acknowledged and have encouraged the involvement not only of the various professional groups but also of patient groups, managers and commissioners. The process was truly multi-disciplinary. I have learnt a lot from the whole process and I know most of my colleagues would agree. This process has brought us together as a group and helped us a lot in networking, in sharing problems and solutions as well as in putting faces to names. Carrying the momentum forward will be a challenge. I hope that we will be able to take forward the lessons learnt from the QI programme and meet regularly to share knowledge and experience as a network of colleagues with a shared interest in vascular diseases in the East Midlands.

Dr Davis Thomas; Consultant Interventional Radiologist, Northampton General Hospital
Chair, BSIR Registries and Audit Committee

Involving all members of the clinical team delivering patient care has engaged a wide clinical community. We believe that this is the key to sustainability. The key roles for anaesthetists, interventional radiologists and specialist vascular nurses have become more explicit within the care pathway. Aligning standards from AAA QIP, the National AAA Screening Programme and the VSGBI will ensure that a focus is maintained on consistent care delivery beyond the life of this project. Funding has been secured for a new National Vascular Registry which will be used to capture unit performance against agreed standards. Clear public reporting will help to drive up standards and standardize unit behavior towards best practice. This will help to ensure that the current gains are maintained and developed over time.

We hope that National Specialist Commissioning will drive standards by linking commissioning to the standards within the AAA and other vascular care pathways. Local commissioning boards and their partners in stroke and cardiac networks will help to maintain a relentless drive towards higher standards of care. Work is currently underway to develop a PROM for AAA care delivery to allow more detailed comparison between units, by incorporating patient feedback into outcome assessment.

National Vascular Registry

The VSGBI has successfully bid for funding for a national vascular registry (NVR). The aim of the NVR is to create datasets that allow clinical teams to measure both the processes and outcomes of care delivery. Unlike the NVD which aimed to capture risk and outcomes, the NVR will seek to adopt some of the strategies in the AAAQIP. It will have a project board with stakeholders from all specialities involved in delivering care to patients with vascular disease. It is being established with a clear plan to continue providing regular data feedback to clinical teams with the aim of continuing to drive quality improvement in the four major index procedures performed by vascular surgeons, AAA, carotid intervention, lower limb bypass and amputation.

It will allow the VSGBI to build on the standards articulated in its document “The Provision of Services for Patients with Vascular Disease 2012” (http://www.vascularsociety.org.uk/library/vascular-society-publications/doc_download/162-provision-of-services-for-patients-with-vascular-disease.html). It is being designed to be flexible to meet the changing requirements for clinical audit. The datasets will not only map to standards and pathways, but will also allow linkage of datasets to other national datasets, expanding the ability of the VSGBI to capture the whole patient experience of care in time.

Embedding high quality audit within the culture of vascular services, will enable quality improvement to become a part of our service rather than an innovation.

Amputation Framework

The AAAQIP was the first project delivered by the VSGBI to improve the care provided to AAA patients. This work will continue through the sustainability plans outlined above. The VSGBI has a stated intent to improve outcomes for patients requiring lower limb amputation (http://www.vascularsociety.org.uk/library/quality-improvement/doc_download/175-qif-for-amputation-guidance.html).

Delivering quality improvement for lower limb amputation will require the VSGBI to use the skills developed by the AAAQIP to change the way services are delivered. Amputees require input from many different specialities, including diabetes care, physiotherapy, and disablement services. Bringing these different groups together poses significant challenges. The AAAQIP provides a clear guide as to how clinical teams can be engaged to bring about changes in services.

AAAQIP Regional Leads			
Region	Name	Organisation	Job Role
NORTH EAST	Mr Tim Lees	The Newcastle Upon Tyne Hospitals NHS FT	Consultant Vascular Surgeon
EAST OF ENGLAND	Mr Kevin Varty	Cambridge University Hospitals NHS FT	Consultant Vascular Surgeon
YORKSHIRE	Mr Sewa Singh	Doncaster and Bassetlaw Hospitals NHS FT	Consultant Vascular Surgeon
	Mr Nandan Haldipur		Consultant Vascular Surgeon
SOUTH WEST	Mr David Mitchell	North Bristol NHS Trust	Consultant Vascular & Renal Transplant Surgeon
WALES	Mr Louis Figelstone	Abertawe Bro Morgannwg University Health Board	Consultant Vascular Surgeon
NORTHERN IRELAND	Mr Paul Blair	Belfast Health and Social Care Trust	Consultant Vascular Surgeon
NORTH WEST	Mr Vince Smyth	Central Manchester University Hospitals NHS FT	Consultant Vascular Surgeon
LONDON	Mr Ian Loftus	St George's Healthcare NHS Trust	Consultant Vascular Surgeon
	Miss Meryl Davis	Royal Free Hampstead NHS Trust	Consultant Vascular Surgeon
EAST MIDLANDS	Mr David Ratliff	Northampton General Hospital NHS Trust	Consultant Vascular Surgeon
	Dr Davis Thomas		Consultant Vascular and Interventional Radiologist
SOUTH EAST COAST	Mr David Gerrard	Frimley Park Hospital NHS FT	Consultant Vascular Surgeon
	Mr Matthew Button	Brighton and Sussex University Hospitals NHS Trust	Consultant Vascular Surgeon
	Mr Jawaharlale Senartne	East Kent Hospitals University NHS FT	Consultant Vascular Surgeon
WEST MIDLANDS	Mr Mark Gannon	Heart of England NHS FT	Consultant Vascular Surgeon
SCOTLAND	Mrs Julie Brittenden	NHS Grampian	Consultant Vascular Surgeon
	Mr Douglas Orr	NHS Greater Glasgow & Clyde	Consultant Vascular Surgeon

AAAQIP Regional Patient Groups Leads			
Region	Name	Organisation	Job Role
NATIONAL	Mr Peter Barker	Vascular Society of GB&I	Patient Representative
NORTH EAST	Mr Tim Lees	The Newcastle Upon Tyne Hospitals NHS FT	Consultant Vascular Surgeon
	Professor Gerry Stansby		Consultant Vascular Surgeon
	Mrs Lynsey Dovey	North of England Cardiovascular Network	Service Improvement Lead
YORKSHIRE	Professor Julian Scott	Leeds Teaching Hospitals NHS Trust	Consultant Vascular Surgeon
	Mrs Anne Johnson		Vascular Research Nurse
SOUTH WEST	Miss Roxanne Potgieter	North Bristol NHS Trust	AAAQIP Project Manager
	Mrs Sunita Berry	Avon, Gloucestershire, Wiltshire & Somerset Cardiac and Stroke Network	Network Director
	Ms Thelma Daly		Service Improvement Manager
	Ms Kate Humphries	North Bristol NHS Trust	Vascular Nurse Specialist
WALES	Mrs Kate Rowlands	Cardiff and Vale University Health Board	Vascular Nurse Specialist
	Mrs Susan Hill		Consultant Vascular Surgeon
NORTH WEST	Mr Vince Smyth	Central Manchester University Hospitals NHS FT	Consultant Vascular Surgeon
	Mr Gareth Owen		Vascular Nurse Specialist
	Mr David Murray		Consultant Vascular Surgeon
LONDON	Mr George Peach	St George's Healthcare NHS Trust	Vascular Research Fellow
SCOTLAND	Mrs Julie Brittenden	NHS Grampian	Consultant Vascular Surgeon
	Mr Paul Bachoo		Consultant Vascular Surgeon

Cardiac and Stroke Networks

Region	Name	Organisation	Job Role
NORTH EAST	Mrs Lynsey Dovey	North of England Cardiovascular Network	Service Improvement Lead
	Ms Vikki McGurk		Service Improvement Manager
EAST OF ENGLAND	Ms Gina Radford	Anglia EoE C& Stroke Network	Clinical Service Development Lead
	Ms Candy Jeffries	Beds & Herts EoE C& Stroke Network	Clinical Service Development Lead
	Ms Penny Thomas		Clinical Service Development Lead
	Ms Carol Wilson	Essex Cardiac and Stroke Network	Clinical Service Development Lead
SOUTH CENTRAL	Mrs Beverly Meeson	South Central Cardiovascular Network	Network Manager
NORTH WEST	Ms Kathy Blacker	C& Stroke Networks Lancashire & Cumbria	Network Director
	Ms Natalie Park		Service Development & Improvement Manager
	Mr Gareth Lord	Greater Manchester and Cheshire Cardiac and Stroke Network	Project Manager
	Mrs Janet Ratcliffe		Director
	Ms Amanda Schofield		Cardiac Programme Manager
	Ms Sally Wells		PPI Manager
LONDON	Simone Olds	North Central and North West London C& Stroke Networks	Assistant Director
	Hilary Walker		Director
	Lorna Donegan	South London C& Stroke Network	Vascular Project Lead
	Lucy Grothier		Director
EAST MIDLANDS	Atiya Chaudhry-Green	East Midlands Cardiovascular Disease Network	Assistant Director

Commissioners

Region	Name	Organisation	Job Role
EAST OF ENGLAND	Sally Standley	NHS EoE	Head of Service
	Sue Kennedy	EoE Specialist Commissioning Group	Service Development Manager
SOUTH WEST	Jim O'Brien	NHS South West	Consultant in Public Health
SOUTH CENTRAL	James Mapstone	NHS South Central	Clinical Director - Acute Care and SHA Deputy Director of Public Health
NORTHERN IRELAND	Adrian Mairs	Public Health Agency	Consultant in Public Health Medicine
	Jacqueline McDevitt		Project Manager
	Beth Malloy		Assistant Director, Scheduled Services
NORTH WEST	Peter Elton	NHS Bury	Director of Public Health
	Belinda Hanson		
	Hannah Chellaswamy	NHS Sefton	Acting Director of Public Health
	Andrea Dayson	NHS Stockport	Assistant Director of Commissioning
	Claire O'Donnell	North West Specialist Commissioning Team	Clinical Effectiveness Specialist in Public Health
LONDON	Kellie Blane	London Specialised Commissioning Group	Assistant Director
	Jo Nicholson		Commissioning Manager
SCOTLAND	Lesley Metcalf	Scottish Government	Healthcare Policy Manager

Regional Clinical Implementation Teams

North East

- **City Hospitals Sunderland NHS Foundation Trust:**
Ben Banerjee, Dave Laws, Dorothy Stewart, Paul Dunlop, Ruth Chipp.
- **County Durham and Darlington Foundation Trust:**
Darren Hird, David Hamilton, Nigel Corner, Gareth Tervit.
- **Gateshead Health NHS Foundation Trust:**
Bhawani Lekhak, Borsha Sarker, Colin Nice, Hamdy Ashour, Ian McClintock, Maggie Williams, Vish Bhattacharya.
- **Newcastle Upon Tyne Hospitals NHS Foundation Trust:**
Chris Snowden, John Rose, Mike Clarke, Phil Davey, Tim Lees.
- **North Cumbria University Hospitals NHS Trust:**
Ewua Jankowska, John Poels, Thomas Joseph.
- **South Tees Hospitals NHS Foundation Trust:**
Andrew Parry, Gerry Danjoux, Simon Milburn, Sue Grant.

East of England

- **AAA Patients:**
Andrew Pallant, Digby Rofo, Leonard Watson.
- **Bedford Hospital NHS Trust:**
Arindam Chaudhuri, Vivek Vohra.
- **Mid Essex Hospital Services NHS Trust:**
Fiona Maguire, Greg Brown, Marie Galley, Tom Browne.
- **Cambridge University Hospitals NHS Foundation Trust:**
Claire Brady, Claire Cousins, Gail Curran, Jon Boyle, Kevin Varty, Kim Gaffen, Paul Hayes, Pete Bradley.
- **Colchester Hospital University NHS Foundation Trust:**
Arun Sebastian, Chris Blackhouse, Emma Rayner, Gabriel Sayer, Gangari, Yakandawala, Indira Nair, Selvarajah Yoganathan, Sohail Choksy.,
- **Ipswich Hospital NHS Trust:**
Gary Picken, Ian Driver, Isam Osman.

- **Norfolk and Norwich University Hospitals NHS Foundation Trust:**
Darren Morrow, David Nunn, Michael Crawford, Sarah Yarham.
- **Peterborough and Stamford Hospitals NHS Foundation Trust:**
Brandon Krijgsman, Jon Perry.
- **The Princess Alexandra Hospital NHS Trust:**
Ahmed Abidia, Charlotte Hunns, Elaine Wright, Jonathan Refson, Mayavan, Abayalingam, Robert Stephenson, Vytheekie Thambirajah, Will Partridge.

Yorkshire & Humber

- **Bradford Teaching Hospitals NHS Foundation Trust:**
Kevin Mercer, Ray Smith, Roger Lowe.
- **Calderdale and Huddersfield NHS Foundation Trust:**
Chalam Viswanathan, Duncan Parry, Jeremy Pinnell, Mahomed Anver, Melanie Addy, Munther Aldoori.
- **Doncaster and Bassetlaw Hospitals NHS Foundation Trust:**
Abdul Khan, Alasdair Strachan, Gordon Gregory, Helen Findley, Jan Macierevicz, Jon Train, Julia Perry, Mark Wheatcroft, Martha Mayhew, Nandan Haldipur, Peter Tan, Phillip Stannard, Ronald Hughes, Sairam Subramanian, Sewa Singh, Siobhan Gorst, Woolagasen Pillay.
- **Hull and East Yorkshire Hospitals NHS Trust:**
Akomolafe Bankole, Venkat Srinivasan.
- **Leeds Teaching Hospitals NHS Trust:**
Anne Johnson, Chris Hammond, David Russell, Iain Dunn, Julian Scott, Shervanthi Homer-Vanniasinkam, Simon McPhearson, Simon Howell.
- **Mid Yorkshire Hospitals NHS Trust:**
Anthony Main, Craig Irvine, David Shaw, Jon Hossain, Julian Mark, Keng Chng, Paul Curley, Zoe Birrell.
- **Sheffield Teaching Hospitals NHS Foundation Trust:**
Ed Mulkern, Hazel Trender, Jane Stephenson, Jonathan Beard, Kirsty Wagstaff, Raj Nair, Sumayer Sanghera, Trevor Cleveland.

- **York Hospitals NHS Foundation Trust:**
Amanda Stanford, Andrew Kordowicz, Anthony Bowker, Kalyan Raman, Louise Joliffe, Nicky Wilson, Stephen Cavanagh.

South West, South Central & Wales

- **AAA Patients:**
Karen Apperley, William Barber, Jonathan Barnes, Derek Greaves, Peter Trotter, Edgar Allen Wilson.
- **Abertawe Bro Morgannwg University Health Board:**
Cerys Richards, Chris Davies, Karen Edwards, Louis Figelstone, Richard Hedges, Sian Davies, Tracey Wall.
- **Aneurin Bevan Health Board:**
David McLain, Richard Blackett.
- **Betsi Cadwaladr University Health Board:**
Carys Maynard, Dean Williams, Fiona Evans, Kakali Mitra, Tony Da Silva.
- **Cardiff and Vale University Health Board:**
Anette Scholz, Ginnina Conway, Ian Lane, Ian Williams, Jyothi Srinivas Kate Harvey, Kate Rowlands, Kinnari Mehta, Richard Whiston, Sue Hill.
- **Cwm Taf University Health Board:**
Elaine Townsend, Gareth Davies, Josephine Brown, Kevin Conway, Michelle Barrett, Mike Lewis, Mike Rocker.
- **Gloucestershire Hospitals NHS Foundation Trust:**
Caroline Rodd, David Cooper, Jonathan Earnshaw, Julie Symonds, Leon Visser, Rachel Carter, Robin Cooper, Trisha Lanciano.
- **North Bristol NHS Trust:**
Andy Weale, Bill Neary, David Mitchell, Kate Humphries, Lyn Jones, Michael Milne, Neil Collin, Rosie Darwood, Sarah Lloyd.
- **Oxford Radcliffe Hospitals NHS Trust:**
Catherine Atkinson, Halikar Vikram, Ian Hunter, Jeremy Perkins, Karunakaran Ramaswamy, Mark Stoneham.
- **Royal Cornwall Hospitals NHS Trust:**
Jonathan Davies, Nicholas Marshall, Sally Nash.

- **Royal Devon and Exeter NHS Foundation Trust:**
Quentin Milner, Richard Telford.
- **South Devon Healthcare NHS Foundation Trust:**
Ian Currie, John Carlisle, Lynda Pike, Michael Swart, Peter Kember.
- **Southampton University Hospitals NHS Trust:**
Gareth Morris, Nick Wilson, Tom Peck.
- **Taunton and Somerset NHS Foundation Trust:**
Andrew Stewart, Karen Bentley-Hollins.
- **The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust:**
John Oakes, Julius Cranshaw, Lasantha Wijesinghe, Sara Baker, Emily Diment.

Northern Ireland

- **AAA Patients:**
John Lennon, Robert Saulters.
- **Belfast Health and Social Care Trust:**
Denis Harkin, Andrew McKinley, Anton Collins, Bernard Lee, Brian Armstrong, Catherine Kerr, Debbie Collins, Eamon Quinn, Gail Kelly, Gary Burke, Gemma McKeivitt, Geraldine Chambers, Janet Callaghan, Judith McClements, Julie Reid, Julie-anne McKeown, Karen McClenaghan, Kathy McGuigan, Leslee Stirling, Louis Lau, Naomi Orr, Paul Blair, Peter Gordon, Peter Ellis, Ray Hannon, Richard Yamin-Ali, Robin Baker, Susan Yoong, Trez Dennison, Willie Loan.
- **Southern Health and Social Care Trust:**
Alastair Lewis, Brigeen Kearney, Colin Weir, Eamon Mackle, Gillian Rankin, Heather Trouton, Richard McConville, Siobhan McArdle, Trudy Reid.
- **Western Health and Social Care Trust:**
Zola Mzimba

North West

- **AAA Patients:**
David Bate, Mr Stott
- **Aintree University Hospitals NHS Foundation Trust:**
Francesco Torella.

- **Blackpool Teaching Hospitals NHS Foundation Trust:**
Kinagi Muragesh, Emma Whiston, Hisham Osman, Jayne Robinson.
- **Central Manchester University Hospital NHS Foundation Trust:**
Adam Pichel, Chandran Jepegnanam, Rachel Bayley, Vince Smyth.
- **Countess of Chester Hospital NHS Foundation Trust:**
Sameh Dimitri.
- **East Lancashire Hospitals NHS Trust:**
Robert Salaman, Simon Hardy, Stephen Gilligan, Neil Wilde, Susan Kenny.
- **Lancashire Teaching Hospitals NHS Foundation Trust:**
George Thompson, Ian Donaldson, John Calvey, Alistair Craig, Andy Curran, Dare Seriki, Martin Letheren, Susan Drinkwater.
- **North Cumbria University Hospitals NHS Trust:**
Jane Todhunter, Jonathan Poels, Lesley Robinson, Theo Ojimba, Thomas Joseph.
- **Pennine Acute Hospitals NHS Trust:**
Debbie Ruff, Elizabeth Barrow, Judith Gayne, Karen Bedford, Mahesh Kumar, Sheila Roberts, Simon Chadwick, Sue Longden, Taohid Oshodi.
- **The Royal Liverpool & Broadgreen University Hospitals NHS Trust:**
John Brennan, Robert Fisher.
- **The University Hospital of South Manchester:**
Charles McCollum, Stuart Grant.
- **University Hospitals of Morecambe Bay NHS Foundation Trust:**
Karnad Krishnaprasad, Mark Tomlinson.
- **Warrington and Halton Hospitals NHS Foundation Trust:**
Nee Beng, Paul Moody.
- **Wirral University Teaching Hospital NHS Foundation Trust:**
Colin Chan, Gwen Lawrence, Ramasubramanyan Chandrasekar.

London

- **Barts and the London NHS Trust:**
Alistair Brown, Gayle McDonnell, Heike Bojahr, Jane McNeill, Madeleine Dancey, Nicos Fotiadis, Nigel Tai, Paul Srodon, Vijay Gadhvi, Vish Ramoutar.
- **Guy's and St Thomas' NHS Foundation Trust:**
Rachel Bell, Tarak Ramadan, Tarun Sabharwal.
- **Imperial College Healthcare NHS Trust:**
Colin Bicknell, Ian Franklin, Trisha Bourke, Richard Gibbs.
- **North West London Hospitals NHS Trust:**
Jackie Trant, Joe Shalhoub, Sophie Renton, Yaser Naji.
- **Royal Free Hampstead NHS Trust:**
Ah Bee Loh, Daniel Devitt, Hilary Sales, Meryl Davis, Rovon D'souza, Yasmin Uddin.
- **St George's Healthcare NHS Trust:**
Deepak Rikhi, George Peach, Ian Loftus, Keith Jones, Phil Newman.
- **University College London Hospitals NHS Foundation Trust:**
Dee Boardley, Jason Willis, Maureen Baldwin, Obi Agu, Tom Wright, Stephen Brearley.

East Midlands

- **AAA Patients:**
Donald Loake, Charles Prior, Barry Wilson.
- **Derby Hospitals NHS Foundation Trust:**
Ben Tan, David Pintar, James Hender, John Quarmby, Mario De Nunzio, Peter Bungay, Tim Rowlands, David Miller.
- **Kettering General Hospital NHS Foundation Trust:**
Avtar Brar, Donald Loake, Lynne Hearne, Mary Breslin, Vijay Bahal.
- **Northampton General Hospital NHS Trust:**
Angela Martin, Chris Mann, Chris Pallot, David Ratliff, Davis Thomas, Gabor Libertiny, Ganesh Alluvada, Gerry McSorley, Gill Dunn, Julie Dunkley, Karen Spellman, Liz Earby, Liz Gill, Mary Burt, Peter Jameson, Ramita Dey, Rob Hicks, Sally Wagstaff, Sue Johnson.

- **Nottingham University Hospitals NHS Trust:**
Clare Tomlin, David Selwyn, Richard O'Neill, Sadhana Chandrasekar, Sarah Spencer, Shane MacSweeney, Simon Whitaker, William Tennant.
- **Sherwood Forest Hospitals NHS Foundation Trust:**
Ali Abbas, Khalid Makhdoomi.
- **United Lincolnshire Hospitals NHS Trust:**
Amjad Iqbal, Andrew Prydderch, Dawn Slack, Emma Pearce, Jayarama Mohan, Nityanand Arya, Paul Hogg, Penny Gardner, Sue Holtby, Yavis Laloo.
- **University Hospitals of Leicester NHS Trust:**
Anne Brooks, Anthony Locke, Christine Bufton, Greg McMahon, Martin Dennis, Michelle Lapworth, Rob Sayers, Ross Naylor.

South East Coast

- **Ashford and St Peter's Hospitals NHS Trust:**
Donald Kruckeck, Kieran Dawson, Marcus Cleanthis, Michael Parris, Neil Browning, Robert Davies, Sally Davies, Tahir Ali.
- Brighton and Sussex University Hospitals NHS Trust:**
Christian Osmer, Karim El Sakka, Mahmoud Salman, Matthew Button, Mike Brooks, Sue Ward, Vanessa Fludder.
- **East Kent Hospitals University NHS Foundation Trust:**
Dianne Hunsley, Jawaharlal Senaratne, John MacKinnon, Judith Banks, Noel Wilson, Rajkumar Johi, Susan Harvey, Tina Chance.
- **Frimley Park Hospital NHS Foundation Trust:**
Amir Malkawi, Andrew Hatrick, Claire Martin, David Timbrell, Jeremy Taylor, Richard Wilson, Subodh Tote, Tracey Marchant, Daisy Fernando, David Gerrard, Dmitri Avlassevitch, Judy Gudgeon, Patrick Chong, Peter Leopold.
- **Medway NHS Foundation Trust:**
Arystarch Makowski
Beata Misztal, Bridgitte Ham, Fabian Sebastian, Helen Stannett, Mary Miles, Ruth Lowdell, Waleed Edrees, Zeljko Bosanac, Brian Andrews, Sam Andrews.

- **Western Sussex Hospitals NHS Trust:**
Andrew Kendall, Mario Caruana, Mark Bentley.

West Midlands

- **AAA Patient:**
Sam Ellicott
- **Heart of England NHS Foundation Trust:**
Andrew Bradbury, Anita Green, Bruce Gray, Corinna Gomm, Donald Adam, Elaine Jones, Harmeet Khaira, Maria Turley, Mark Gannon, Mark Scriven, Martin Claridge, Ruth McKenzie, Teun Wilmink, Yvonne Hall.
- **Mid Staffordshire NHS Foundation Trust:**
Brian Gwynn, David Durrans.
- **Sandwell & West Birmingham NHS Trust:**
Richard Taylor, Bernard Wee, Zahid Khan, Aurora Mosquera, Cheryl Lynd, Jane James, Ket Sang Tai, Lisa Mallett
Philip Nicholl, Rachel Sam, Saurabh Rai, Stan Silverman.
- **Shrewsbury & Telford NHS Trust:**
Helen Onions, Lynne Morris, Alastair Windsor, David Hinwood, Robin Hollands, Tim Sykes.
- **The Dudley Group Of Hospitals NHS Foundation Trust:**
Ajantha Jayatunga, Atiq-ur Rehman, Helga Becker, Paul Innes, Rajiv Pathak, Sherif Latif, Tracy Simmer.
- **The Royal Wolverhampton Hospitals NHS Trust:**
Andy Garnham, Michael Collins, Ramesh Avatgere, Simon Hobbs.
- **University Hospital Birmingham NHS Foundation Trust:**
Allen Edwards, Alok Tiwari, Emma Cooper, Malcolm Simms, Rajiv Vohra, Sue Kelsall.
- **University Hospital Of North Staffordshire NHS Trust:**
ArunPherwani, Fang Lam, John Asquith, Laszlo Papp, Omer Ehsan, Richard Morgan.
- **University Hospitals Coventry and Warwickshire NHS Trust:**
Asif Mahmood, Colette Marshall, Peter Blacklay, Seema Quasim, Soorly Sreevathsa.
- **Worcestershire Acute Hospitals NHS Trust:**
Alag Raajkumar, Amarjit Atwal, Richard Downing, Vijay Santhosh.

Scotland

- **NHS Ayrshire & Arran:**
Karen Andrews, Karen McCormick, Linda Patterson, Sherilyn Mowbray, Steven Boom.
- **NHS Dumfries & Galloway:**
Dewi Williams, Joseph Sathianathan, Mary Harper, Shirley Wight.
- **NHS Fife and Tayside:**
Alison Howd, Betty Alari, Gavin Main, Catriona Connolly, David Coventry, John Nagy, Lesley Duncan, Maureen Speedie, Murray Flett, Peter Stonebridge, Rafi Khan, Sam Chakraverty, Susan Fraser, Tejinder Chima, William McClymont.
- **NHS Forth Valley:**
Bianca Bond, Clare Balance, David McPherson, Heather Knox, Heather McLeod, Janette Fraser, Karen Murphy, Mike Yapanis, Nik Arestis, Richard Holdsworth, Valerie Sinclair.
- **NHS Greater Glasgow and Clyde:**
Alan Millar, Cathie Brydon, Douglas Orr, Iain Robertson, Indran Raju, Joyce Reid, Paul Harrison, Tricia McShane, Wesley Stuart.
- **NHS Grampian:**
Brenda Howitt, Joana Maskova, Julie Brittenden, Linda Sleigh, Lucy Sutherland, Michael Sharp, Paul Bachoo.
- **NHS Lanarkshire:**
Alan Carey, Alison O'Malley, Andrew Mitchell, Anna McCann, Colin Lauder, Donald Bain, Fong Lau, Ian Ross, Iona Scott, Jacqui Gorman, Mirghani Mirghani, Suzanne Farrell, Tony Fitzpatrick.
- **NHS Lothian:**
Alastair Nimmo, Clair Lyons, David Lewis, Jan-Peter Koch, Luann Randall, Nancy Ritchie, Rod Chalmers, Susan Ingram, Alistair Thomson.

11 | REFERENCES

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APPENDIX A



National Abdominal Aortic Aneurysm Quality Improvement Programme

www.aaaqip.com



14th October 2010

Project Director
David Mitchell

Mr XXXXX XXXXXXX
Department,
Hospital,
Town,
County
Postcode

Project Manager
Roxanne
Potgieter

Dear XXXXX XXXXXXX,

Re: Contribution to National Audit on the National Vascular Database (NVD) 01/01/10 to 31/03/10

Project Assistant
Julia McCleary

This letter forms the third in a series of communications from the Abdominal Aortic Aneurysm Quality Improvement Programme (AAA QIP) notifying Trusts of their data contribution to national audit on the NVD. An explanatory leaflet about the NVD and actions that need to be addressed to help increase participation is included. Complete data entry will allow online assessment of the quality outcomes for your Trust. NVD data will form the basis for revalidation and is a requirement for participation in the National Abdominal Aortic Aneurysm Screening Programme (NAAASP).

A.K.I. Audit
Helen Hindley

The tables below outline the number of Abdominal Aortic Aneurysm (AAA) surgeries, Acute Kidney Injury (AKI) data and carotid endarterectomies recorded by HES compared with the number submitted to the NVD. This data has been recorded for your NHS Trust between the months 01/01/10 to 31/03/10.

Contact
0117 323 2267
0117 323 2612

Abdominal Aortic Aneurysm (AAA) Cases (01/01/10 to 31/03/10).

Cases	Total HES (n)	Total NVD (n)	NVD available	NVD unavailable
AAA elective	<5	0	0	0
AAA em/urgent		0	0	0

Email
info@aaaqip.com

The data is derived by date of discharge for relevant procedure codes on HES that are identical to those in the NVD. Of the AAA cases that have been recorded on the NVD, are available for analysis (i.e. coloured yellow or white on the NVD) and are unavailable (i.e. coloured red on the NVD). Records that are unavailable for analysis only require a few additional fields to be completed and we encourage your surgeons to revisit any red records. Units that upload data periodically may have a zero NVD return if they have not uploaded in the last eight months. We would encourage more frequent uploads.

Fax
0117 323 5168

Acute Kidney Injury (AKI) Audit Data (01/01/10 to 31/03/10).

The AKI audit is part of the Vascular Society's national clinical audit and runs within the AAA QIP. It is funded through Kidney Care UK. AKI data fields on the NVD have been set up to capture relevant information on AKI in surgical patients undergoing AAA repair. This data will be used to identify factors associated with AKI and resource implications of AKI on acute services.

	Total AAA cases on NVD (n)	AAA cases with complete AKI data
AKI Data	0	0

c/o Dept of
Surgery
Southmead
Hospital
Westbury-on-
Trym
Bristol
BS10 5NB

UK Carotid Interventions Audit (CIA) data (01/01/10 to 31/03/10).

We have included Carotid surgery as the National CIA forms part of the quality accounts within Trusts and informs the National Stroke Strategy. The Healthcare Quality Improvement Partnership (HQIP) has an expectation that all surgeons who conduct carotid endarterectomy participate.

	HES (n)	Total NVD (n)	Elective	Emergency
Carotid Cases	<5	1	1	0

Future Communications

Future reports will come out three months in arrears to allow cleaning of the HES data. The next round of data analysis will take place in January. The deadline for completion of data entry/upload to the NVD for the next round of data analysis will be Tuesday 28th December 2010. We will be analysing data between 01/04/10-30/06/10 and comparisons will be sent out in mid January.

We suggest that this data be used to guide the need for review of data collection processes and to stimulate internal validity checking to ensure that your organisation is making a full contribution to national audits.

Yours faithfully



DC Mitchell MS FRCS

Chair Audit & QI committee, VSGBI

Project Director, National Abdominal Aortic Aneurysm Quality Improvement Programme.

APPENDIX B

ELECTIVE ABDOMINAL AORTIC ANEURYSM PRE-OPERATIVE CARE BUNDLE

Guidance Notes For Use Introduction

The Vascunet Report (2008) identified elective abdominal aortic aneurysm mortality as substantially greater in the UK than in other countries (7.9% vs. 3.5%)¹. Early and late AAA mortality rates have been found to be increased in patients with a preoperative clinical diagnosis of “unfit for open surgery”². The U.K. Small Aneurysm Trial also found poor preoperative lung and renal function to strongly associate with postoperative death³. Identification of preoperative factors associated with a high mortality risk is important to inform surgical policy and to direct suitable preoperative interventions. Bernstein et al, (1988) advocated a 72% 5-year survival of all their AAA patients as a direct result of an aggressive policy of screening for and selectively treating coronary disease and carotid stenosis preoperatively⁴.

Preoperative assessment, risk scoring and MDT working are defined quality standards in the Vascular Society of Great Britain and Ireland’s (VSGBI) framework for improving the results of elective AAA repair (2009)⁵. To achieve these standards nationally, there is a need to introduce reliable preoperative screening checks through best practice protocols, ensure the involvement of the relevant clinicians and reduce variation in vascular practice.

Therefore, the AAA QIP has outlined a strategy that aims to:

- i) **Reduce risk: Identify those high at risk from surgery and in need of preoperative intervention.**
- ii) **Provide a pathway of care for those who are currently not fit for surgery.**
- iii) **Ensure the minimum personnel required including anaesthetists with interest in vascular anaesthesia are involved in the decision to treat.**
- iv) **Provide patients with the appropriate information and offer them a choice of treatment.**

The following care bundle has been designed to achieve these aims. It should be implemented on all patients before surgical intervention.

The Care Bundles Concept

The theory behind care bundles is that when several evidence-based interventions/guidelines are **grouped together** and applied in a single ‘protocol’, it will improve patient outcome*.

- It is a simple method of monitoring adherence/existence of local guidelines, and as such is a valid assessment of quality.
- It will provide rapid easily interpretable information.
- It is a form of auditing and can identify areas for improvement.
- It is NOT research.
- It is NOT prescriptive. Each unit can identify their own criteria for each element.

AAA PRE-OPERATIVE CARE BUNDLE

A. STANDARDS:

To be completed on all patients (AAA>5.5cm) proceeding to intervention.

Protocol in Care Bundle	Intervention	Measure
1. All patients should undergo standard pre-operative risk assessment.	Use Elective AAA Safe for Intervention Checklist. (Care pathway Proforma 1)	No. of patients having checklist completed.
2. All patients should undergo CT angiography for assessment for OR or EVAR.	Include as integral part of AAA Care Pathway.	No. of patients undergoing CTA.
3. All patients should be seen by an anaesthetist with interest in vascular anaesthesia prior to listing for surgery.	Ensure local process for anaesthetic involvement.	No. of patients being seen by an anaesthetist.
4. Patients should be assessed for surgery through a MDT process involving surgeon and radiologist as a minimum, with input from an anaesthetist interested in vascular anaesthesia.	Complete MDT Proforma. (Care pathway Proforma 2)	No. of patients assessed through MDT.
5. Patients should be given written information about their treatment and choice (if suitable) between OR and EVAR.	Use local hospital AAA information leaflet or national AAA QIP patient information leaflets.	No. of patients given AAA patient information leaflets and offered choice of treatment.

Notes:

- 1. Elective AAA Pre-operative Safe for Intervention Checklist.** This is a traffic light protocol taken from the EVAR 1 and 2 trials. It has been reviewed and adapted for use by the Vascular Society and Vascular Anaesthesia Society of Great Britain and Ireland. The document forms a preliminary checklist to indicate whether to proceed with intervention or whether treatment should be postponed whilst patient fitness is improved. It is advised that all patients being considered for intra-abdominal aneurysm surgery should be assessed against it prior to being investigated for surgery.
- 2. CT Angiography.** Vascular radiology departments should have a standard protocol for AAA EVAR assessment. If renal impairment is present further action may be needed, based on the eGFR:
 - eGFR > 60 no additional procedures required
 - eGFR 30-60 ensure adequate oral rehydration before CT
 - eGFR < 30 patient to be formally discussed at MDT to decide if fit for intervention, **prior to imaging**. Patient to be managed using written protocol to minimize risk of contrast induced nephropathy. Consent to include statement on risk of requiring renal replacement therapy.
 - Care needs to be taken with IV contrast in renal impairment and local guidelines should be followed.
 - CTA will be performed according to local protocols pertaining to the particular type of scanner in use. In general, assuming that a modern multi-slice scanner is available for assessment, the protocol should include a suitable volume of IV contrast injection (100-120 mls) with bolus-tracking to trigger the imaging and maximum 2mm slice acquisitions, with 1mm reconstructions in order to produce adequate raw data for 3D analysis.

- Ultrasound measurements of aortic diameter should use inner to inner wall in line with the NHS abdominal aortic aneurysm screening programme.
- 3. Anaesthetist.** All patients should be seen pre-admission by an anaesthetist with an interest in vascular anaesthesia. N.B. For this purpose an anaesthetist with an interest in vascular anaesthesia should be performing regular elective vascular anaesthesia.
- **Medication.** At this stage, medication should be reviewed and optimised for the intervention.
- 4. MDT.**
- All elective procedures should be reviewed pre-operatively in an MDT that includes surgeon(s) and radiologist(s) as a minimum. An anaesthetist with interest in vascular anaesthesia should be consulted before deciding to admit for surgery. **Centres should move towards anaesthetists attending MDTs.** If this is not currently achievable applications for sessions for anaesthetists to attend the MDTs should be supported. Fitness issues that may affect whether open repair or EVAR is offered must be considered. **ALL** CT scans and patients who are seen with an AAA > 5.5cm, and those being considered for treatment below 5.5cm, should be discussed at the MDT. The decisions made at the MDT should be recorded, including the decision regarding Open or Endovascular repair for those patients proceeding to treatment. Any patient preferences for open or endovascular repair should be documented
 - Surgeons and radiologists who perform AAA treatments should regularly attend AAA MDT meetings. Whilst it is recognised that current anaesthetic job plans may not include provision for attendance at these MDT meetings, this should also be an aim.
 - It is advised that the MDT is supported by a coordinator in order to ensure all appropriate cases are discussed and adequate documentation is maintained.
- 5. Patient Information.** All patients should be provided with an AAA information leaflet detailing the risk, complications and expected outcomes/recovery periods of AAA treatment options. Two patient information leaflets have been designed for this purpose, one for patients undergoing regular surveillance and one for patients being considered for intervention. The 'Recovery from AAA Repair' patient information leaflets taken from the Vascular Society's AAA Quality Improvement Programme should also be provided to patients at the consultation or following surgery to provide more information on what to expect after AAA surgery e.g. pain, medication, returning to work.
- 6. Consent.** All patients should sign a consent form detailing the risks, benefits and complications of the procedure. Standard agreed information should be included along with any local risk figures. **All patients should be asked if their data can be entered into the National Vascular Database.**

Structure Change:

This bundle needs to be incorporated into routine paperwork.

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B. PROTOCOLS

PROFORMA 1



*The Vascular Society and
Vascular Anaesthesia Society of Great Britain & Ireland*

Elective Abdominal Aortic Aneurysm – Preoperative Safe for Intervention Checklist

Guidance Notes For Use

The Quality Improvement Programme is designed to reduce the peri-operative mortality rate for elective AAA intervention to less than 3.5% by 2013.

The Safe for Intervention Checklist (overleaf) will help to grade the risk of treatment for individuals with an unruptured AAA. It is recommended that the Checklist is completed for every patient being considered for elective AAA treatment and filed in the patient case notes.

The Checklist is designed to be used as part of decision-making process on whether to proceed with intervention or whether treatment should be postponed whilst patient fitness is improved. It is not designed to be used to decide on the need for intervention, but to inform the consent process with individual patients. It is recommended that the results of the Checklist should be shared with the patient and their views recorded in the case notes.

This Checklist should be used as part of preoperative workup as defined in the Quality Improvement Framework which should include preoperative assessment by an anaesthetist with experience in elective vascular anaesthesia (1). It is intended that the Checklist should be used as part of a suite of Quality Improvement Programme tools including an AAA pathway and an Multi-Disciplinary Team (MDT) proform (www.aaqip.com).

This document is endorsed by the VSGBI and VASGBI as a preliminary checklist. It is advised that all patients being considered for intra-abdominal aneurysm surgery should be assessed against it prior to being investigated for surgery.

(1) <http://www.vascularsociety.org.uk/library/quality-improvement.html>

Elective Abdominal Aortic Aneurysm – Preoperative Safe for Intervention Checklist

PATIENT DETAILS
Patient Name:
D.O.B:

NHS Number:

Questions	Y	N
1. Has the patient had a myocardial infarct or unstable angina/ angina at rest in the last 3 months?		
2. Has the patient had new onset of angina in the last 3 months?		
3. Does the patient have a history of poorly controlled heart failure? <i>(nocturnal dyspnoea or inability to climb one flight of stairs due to SOB)</i>		
4. Does the patient have severe or symptomatic cardiac valve disease? (e.g. Aortic stenosis with gradient >60mmHg or requiring valve replacement, drop attacks)		
5. Does the patient have significant arrhythmia? <i>(Symptomatic, ventricular, severe bradyarrhythmias or uncontrolled supraventricular tachycardia)</i>		
6. If available , does the patient have any of:- 1. FEV1 < 1.0 L or <80% of predicted value ; 2. PO2 < 8.0 kPa; 3. PCO2 > 6.5 kPa		

If the answer to any of 1 – 6 is yes, the patient is **coded RED** and is very high risk for surgery

Questions	Y	N
7. Does the patient get SOBOE climbing one flight of stairs? <i>(short slope if lives on one floor)</i>		
8. Does the patient have evidence of moderate renal impairment (creatinine >180 micromol/l) or previous renal transplant ?		
9. Has the patient had treatment for cancer in last 6 months, or has life threatening tumour?		
10. Does the patient have poorly controlled diabetes mellitus? <i>(HbA1c > 7.5%, blood sugar usually >10 mmol/l)</i>		
11. Does the patient have uncontrolled hypertension (i.e. SBP >190; DBP >105)		
12. Has the patient had a TIA or CVA within the last 6 months?		

If the answer to any of 7-12 is yes, the patient is **coded AMBER** and is higher risk for intervention.

Questions
If the answers to <u>all</u> of the above are no, the patient is coded GREEN and is fit to proceed, provided they are on appropriate preoperative medication

Other Risk Factors

Other risk factors that increase the risk (**amber**) or preclude (**red**) repair (circle): Yes / No
(e.g. dementia, cancer, stoma, adhesions - specify if yes):.....

Please Tick

Patient is coded:	Proposed Action:
Red	Not recommended for immediate intervention – Specialist review required if surgical treatment still to be considered.
Amber	Significant comorbidity requiring preoperative optimisation.
Green	Fit to proceed to further stage of formal assessment

N.B. It is recommended that all patients scoring red or amber should be reviewed by an Anaesthetist with experience in Vascular anaesthesia prior to listing for intervention.

Name: _____ Grade: _____ Date: _____

PROFORMA 2

NHS: Multidisciplinary Care Pathway for Elective AAA Intervention

PATIENT LABEL	DETAILS OF AAA
Name:	Asymptomatic / Symptomatic (circle)
DOB:	Give details if symptomatic:
Hospital No:	Maximum diameter (cm):

Date decision made to investigate with a view to intervention: / /
Name of Vascular Consultant making this decision:
Information leaflet on AAA and treatment options (circle): Yes / No State reason if no:
Urgency of investigation (circle): Urgent / Routine

KNOWN RISK FACTORS

Tick	Risk	Details
<input type="checkbox"/>	Technical	
<input type="checkbox"/>	Cardiac impairment	
<input type="checkbox"/>	Respiratory impairment	
<input type="checkbox"/>	Renal impairment	
<input type="checkbox"/>	Other (specify):	

INVESTIGATIONS REQUESTED (state reason if not requested)

Tick	Test	Results
<input type="checkbox"/>	FBC	
<input type="checkbox"/>	HbA1c (if diabetic)	
<input type="checkbox"/>	U&E	
<input type="checkbox"/>	LFT	
<input type="checkbox"/>	Coagulation screen ¹	
<input type="checkbox"/>	Cross infection screen	
<input type="checkbox"/>	ECG	
<input type="checkbox"/>	CXR*	
<input type="checkbox"/>	CPX	
<input type="checkbox"/>	Respiratory function*	
<input type="checkbox"/>	MUGA or echo*	
<input type="checkbox"/>	CTA	

Not required unless unsuitable for CPX or specifically indicated

MULTIDISCIPLINARY TEAM MEETING Date: .. / .. /

To discuss all patients with AAA > 5.5cm including those not operated on and those with aneurysms < 5.5cm being considered for treatment. Based on information captured above and with details of each case presented by the clinical team that did the outpatient consultation.

1. Team members present

Surgeon (s):

Radiologist(s):

Co-ordinator:

2. Anatomy

Suitable for EVAR: Yes / No / Maybe

Comment:

3. Physiology

Fit for surgery: Yes / No / Maybe

Comment:

4. Decision

Intervene: EVAR / Open

Further investigation:

Imaging (comment):

Physiology (comment):

Specialist consultation:

No intervention (comment):

5. MDT sign off

Surgeon:

Radiologist:

6. Co-ordinator transmits documents to Anaesthetist, date: .. / .. /

7. Decision re critical care bed: Yes / No

Comments on fitness for intervention:

Signed off by Consultant Vascular Anaesthetist:

TREATMENT PLAN DISCUSSED WITH PATIENT AFTER MDT

DATE: .. / .. /

Open Repair Waiting list form completed Patient given OR info leaflet

EVAR Request form completed Patient given EVAR info leaflet

No Intervention

Patient's comments or requests:

Patient's comments or requests:

APPENDIX C

ABDOMINAL AORTIC ANEURYSM QUALITY IMPROVEMENT PROGRAMME

ELECTIVE ABDOMINAL AORTIC ANEURYSM POST-OPERATIVE COMMUNICATION CARE BUNDLE

Guidance Notes For Use

Introduction

The National AAA Quality Improvement Programme seeks to drive up the standard of care provided to patients with AAA. Vascular clinicians taking part in our regional action plans have consistently revealed that they are *'unsure about particularly what patients' get out of information'*. Fulfilment of expectations is a strong predictor of patient experience (Pettersen et al, 2004). High quality communication helps to set expectations appropriately so that patients are mentally prepared for their operation.

High quality patient information:

- Enables patients to participate in decisions about their health and health care.
- Clarifies treatment options, highlighting risks and benefits and any areas of uncertainty.
- Encourages patients to take responsibility for maintaining their health.
- Clarifies what the Trust can and cannot provide.
- Reinforces verbal information as part of the process of informed consent.
- Improves patient safety.
- Reduces patient anxiety and improve patient outcomes.

Part of the QIP revolves around ascertaining patient views and seeking their active contribution to the production of written information and delivery of the programme. National patient groups have been set up in 7 regions of the U.K including Bristol, Newcastle, Leeds, Manchester, Aberdeen, Cardiff and London. A consistent theme that has emerged nationally is that patients feel they do not receive enough post operative information, in particular **what to expect**. Many patients reported that they faced unexpected consequences from AAA surgery and as a result this lead to anxiousness in their recovery. Patients' expectations need to be corrected and hospitals have a responsibility to provide the appropriate information to ensure patients' experience the best possible care.

Therefore, the AAA QIP has outlined a strategy that aims to:

- v) Address the lack of post operative recovery information that has been identified nationally.
- vi) Standardise the process of providing patient information.
- vii) Ensure patients are fully informed upon discharge (inc medication, pain relief & follow up).
- viii) Ensure patients are provided with a point of contact post-operatively to address concerns.

The following care bundle has been designed to achieve these aims. It should be implemented on all patients after surgical intervention.

The Care Bundles Concept

The theory behind care bundles is that when several evidence-based interventions/guidelines are **grouped together** and applied in a single 'protocol', it will improve patient outcome⁶. It is a simple method of monitoring adherence/existence of local guidelines, and as such is a valid assessment of quality.

- It will provide rapid easily interpretable information.
- It is a form of auditing and can identify areas for improvement.
- It is NOT prescriptive. Each unit can identify their own criteria for each element.

AAA POST OPERATIVE COMMUNICATION CARE BUNDLE
AAA PATIENTS FOLLOWING SURGICAL INTERVENTION

Protocol in Care Bundle	Intervention	Measure
DISCHARGE: 1. Patients should be given a written recovery patient information leaflet.	Provide patient with AAAQIP 'Recovery from AAA Repair (OPEN and EVAR)' patient information leaflet. Available at: http://www.aaqip.com/aaqip/pi-patient-information-leaflets.html	No. of patients receiving AAA recovery leaflet for the type of repair they received.
2. Provide patients with a consultation upon discharge to include explanations of any: a. Complications b. Implications for recovery c. Medication d. Follow up.	Consultation with specialist nurse/ward sister to be included as integral part of AAA discharge procedure.	No. of patients provided with consultation upon discharge.
3. Provide patients with a contact number to phone for advice in the early post-operative period.	Ensure local contact information is provided to patient.	No. of patients receiving local contact number.
4. Verbal telephone follow up: All patients should be contacted by a named individual (specialist nurse/house officer) in the early post operative period to check on recovery progress.	Specialist nurse/ named individual to schedule and undertake follow up telephone call.	No. of patients receiving follow up telephone call between 48-72 hours/1 week after discharge.

Notes:

1. The AAAQIP 'Recovery from AAA Repair (OPEN & EVAR)' patient information leaflets have been developed in collaboration with national AAA patient groups. These include information on what to expect on the ward, mobilizing procedures etc... Pain, medication, mobility, driving and work upon returning home and important information about follow up and what to do if problems occur. They also include findings from our patient groups such as feeling low in spirits, the possibility of longer recovery times and post operative symptoms. Available at: <http://www.aaqip.com/aaqip/pi-patient-information-leaflets.html>
2. Findings from our national patient groups have revealed that many patients are not informed about the consequences of complications once they have occurred and patients lack explanations on medication including pain and statins and when to lower dosage. The vascular team should have a consistent approach to communication about progress along the pathway and reinforce agreed discharge plans. Variance should be clearly explained along with implications for discharge from hospital and future recovery.
3. Patients should be provided with both a normal working hour's telephone point of contact as well as an out of hour's point of contact. This can include a local specialist vascular nurse, GP or emergency department.
4. A verbal telephone follow up call should take place between 48 - 72 hours/1 week following discharge. This provides an opportunity to ensure that recovery is proceeding as planned and to answer any queries that patients or their carers may have.

APPENDIX D



ABDOMINAL AORTIC ANEURYSM QUALITY IMPROVEMENT PROGRAMME (AAAQIP)



TELEPHONE FOLLOW UP PROTOCOL FOR AAA PATIENTS

This proforma is to be used as a guide for telephone follow ups for AAA patients who have been discharged from hospital. The telephone follow up should take place between 48-72 hours/ 1 week after discharge depending on the locally agreed protocol.

Expected post operative symptoms:

- **OPEN REPAIR:** Patients will still be sore and having difficulty moving, but should be coping with oral painkillers.
Medication: Pain killers
Follow up appointment: No
- **EVAR:** Patients should be getting up and about without much pain, controlled on oral analgesia.
Medication: Pain killers
Follow up appointment: Yes (6 weeks)

Patient Name:	Type of repair: OR <input type="checkbox"/>	Date discharged:
Patient I.D:	EVAR <input type="checkbox"/>	
Name of clinician carrying out telephone follow up:	Job role:	Date:
1. How are you feeling following your surgery? <i>If patient is feeling ill: Clarify if it is pain, illness such as upset tummy or chest problems such as a cough.</i>		
2. Do you have a family member/ carer looking after you? Yes <input type="checkbox"/> No <input type="checkbox"/> If no; suggest the patient seeks help from a family member or friend.		
3. Were you prescribed pain killers upon discharge? Yes <input type="checkbox"/> No <input type="checkbox"/> If no; send new prescription (ACTION)		
4. Have you got any pain? Yes <input type="checkbox"/> No <input type="checkbox"/> <i>If yes: Are you managing this adequately with the painkillers provided?</i> Yes <input type="checkbox"/> No <input type="checkbox"/>		
5. Are you clear about the medication you should be taking i.e. statins? Yes <input type="checkbox"/> No <input type="checkbox"/>		
6. Are you clear about what happened during your operation i.e. any complications and how long it should take you to recover? Yes <input type="checkbox"/> No <input type="checkbox"/> If no; inform of any complications that occurred and send recovery leaflet (ACTION)		

7. Is your wound(s) healing satisfactorily?
 Yes No
 If no, why?

a. Is your wound(s) dry?
 Yes No

b. Is there any surrounding redness or discharge from the wound(s)?
 Yes: redness No
 discharge

If yes; Book for early follow up appointment (ACTION)

8. Do you have any stitches and clips still in place?
 Yes No

a. If yes do you have a date for them to be removed by the district nurse?
 Yes No

If no, Follow this up (ACTION)

9. Are you aware of when your next follow up appointment is?
 Yes No

If no, Check this and let the patient know (ACTION)

10. Did you get written information given to you before or after your operation?
 Yes No

11. Did you find it useful?
 Yes No

a. If no, what else would like to see in it?

12. Are there any concerns I can help you with today?

Actions required (please list all and then carry them out)

ACTION	REQUIRED	COMPLETED
1. Resend prescription (pain killer <input type="checkbox"/> / statin <input type="checkbox"/>).	<input type="checkbox"/>	<input type="checkbox"/>
2. Resend patient information leaflet	<input type="checkbox"/>	<input type="checkbox"/>
3. Ensure the patient is booked into be seen by the district nurse and inform patient.	<input type="checkbox"/>	<input type="checkbox"/>
4. Book for early follow up appointment	<input type="checkbox"/>	<input type="checkbox"/>
5. Book for standard follow up appointment	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>
10.		

Please return this form to the relevant consultant's office for filing in the patient's notes. (This is a formal record and will be signed off in the patient's notes).

Sign off

Name:

Date:



The Abdominal Aortic Aneurysm Quality Improvement Programme

On behalf of the
The Vascular Society of Great Britain and Ireland
35-43 Lincoln's Inn Fields
London
WC2A 3PE

www.aaqip.com

www.vascularsociety.org.uk

