Acute Sigmoid Volvulus

Study protocol – June 2026

Study Advisory Group

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Introduction

Acute Sigmoid Volvulus (ASV) is a common emergency condition leading to bowel obstruction. Global incidence is variable but collectively it accounts for 10-15% of all large bowel obstruction (LBO) admissions [1]. In the UK it is less frequent but still accounts for 2-3% of all cases of intestinal obstruction and 5-10% of LBO [2]. Multiple risk factors have been documented, including age over 60, multi-comorbidity, frailty, institutionalisation and/or learning disabilities. ASV therefore represents a significant area of health inequality[3]. With the growing size of the older population in the UK, currently predicted to increase from 18% of the population over 65 years, to 26% over 65 by 2065 (https://ageing-better.org.uk/our-ageing-population-state-ageing-2025), it is likely that the numbers presenting with ASV will also increase.

ASV is often recurrent in nature (80% in some case series), associated with significant morbidity and mortality (25-50%) as well as affecting patients quality of life and range of associated socio-economic impacts. There is wide variation in clinical, diagnostic and management strategies with patients often attending recurrently with no formalised long-term management plan or advanced care planning. Broadly options include surgical interventions or conservative management.
However,surgery is often very high risk in the affected population and conservative management results in multiple hospital attendances for recurrence[3,4,5,6]. There remains no clear preferential option and management strategies are often guided by surgeon and patient preferences. Understanding better the effective treatment and management strategies is crucial for improving clinical outcomes [5,6].

ASV poses significant clinical and diagnostic challenges, as outlined above, necessitating timely intervention to prevent complications and improve patient outcomes. Although ACPGBI and WSES consensus guidelines make several recommendations for optimal management pathways these are based on Grade 1c evidence and there is huge scope for further work in this area [7,8].

References

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Guidelines and standards

WSES consensus guidelines on sigmoid volvulus management

ACPGBI Emergency General Surgery Guidelines

American Society for Gastrointestinal Endoscopy guideline on the role of endoscopy in the management of acute colonic pseudo-obstruction and colonic volvulus

Aim and objectives

Aim

To identify areas of good practice and areas requiring improvement in the quality of care provided for patients admitted to hospital with acute sigmoid volvulus

Themes

1. Early recognition and diagnosis
2. Clinical decision-making
   - decompression vs surgery
3. Timeliness of care
4. Peri-procedure care and risk reduction
5. High-quality comprehensive care throughout the pathway including post-discharge and follow-up

Objectives

Organisational issues

Data collected from the organisational questionnaire

1. Provision/ resources to deliver the service
   a. Access to/ use of:
      i. Imaging (XR/ CT) (including out-of-hours access)
      ii. Endoscopy (rigid sigmoidoscopy/ flexible endoscopic decompression
   b. Organisation of delivery of decompression
      i. Variation in access to endoscopy unit (flexi sigmoidoscopy): in hours/out of hours
      ii. Alternatives: Rigid sigmoidoscopy/Flatus tube
   c. Access to theatre (on site/off site)
      i. Early access theatres vs CEPOD/ Urgent "hot list"
      ii. In hours/ out of hours
   d. Provision/use of rigid sigmoidoscopy vs flexi sigmoidoscopy
2. Protocols, pathways of care, and the use of guidelines
   a. Decision making, investigations (early CT), decompression, surgery, palliative care
   b. Mental Capacity Act (MCA)/ consent-policy
   c. Post-procedure care
      i. Post- decompression: onward referral to colorectal surgery for assessment of suitability for surgery
      ii. Post-operative care
   d. Plan for patients at discharge (covering first time and repeat admissions)
      i. Definitive plan for treatment (including delayed surgery)
      ii. Follow up with specialist surgeon
   e. Post-discharge
      i. Rehabilitation, access to therapy services
      ii. Stoma care (if needed)
      iii. Follow-up post-surgery
   f. Information / communication and involvement for patients and carers
3. Staffing
   a. Training/ competency
   b. Recognition/ diagnosis
   c. Decompression - sigmoidoscopy
   d. Availability, on-call cover:

i. Colorectal surgeons, general surgeons, upper GI surgeons, Emergency General surgeons
ii. POPS (Perioperative Care of Older People undergoing Surgery)
iii. Specialist nurses
iv. ACPs, colorectal nurse specialists, Associates/ assistants

e. Post-discharge
i. Access to rehabilitation therapies, stoma nurses

4. Information, communication and documentation
a. Information held on patient care record
b. Proformas and handover sheets
c. Bidirectional data sharing between providers
i. Standard sharing of patient information with care homes/ supported living/ other community care providers
ii. Information sharing with primary care providers
iii. Shared care plan
iv. Ceilings of care/ DNACPR
d. The availability of information for patients/ carers

5. Audit / learning/ feedback
a. Local audits
b. Incident reporting
c. Patient Safety Incident Response Framework (PSIRF) or equivalent
d. Section 28 in past 3 years
e. Mortality & Morbidity meetings

Clinical issues

Data can be collected from the clinical questionnaire, the reviewer assessment form and clinician survey.

To explore and investigate areas for improvement in the following areas:

1. Early recognition, diagnosis
- Prompt identification of the condition.
- Appropriate and timely use of imaging such as CT scans.
- Appropriate and timely use of flexible or rigid sigmoidoscopy.
- Rapid escalation when diagnosis is unclear or patient deteriorates.

2. Clinical decision-making
- Appropriate assessment/ investigation
- Frailty assessment, Risk assessment capacity assessment and tailored decision making.
- Assessment for ischaemia or perforation
- Treatment decision/ conservative management
- Determination of medical vs. surgical management.
  - Eg, Following decompression- was the patient referred for surgical treatment?
- Consideration of options such as PEC (percutaneous endoscopic colostomy) and palliative approaches where appropriate.
- Multidisciplinary input in decision for surgery and post-operative care plan, including: Surgeons, Perioperative care for older people (POPS) specialists, physicians, critical care and anaesthesia as well as patient, carers, and family—respecting consent, capacity, and shared decision-making.

- Documentation of decision-making

3. Timeliness of treatment
    - Timely establishment of diagnosis.
    - Timely decompression.
    - Avoiding delays in planning and undertaking surgery when indicated.
    - Timely surgical intervention.
    - Timely escalation of care and referral for surgery.
4. Peri-procedure care and surgical considerations
    - Risk assessment for surgery.
    - Optimisation
        - Management of operation postponement and re-optimisation
    - Appropriateness and timing of the operation.
    - Consent processes and capacity evaluation.
    - Post-operative care planning and delivery and monitoring for complications.

5. Medicines and Comprehensive Care
    - Early pain relief
    - Medication review and optimisation.
    - Feeding and nutrition
        - Planning when a patient should be NBM (nil by mouth).
        - Safe feeding strategies before and after interventions.
    - Correction of any electrolyte/ metabolic disturbances
    - Prehabilitation where feasible.
    - Robust communication and documentation around all decisions.
    - Palliative and Supportive Care
        - Clear palliative care pathways.
        - Symptom control and advance planning.
    - Documentation and record keeping
        - Shared care plan
        - Data sharing (discharge summary)
    - Discharge and Follow-Up
        - Effective discharge planning and rehabilitation.
        - Ensuring continuity of care across community and secondary services.
        - Stoma care (if required)
        - Plan for patients at discharge (Covering first time and repeat admissions)
            - Definitive plan for treatment (including delayed surgery)
            - Follow up with specialist surgeon for definitive treatment decision
            - Preventing readmissions.

Methods

Inclusion criteria

- Patients aged 18 and older who were admitted to hospital between 01/01/2025 and 31/12/2025 with acute sigmoid volvulus. ICD10 coding (K56.2) and OPCS coding* will be used to identify patients.

**listed in appendix 1*

Exclusions

Caecal volvulus, gastric volvulus, small bowel volvulus

Data sampling

- Up to 8 patients per hospital will be selected for inclusion in the study.

Including:

  - Up to 2 patients who underwent surgery for acute sigmoid volvulus
  - All in-hospital deaths
  - Readmissions (up to 50%)

Participating providers of healthcare

- Data will be collected from all hospitals in England, Wales, Northern Ireland and Jersey, which admit and treat patients with acute sigmoid volvulus

Incidence and prevalence

Table 1: HES data: Number of admissions for relevant ICD10 code for volvulus

HES (2023) Primary diagnosis: 4 character code and description		Admissions	Emergency	Mean length of stay	Mean age
K56.2	Volvulus	5,560	4,799	7.8	72

Study Scoping

A scoping exercise was undertaken to provide further detail on the numbers of patients admitted to hospital with volvulus. A spreadsheet was circulated to a number of different hospitals to return some basic data about the patients who were admitted to hospital and coded for volvulus between 01/01/2025-31/12/2025, including number of admissions, length of hospital stay, whether a surgical procedure for ASV was undertaken. No patient identifiable information was collected.

- ***2,054 admissions were identified across 27 trusts***
  - ***From 1,663 patients***
  - ***Average of 76 cases / 62 patients per hospital***
  - ***Most patients identified: 250***
  - ***Least patients identified: 12***
  - ***Median: 43***
- ***184 patients with >1 admission in 2025***
  - ***Representing 575 admissions***
  - ***Representing 11.1% of ASV patients***

Study promotion

- Prior to data collection, NCEPOD will contact all hospitals providing care to this group of patients.
- The study will also be promoted via NCEPOD Local Reporters (sending the study poster on to the relevant departments), the relevant Colleges and Associations, and any relevant patient groups and third sector organisations.

Study method test

- The data collection methods and tools will be tested to ensure they are robust to collect sufficient information to address the study objectives before the full study is undertaken.

Methods of data collection

There will be five main methods of collecting data for the study:

1. **Patient and carer** views will be collected through an **online anonymous survey**. We will work with Local Reporters, study contacts and relevant charities to encourage involvement.

2. **Clinician** views will be collected through an **anonymous online survey** for healthcare professionals who treat patients with ASV. This questionnaire will be targeted at, but not limited to, clinicians (doctors and nurses) working in hospitals who treat patients with ASV.

3. An **organisational questionnaire** will be sent to all hospitals that treat patients with ASV.

4. Clinical data collection – retrospective data collection: For a sample of patients, a questionnaire will be sent to the clinician responsible for the patient at the time of discharge (**clinician questionnaire**) and the patients named GP.

5. Case note review: Copies of the relevant case notes related to the admission with ASV for the sample of patients selected above will be collected for detailed peer review. Reviewers' opinion on the quality of care provided will be collected through completion of the **Reviewer Assessment Form**.

Further details on each method of data collection are given below.

1. Anonymous online patient/carer survey

The survey will gather data on the patient/ carer views of the services available to them and their experience of care provided. It will also collect information about support services and information they were provided. The data will not be linked to any other aspects of data collection.

2.Anonymous online clinician survey

The survey will gather data on clinician views of the services available for them to provide care to patients who require ASV management. It will also collect information around confidence, competency, decision-making, training and support available when providing care to this group of patients. This survey will be targeted at colorectal, general surgery consultants and residents, as well as gastroenterologists, emergency medicine physicians, endoscopists and general and colorectal nurses. The data will not be linked to any other aspects of data collection.

3. Organisational questionnaire

Data will be collected at a hospital level and will collect information around the organisation of services (surgery and decompression), access to imaging/ endoscopy protocols and pathways of care, staffing arrangements, the availability of information, training, and audit and data collection. An organisational questionnaire will be sent to all participating hospitals via the online questionnaire system.

4. Clinical data collection – retrospective data collection

Patient identification

The Local Reporter will be asked to complete the patient identification spreadsheet with the details of all patients (aged 18 and older) who were admitted to hospital with acute sigmoid volvulus (K56.2) during 2025 (01/01/2025- 31/12/2025).

The data fields requested will include NHS number, hospital number, date of birth, sex, ethnicity, date of admission, source of admission, ICD10 codes, OPCS codes, critical care admission, discharge destination, date of discharge, clinician code and specialty for the consultant responsible at the time of discharge.

Clinician questionnaires

A clinician questionnaire will be used to collect clinical data that may not be found in the case notes for this study. It will have key questions about the care this patient received before, during and after their presentation/s with ASV during 2025. Clinician questionnaires are completed by the relevant consultant responsible for the patient during their admission via the NCEPOD online questionnaire portal.

Questionnaires will be sent to the NCEPOD Local Reporter for dissemination via the online questionnaire system. A reminder will be sent at six weeks and ten weeks where the data is outstanding. Up to 6 patients per hospital will be sampled for inclusion in the study, including where possible 2 patients who have had surgery and 4 who were readmitted and 1 patient who died during the admission.

GP Questionnaires

A short questionnaire will be sent to the named GP (as recorded on the patient record), which will collect data on the interactions with primary care post-discharge as well as the structures in place for data sharing with secondary care

5. Case note review

Photocopied/scanned/downloaded case notes related to each admission with ASV will be requested for each patient included in the study sample. (N.B where there are multiple admissions, the 'index admission' is considered as the most recent one or where patient underwent surgery for ASV)

Notes requested will include for the i*ndex admission*, and previous admissions (if applicable):

- ED documentation
- Medical annotations
- Admission clerking
- Imaging reports: CT/ X Ray
- Endoscopy reports
- Operation notes
- Anaesthetic chart
- Consent form, MCA documentation
- ICU/critical care notes (if applicable)
- Drug charts
- Discharge summary
- Feeding charts
- NEWs charts

30-day readmissions related to the ASV admission

- All above for readmission(s)

Upon receipt at NCEPOD the case notes will be redacted if not already done so prior to sending.

Reviewer assessment form

A multidisciplinary group of reviewers (detailed below) will be recruited to assess the case notes and questionnaires and provide their opinion on what went well and what did not go well during the process of care via the reviewer assessment form.

Table 4 summarises the data sources for significant points along the pathway.

Area of enquiry	Method of data collection	Confidentiality
Acute care	Case notes, clinician questionnaire, organisational questionnaire	Identifiable
	Online clinician survey	Anonymous

Table 5 Anticipated sample sizes of each type of data collected:

Data source	Target number
Organisational questionnaire	~200
Clinician questionnaires	Up to a maximum of 6 per hospital
Case note review	Up to a maximum of 6 per hospital
Clinician online survey (non-identifiable)	300
Patient survey	Up to 100

Reviewers

A multidisciplinary group of reviewers will be recruited to assess the case notes and questionnaires and provide their opinion on what went well and what did not go well during the admission.

- Acute physicians
- Advanced nurse practitioner/ advanced clinical practitioners
- Anaesthetists
- Colorectal surgeons
- Colorectal nurses
- Perioperative medicine for older people (POPS)
- Gastroenterologists
- Critical care physicians
- Emergency medicine clinicians
- General nurses
- General physicians
- General surgeons
- Radiologists
- Resident doctors

An advertisement will be sent to NCEPOD Local Reporters to disseminate throughout the relevant departments. It will also be placed on the NCEPOD website and social media channels. Successful applicants will be asked to attend a training day where they will each assess cases to ensure consistent assessment. A number of case review meeting dates will be arranged, and each reviewer will then be asked to attend a minimum of a further 4 meetings. NCEPOD staff will ensure there is a mix of specialties at each meeting from across the UK. Each meeting will be chaired by an NCEPOD clinical coordinator who will lead discussion around the cases under review. The meetings will either be held in person in the

NCEPOD office, or over Microsoft Teams with secure and temporary access to the case notes for review (not downloadable or printable by the case reviewer).

Confidentiality and data protection
All data held by NCEPOD are held securely and protected by NCEPOD.

In order to carry out this work in England and Wales, we have been given 'section 251' support to collect and use this information under very strict conditions of confidentiality and data security by the Secretary of State for Health and Social Care, on advice from the Confidentiality Advisory Group (CAG).

In addition, in England, the National Data Opt-Out (NDOO) is a process that allows individuals to opt-out of their confidential patient information being used for purposes other than medical care. To ensure that NCEPOD recommendations are not affected by reported variations in who is opting out, we will not be excluding the data of individuals who have opted out via the NDOO. We have been granted this exemption by the Secretary of State for Health and Social Care, on advice from the Confidentiality Advisory Group (CAG). However, individuals still have the right to contact NCEPOD and ask for their data to be removed and permanently erased.

Ethical approval will not be required to undertake this study. Duty of candour is covered by the NCEPOD Cause for Concern policy, which ensure that any cases reviewed as less that satisfactory and as a cause for concern are discussed and action taken where required.

Analysis and Review of Data

Towards the end of the study the study advisory group and case note reviewers will be invited to attend a meeting where the initial data analysis will be presented and discussed with them, for comment and suggestion on whether further analysis is required and the potential study recommendations.

The NCEPOD steering group, NCEPOD clinical and non-clinical coordinators, study advisory group and case note reviewers will be sent two copies of the draft report and the draft recommendations for their comment.

Study outputs
On completion of the study a report will be published and widely disseminated to all stakeholders to encourage local quality improvement (QI). In addition to the report, supporting tools will be made available including:

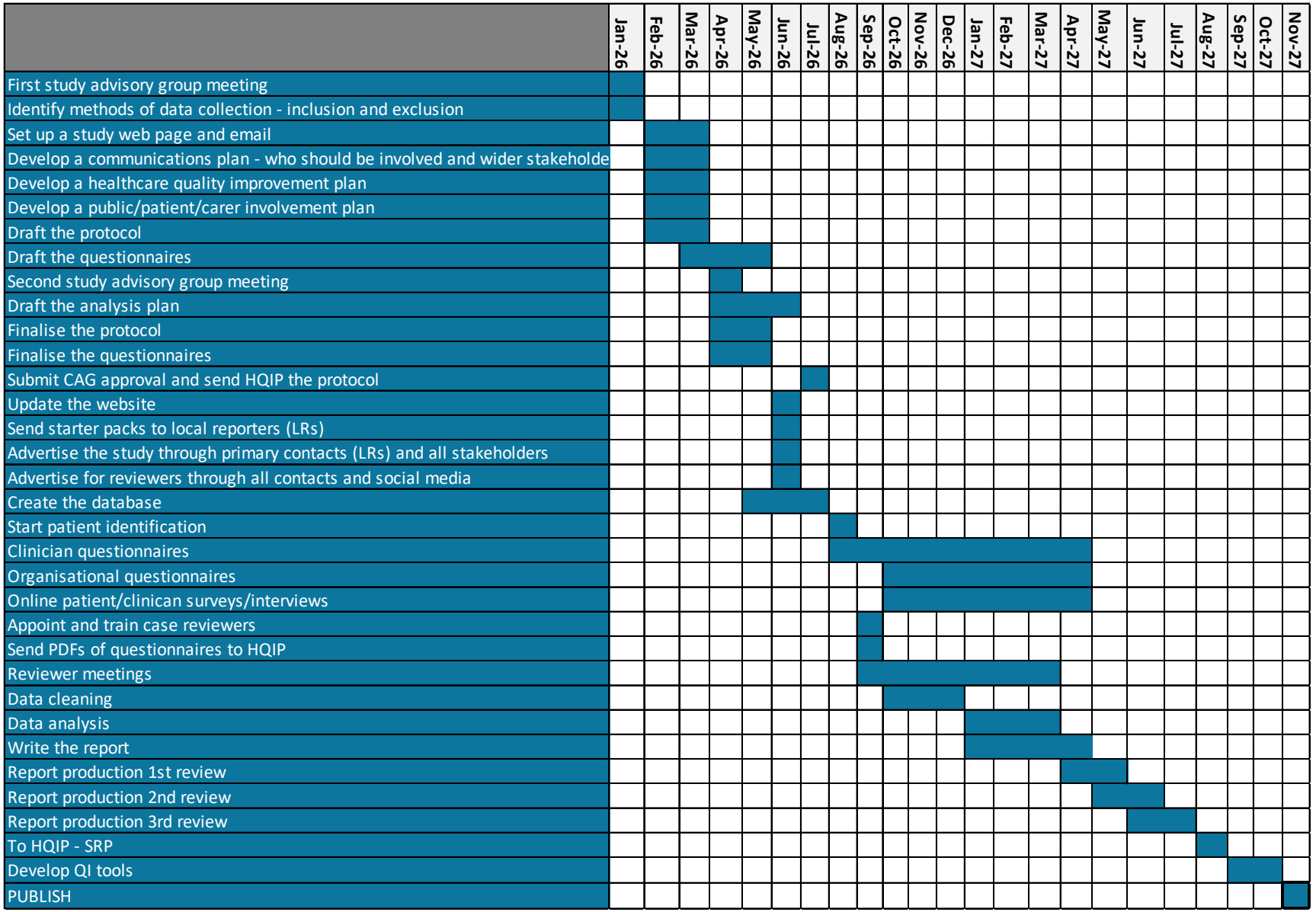
- A summary report and summary sheet
- A patient information leaflet
- Infographics
- The recommendation checklist
- An audit tool
- A slide set
- A guide for commissioners
- Quality improvement tools
- Useful links

Examples of good practice will be shared, and additional QI tools will be developed where appropriate. Key messages from the report will be shared via social media.

Following publication, the report findings will be shared at national and local conferences, study days and other events; and papers submitted to journal for consideration for publication.

Data sharing

Post publication of the study there is the potential to share anonymised data sets with interested parties working in the same field. This will be undertaken following a strict process and will ensure the data does not become identifiable in their nature due to small numbers.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First study advisory group meeting
Identify methods of data collection - inclusion and exclusion
Set up a study web page and email
Develop a communications plan - who should be involved and wider stakeholde
Develop a healthcare quality improvement plan
Develop a public/patient/carer involvement plan
Draft the protocol
Draft the questionnaires
Second study advisory group meeting
Draft the analysis plan
Finalise the protocol
Finalise the questionnaires
Submit CAG approval and send HQIP the protocol
Update the website
Send starter packs to local reporters (LRs)
Advertise the study through primary contacts (LRs) and all stakeholders
Advertise for reviewers through all contacts and social media
Create the database
Start patient identification
Clinician questionnaires
Organisational questionnaires
Online patient/clinican surveys/interviews
Appoint and train case reviewers
Send PDFs of questionnaires to HQIP
Reviewer meetings
Data cleaning
Data analysis
Write the report
Report production 1st review
Report production 2nd review
Report production 3rd review
To HQIP - SRP
Develop QI tools
PUBLISH