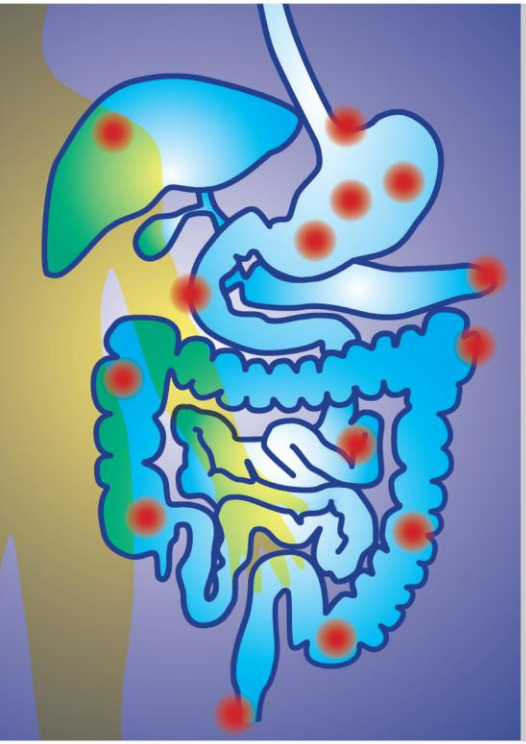
@ncepod #GIB

National Confidential Enquiry into Patient Outcome and Death



Time to Get Control?

A review of the care received by patients who had a severe gastrointestinal haemorrhage

NCEPOD

Method

Neil Smith

Introduction

- Gastrointestinal bleeding is one of the commonest medical emergencies
- The incidence rate of 1.33/1000 population equates to approximately 85,000 cases/year in the UK or one gastrointestinal bleed every 6 minutes
- Several surveys have shown that current services are inadequately resourced, particularly in the out-of-hours period

Introduction

- Second commonest medical reason for transfusion, accounting for 14% of all blood transfusions
- Early treatment can reduce the number of units of blood received and complications
- Managed by both medical and surgical teams
- Traditionally split into upper GI and lower GI bleeding

Introduction

- There has been a focus on upper GI bleeds including a large BSG audit of 6750 patients in 2007 and subsequent quality improvement initiatives
- Conversely the review of services for lower GI bleeds has been lacking

Aim

To identify the remediable factors in the quality of care provided to patients treated for a GI bleed (upper and lower) who received 4 or more units of blood.

Objectives – study advisory group

- Severe GI bleeds
- Quality of assessment including the use of risk stratification scores
- Admission/referral pathways
- Availability and appropriate use of endoscopy, IR, surgery and blood products
- Outcomes and learning

Study population

- All patients who were admitted to hospital in the 4 months between 1st January 2013 and 30th April 2013 that had a diagnosis of GI bleeding at any point during their inpatient stay and received 4 or more units of red blood cells
- The number of cases for which questionnaire completion and photocopied case notes were requested, was limited to a maximum of five per hospital

Case ascertainment

- Patient identifier spreadsheet
  - Patients were identified retrospectively via ICD10 coding
  - Blood transfusion data
  - OPCS codes
  - Details of responsible consultant
- Clinician questionnaire
  - Consultant responsible for patient at time of discharge
  - Information on presenting features, investigations, treatment, escalation in care, planned follow up.

Case ascertainment

- Peer review data
  - Case notes for the inpatient stay
  - Focussed assessment form
  - Opinion on aspects of care and treatment decisions
- Organisational questionnaire
  - Endoscopy service
  - Interventional radiology and surgery
  - Networks, guidelines and standard operating procedures

Overall assessment of care

Good practice: A standard that you would accept from yourself, your trainees and your institution.

Room for improvement: Aspects of **clinical** care that could have been better.

Room for improvement: Aspects of **organisational** care that could have been better.

Room for improvement: Aspects of both **clinical and organisational** care that could have been better.

Less than satisfactory: Several aspects of **clinical and/or organisational** care that were well below that you would accept from yourself, your trainees and your institution.

Insufficient data: Insufficient information submitted to NCEPOD to assess the quality of care.

Data returns

80% (618/769) of clinician questionnaires returned

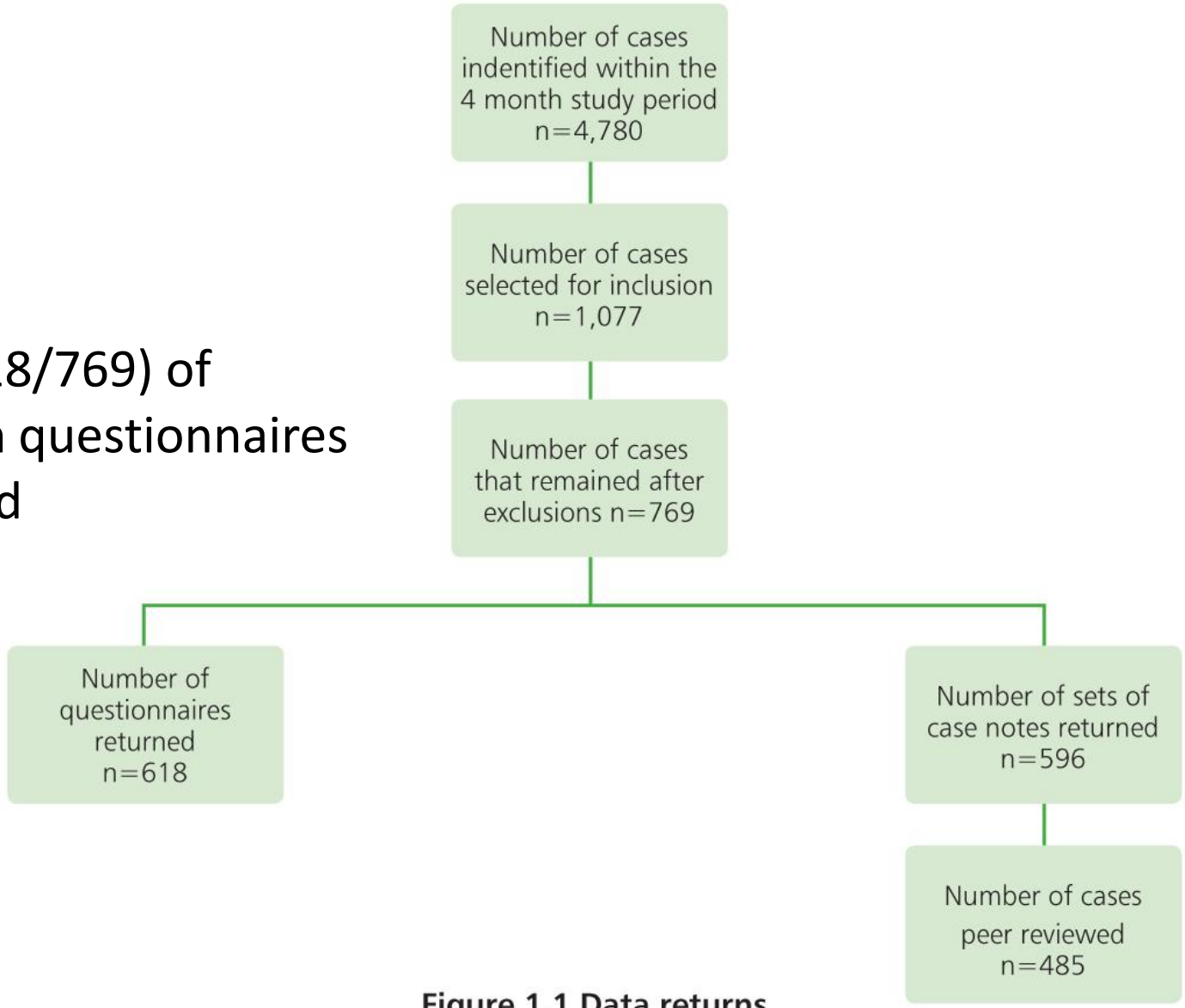


Figure 1.1 Data returns

Organisational data

Types of ward

Table 2.3 Wards where upper GI bleed patients are admitted

Type of ward	Number of hospitals
Gastroenterology ward	129
General medical ward	119
Acute medical unit*	36
Critical care*	22
General surgical ward*	17
Hepatology	12
Gastrointestinal bleed unit	5

** Free text answers listed under other. Answers may be multiple*

Table 2.4 Wards where lower GI bleed patients are admitted

Type of ward	Number of hospitals
General surgical ward	156
Gastroenterology ward	65
General medical ward	43
Critical care*	22
Surgical assessment unit*	18
Gastrointestinal bleed unit	2

** Free text answers listed under other*

Types of ward

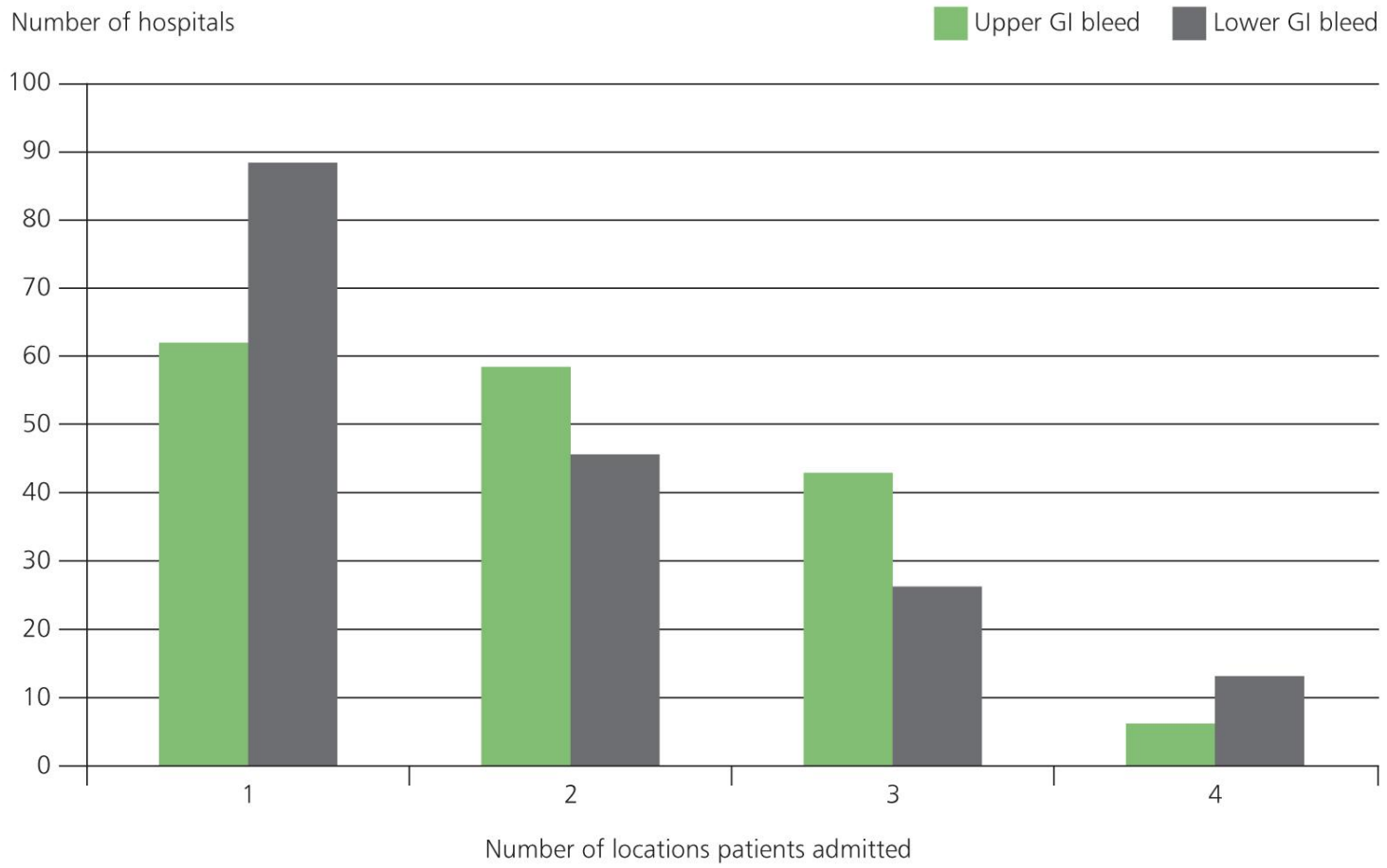


Figure 2.1 Number of locations where upper and lower GI bleed patients are admitted

Endoscopy – JAG accreditation

Table 2.5 JAG accreditation (all hospitals)

JAG accredited	Number of hospitals	%
Yes	148	73.3
No	54	26.7
Subtotal	**202**	
Not answered	3	
Total	**205**	

Table 2.6 JAG accreditation (hospitals where patients with a GI bleed are admitted)

JAG accredited	Number of hospitals	%
Yes	138	75.0
No	46	25.0
Subtotal	**184**	
Not answered	2	
Total	**186**	

OGD locations

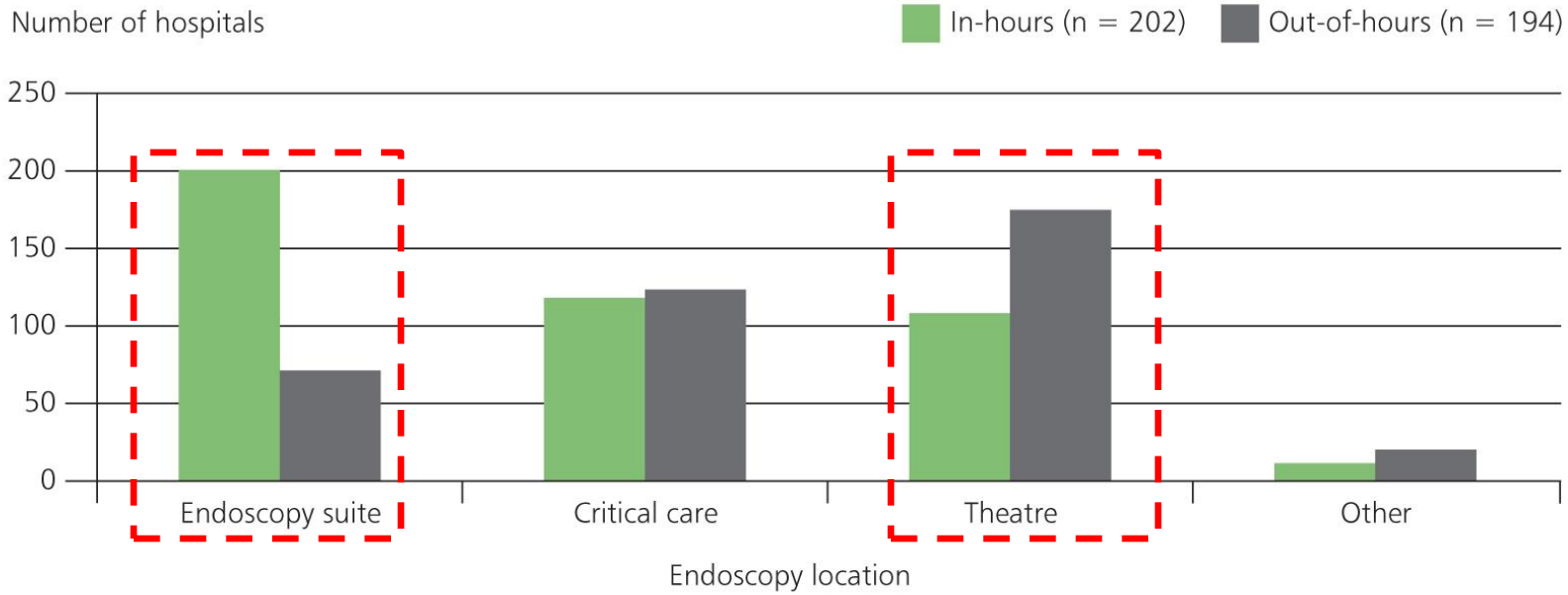


Figure 2.2 Locations where OGDs were performed

OGD equipment

Table 2.8 Equivalent equipment available for OGDs out-of-hours as in-hours

Equivalent equipment available	Number of hospitals	%
Yes	161	85.6
No	27	14.4
Subtotal	**188**	
Not answered/Not applicable	17	
Total	**205**	

CASE STUDY 1

A middle aged patient with no prior medical history presented with haematemesis. An early OGD performed in theatre under general anaesthetic identified oesophageal varices but the banding equipment malfunctioned. No back-up was available in theatre or obtained from elsewhere. No sclerosant was available in theatre and treatment was delayed whilst this was obtained. Peri-variceal injection of adrenaline was also used.

The reviewers did not agree with the treatment modalities used. They questioned whether the endoscopy service had contingency plans for equipment failure, irrespective of the site where the OGD was performed.

Endoscopy on-call rotas

Table 2.10 Endoscopy on-call rota (hospitals to which patients with a GI bleed are admitted)

Endoscopy on-call rota	Number of hospitals	%
Yes	138	74.6
No	47	25.4
Subtotal	**185**	
Not answered	1	
Total	**186**	

Endoscopy 24/7

Table 2.12 Endoscopy on-call rota 24/7 (hospitals to which patients with a GI bleed are admitted)

Endoscopy on-call rota 24/7	Number of hospitals	%
Yes	125	90.6
No	13	9.4
Total	**138**	

Table 2.13 Endoscopy service 24/7 (hospitals to which patients with a GI bleed are admitted)

Endoscopy service 24/7	Number of hospitals	%
Yes	125	67.6
No	60	32.4
Subtotal	**185**	
Not answered	1	
Total	**186**	

Endoscopy on-call rota

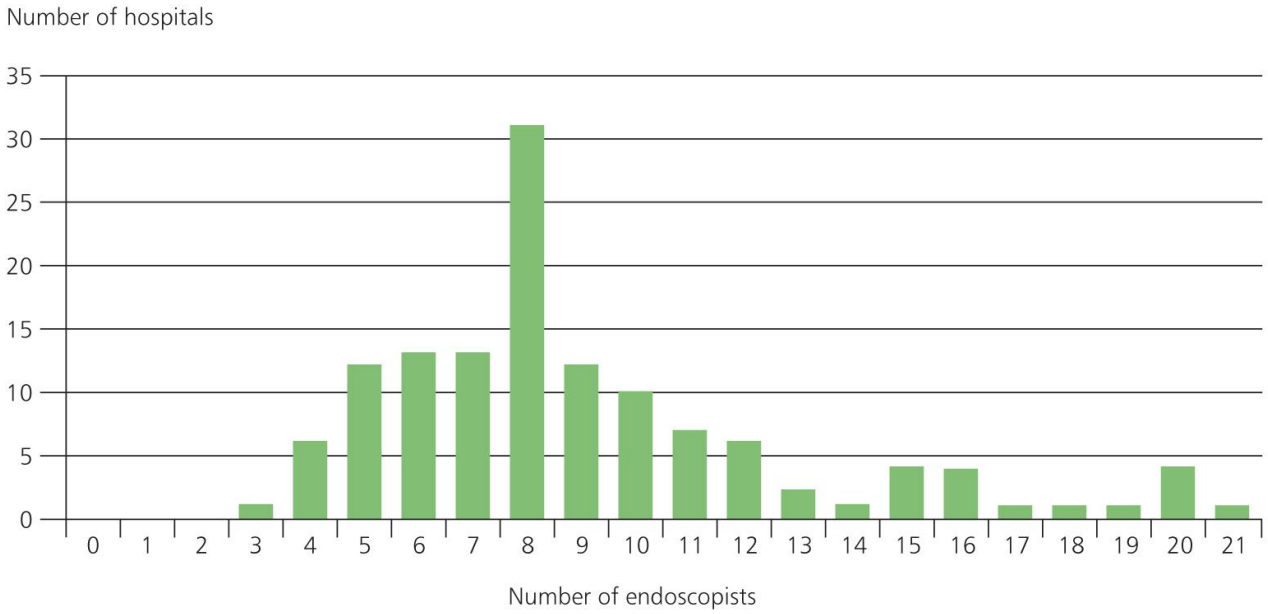


Figure 2.3 Number of endoscopists (consultants + trainees)

Endoscopy on-call rota

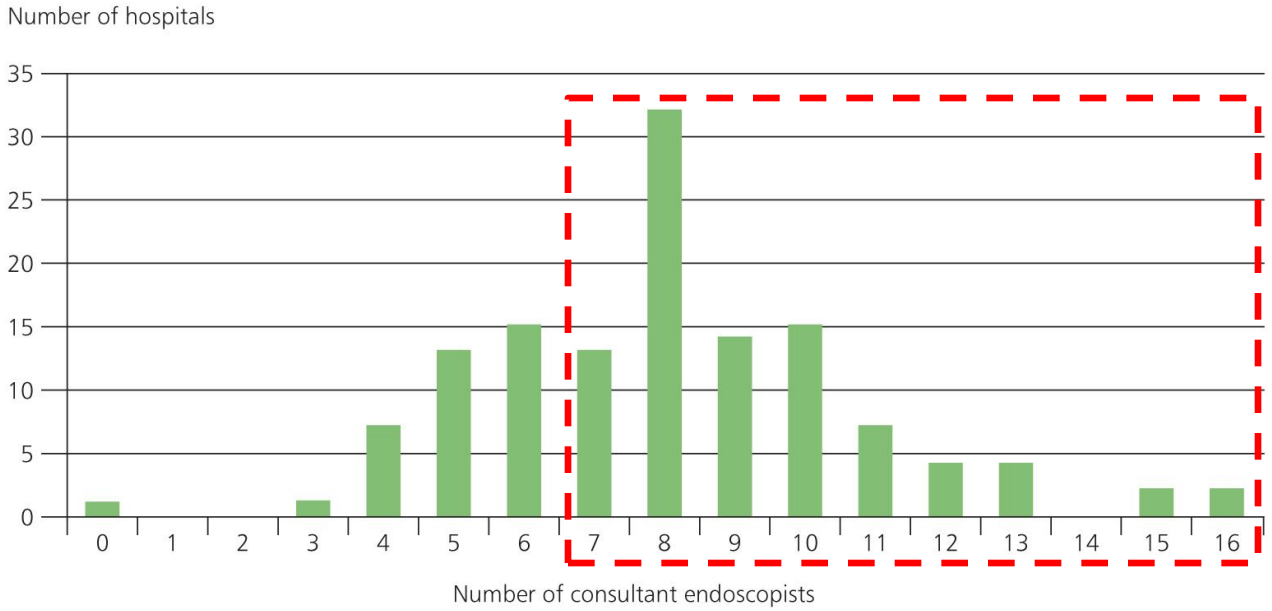


Figure 2.4 Number of consultant endoscopists

Major omission in skill set – glue for gastric varices

Endoscopy nurse on-call rota

Table 2.15 Endoscopy nurse on-call rota

Endoscopy nurse on-call rota	Number of hospitals	%
Yes	86	61.0
No	55	39.0
Subtotal	**141**	
Not answered	5	
Total	**146**	

CASE STUDY 4

An elderly patient developed melaena whilst an inpatient for investigation of chronic anaemia. There was no on-call OGD service. The on-call ST3 phoned for assistance. The opinion from a unit elsewhere was that the patient was unfit for transfer. A local gastroenterologist was contacted and agreed to perform an OGD if an endoscopy nurse could be found. No nurse was available. The patient suffered a myocardial infarction and then a large hemispheric stroke. End of life care was instituted.

The reviewers agreed that transferring the patient would be hazardous but on balance it was the only option. This case emphasised the need for comprehensive on-call rotas with all required staff readily identifiable and available. Informal local or network approaches are fragile and often lead to delays in treatment. The reviewers recognised that in some formal networks the procedural team travel to the patient.

Endoscopy service responsibility

Table 2.16 Responsibility for running the on-call endoscopy service

Endoscopy on-call service	Number of hospitals	%
Gastroenterologists	85	60.7
Gastroenterologists/surgeons	38	27.1
Gastroenterologists/other	9	6.4
Gastroenterologists/surgeons/other	4	2.9
Surgeons	4	2.9
Subtotal	**140**	
Not answered	6	
Total	**146**	

Proctoscopy, sigmoidoscopy & colonoscopy

Table 2.17 Proctoscopy and rigid sigmoidoscopy available 24/7

Proctoscopy and rigid sigmoidoscopy 24/7	Number of hospitals	%
Yes	134	68.4
No	62	31.6
Subtotal	**196**	
Not answered	9	
Total	**205**	

Table 2.18 Availability of colonoscopy

	In-hours		Out-of-hours	
Colonoscopy	Number of hospitals	%	Number of hospitals	%
Yes	192	98.5	108	55.4
No	3	1.5	87	44.6
Subtotal	**195**		**195**	
Not answered	10		10	
Total	**205**		**205**	

Interventional radiology

- IR service
  - 70% (141/202) of hospitals had IR service on-site
  - 48% (67/140) of these had an on-call service for IR

Table 2.20 Ability to embolise GI bleeds 24/7

GI bleeds embolised 24/7	Number of hospitals
Yes	56
No	11
Total	**67**

Formal network for embolisation

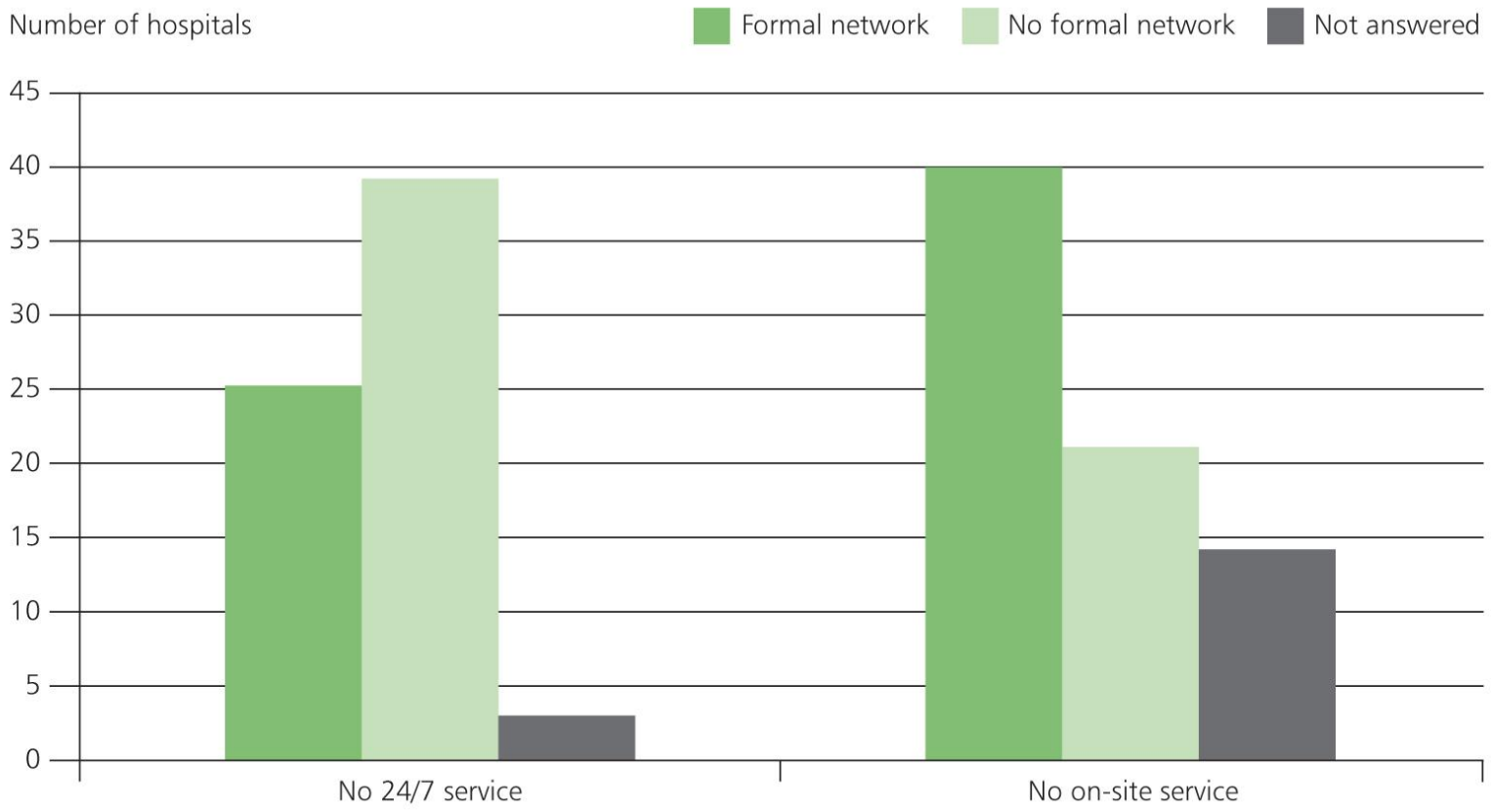


Figure 2.5 Formal network arrangements for the embolisation of GI bleeds

Transjugular intrahepatic porto-systemic shunt

- 13 hospitals reported having a service to perform TIPSS 24/7

Table 2.22 Arrangements for where TIPSS could not be performed 24/7 on-site

Formal network	Number of hospitals	%
Yes	94	50.8
No	91	49.2
Subtotal	**185**	
Not answered	7	
Total	**192**	

Vascular radiographers and radiology nurses

Table 2.23 Vascular radiographer availability at hospitals where embolisation could occur

Vascular radiographer on-call rota	Number of hospitals	%
Yes	48	87.3
No	7	12.7
Subtotal	**55**	
Not answered	1	
Total	**56**	

Table 2.24 Radiology nurse availability at hospitals where embolisation could occur

Radiology nurse on-call rota	Number of hospitals	%
Yes	50	90.9
No	5	9.1
Subtotal	**55**	
Not answered	1	
Total	**56**	

Surgical services for GI bleeds

Table 2.25 Surgical service able to treat GI bleeds in-hours (all hospitals)

GI bleed surgical service in-hours	Number of hospitals	%
Yes	181	90.5
No	19	9.5
Subtotal	**200**	
Not answered	5	
Total	**205**	

Table 2.27 Surgical service for GI bleeds 24/7

GI bleeds treated surgically 24/7	Number of hospitals	%
Yes	172	97.2
No	5	2.8
Subtotal	**177**	
Not answered	4	
Total	**181**	

Emergency theatre teams

Table 2.29 Availability of an emergency theatre team on-site for GI bleeds

Emergency theatre team on-site	Number of hospitals	%
Yes	162	93.1
No	12	6.9
Subtotal	**174**	
Not answered	7	
Total	**181**	

GI bleed guidelines

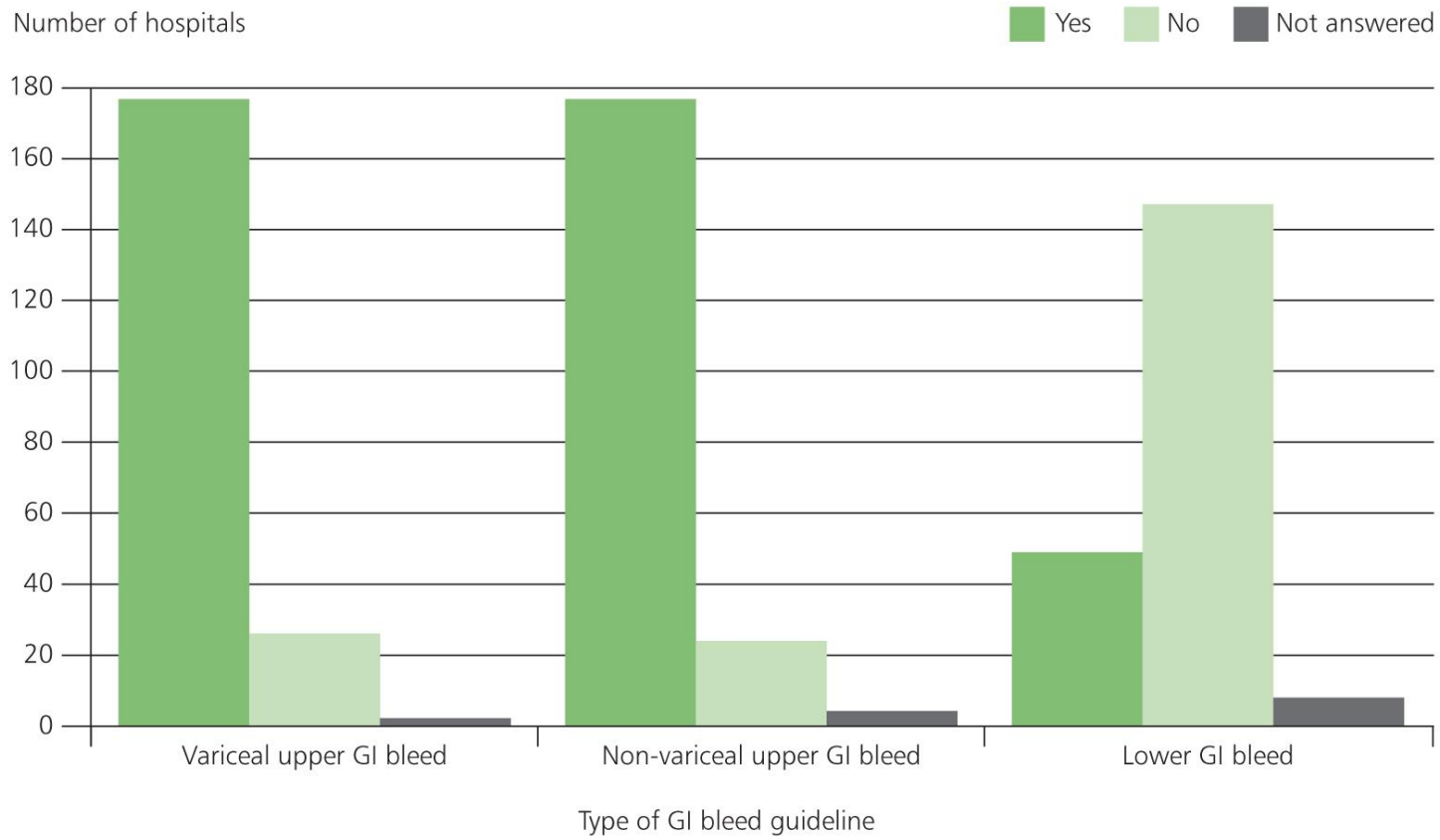


Figure 2.6 Availability of written guidelines for the management of GI bleeding

Clinical governance

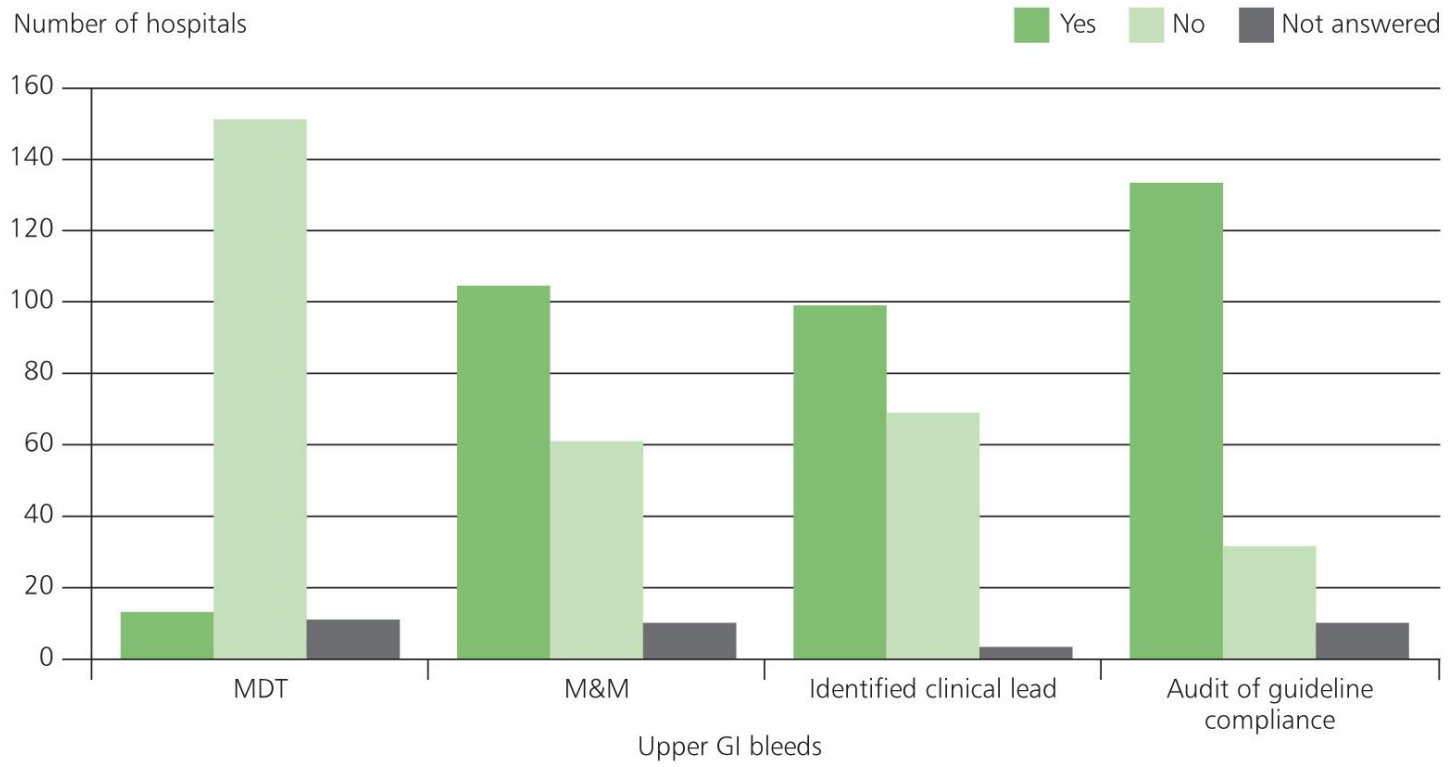


Figure 2.7 Local clinical governance of upper GI bleeds

Clinical governance

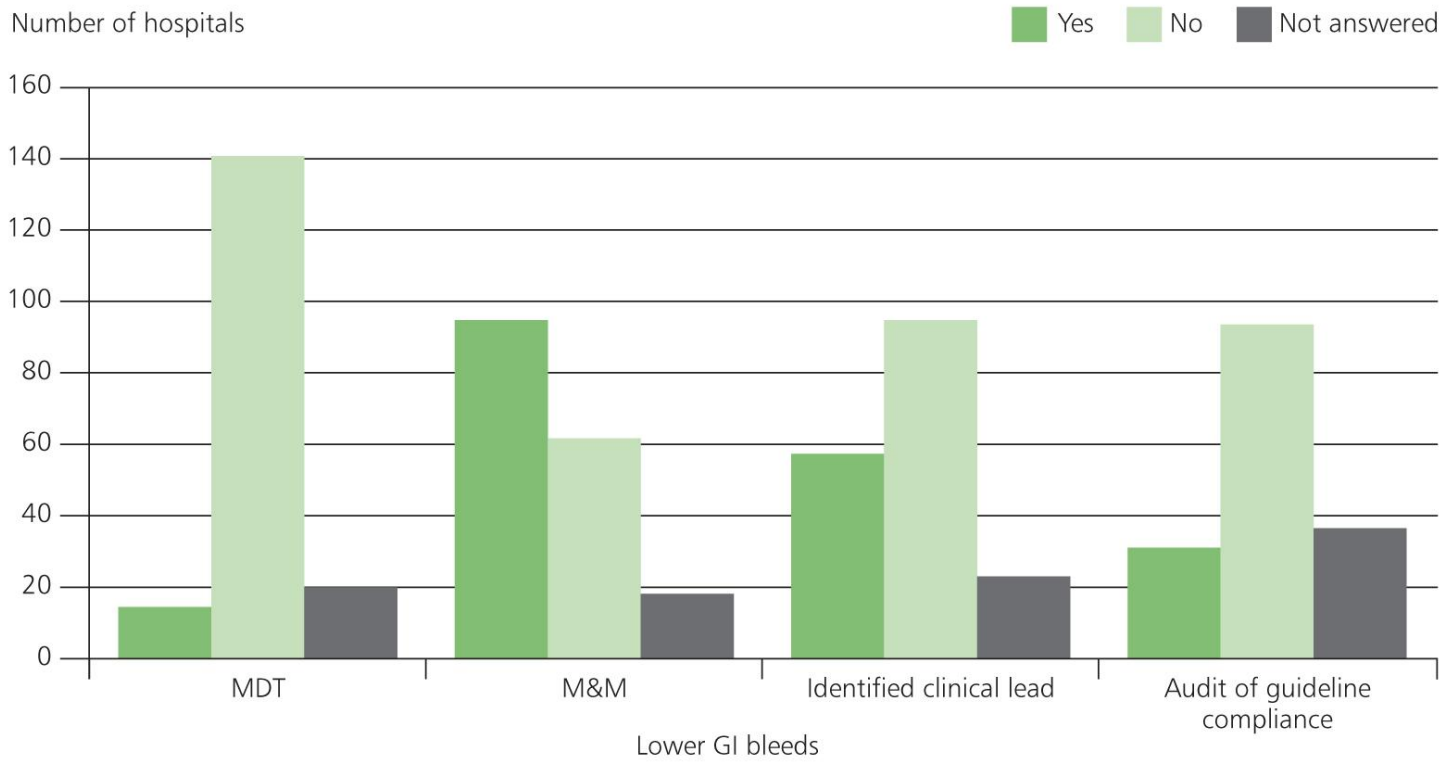


Figure 2.8 Local clinical governance of lower GI bleeds

Equipment failure

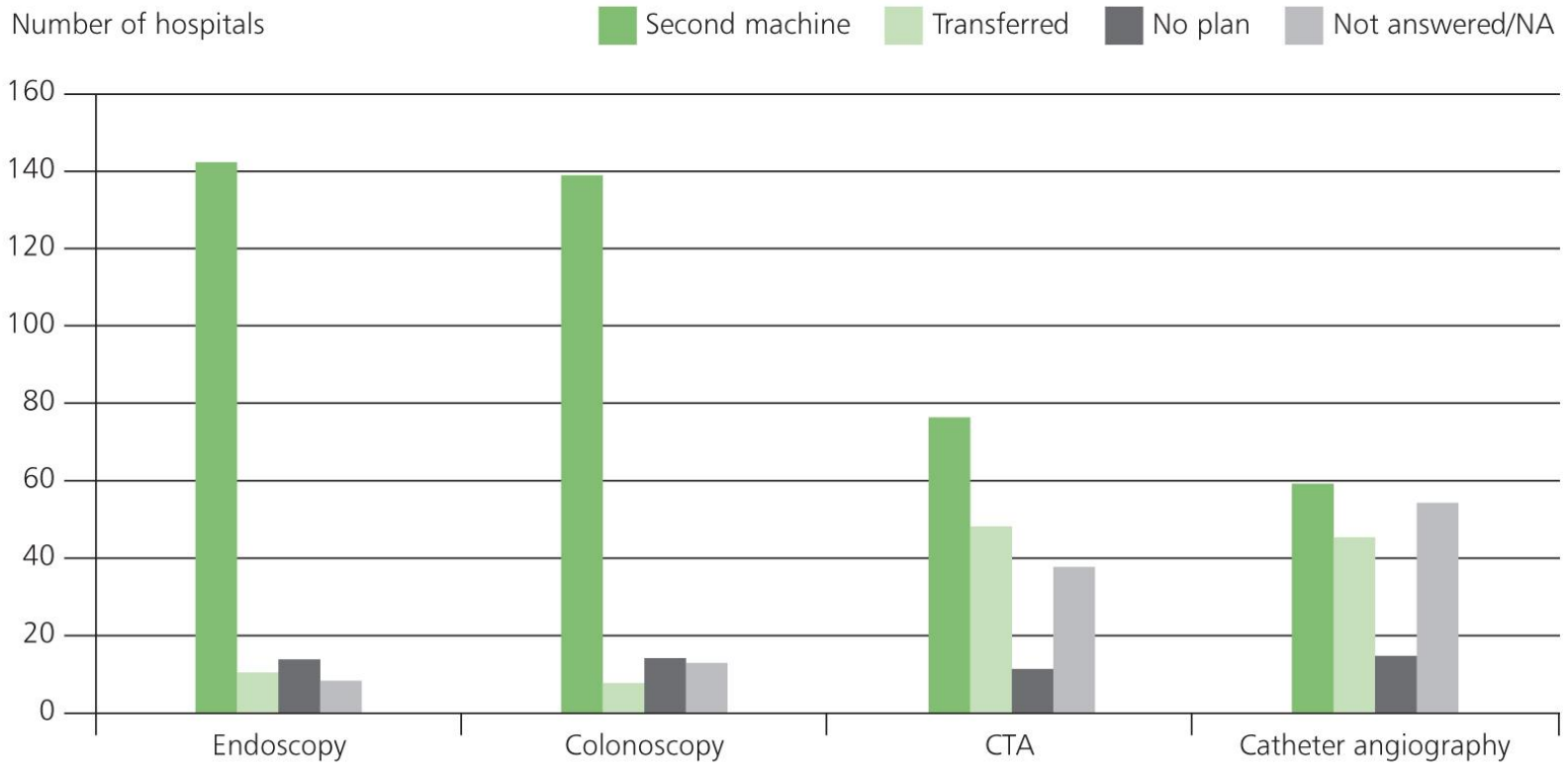


Figure 2.9 Management in the event of equipment failure

High cost replacement program

Table 2.35 High cost equipment replacement program

High cost equipment replacement programme	Number of hospitals	%
Imaging and endoscopy	59	35.8
Endoscopy	42	25.5
Imaging	19	11.5
Neither	45	27.2
Subtotal	**165**	
Not answered	21	
Total	**186**	

Recommendations

Endoscopy equipment and nursing support should be comparable in all locations where endoscopy is performed.

All hospitals to which patients with a GI bleed are admitted should have their endoscopy units accredited by the Joint Advisory Group (JAG) on GI Endoscopy.

The Joint Advisory Group (JAG) on GI Endoscopy should consider including access to and delivery of 24/7 endoscopy for GI bleeding in their Global Rating Scale.

Recommendations

All hospitals must have an integrated replacement plan for all high cost equipment which plans 5 years ahead and is reviewed annually.

Hospitals should have contingency plans for failure of endoscopy, interventional radiology or surgical equipment.

Patient Demographics

Martin Sinclair

Age

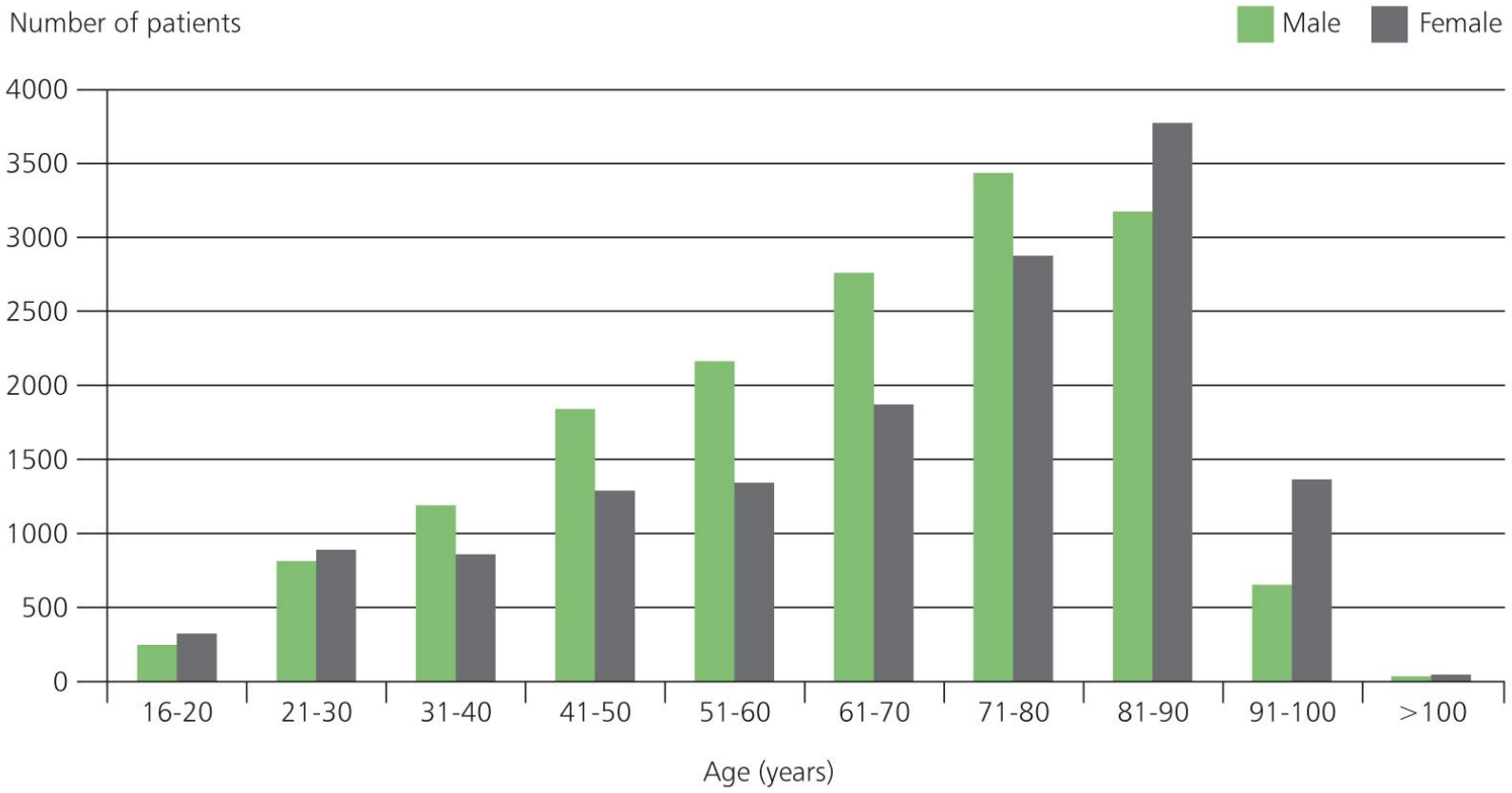


Figure 3.1 Age of all patients identified of having a GI bleed

Age

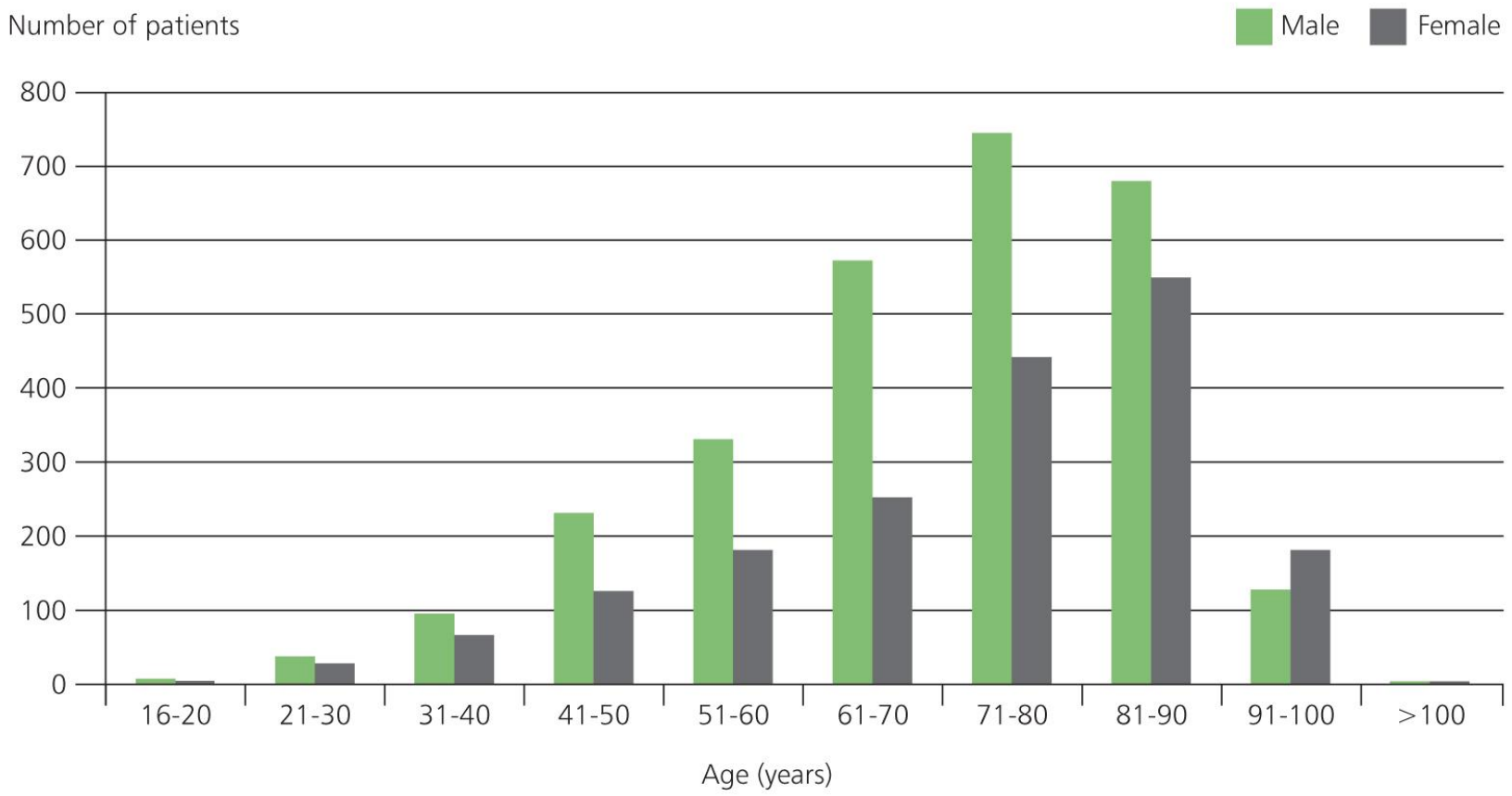


Figure 3.2 Age of all patients who received 4 units of blood or more

Age

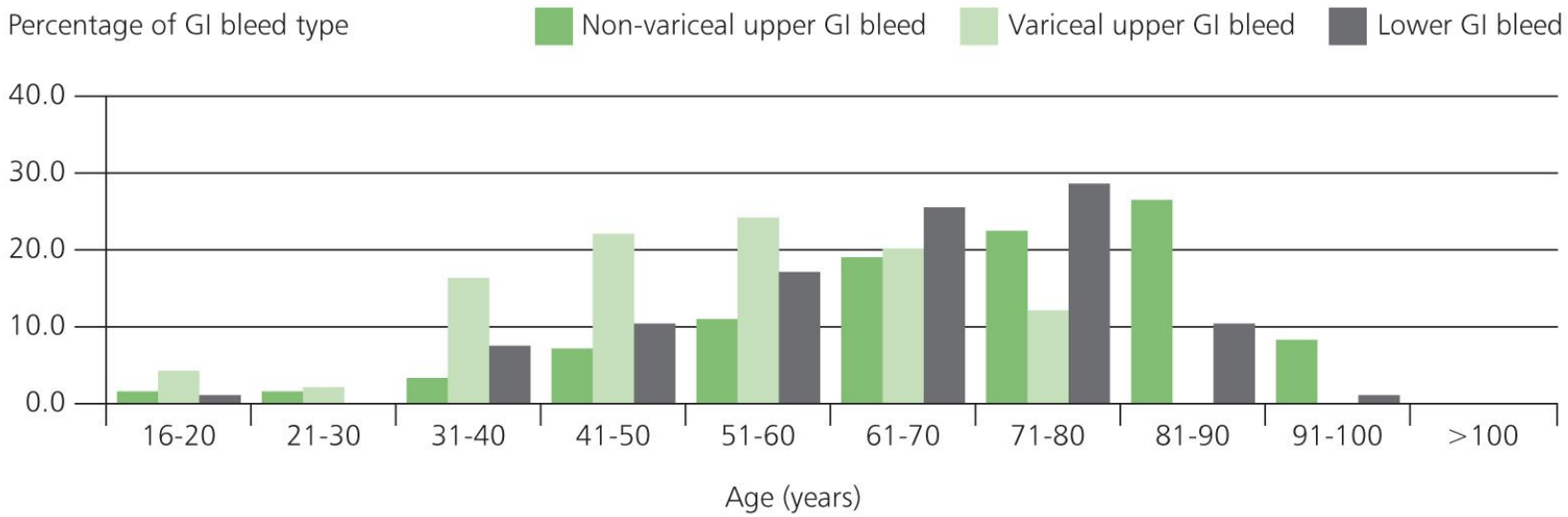


Figure 3.3 Age distribution by type of bleed

Type of GI bleed

Table 3.1 Type of GI bleed

Type of GI bleed	Number of patients	%
Non-variceal upper GI bleed	358	57.9
Lower GI Bleed	138	22.3
Variceal upper GI Bleed	50	8.1
Not diagnosed	72	11.7
Total	**618**	

Type of GI bleed by type of admission

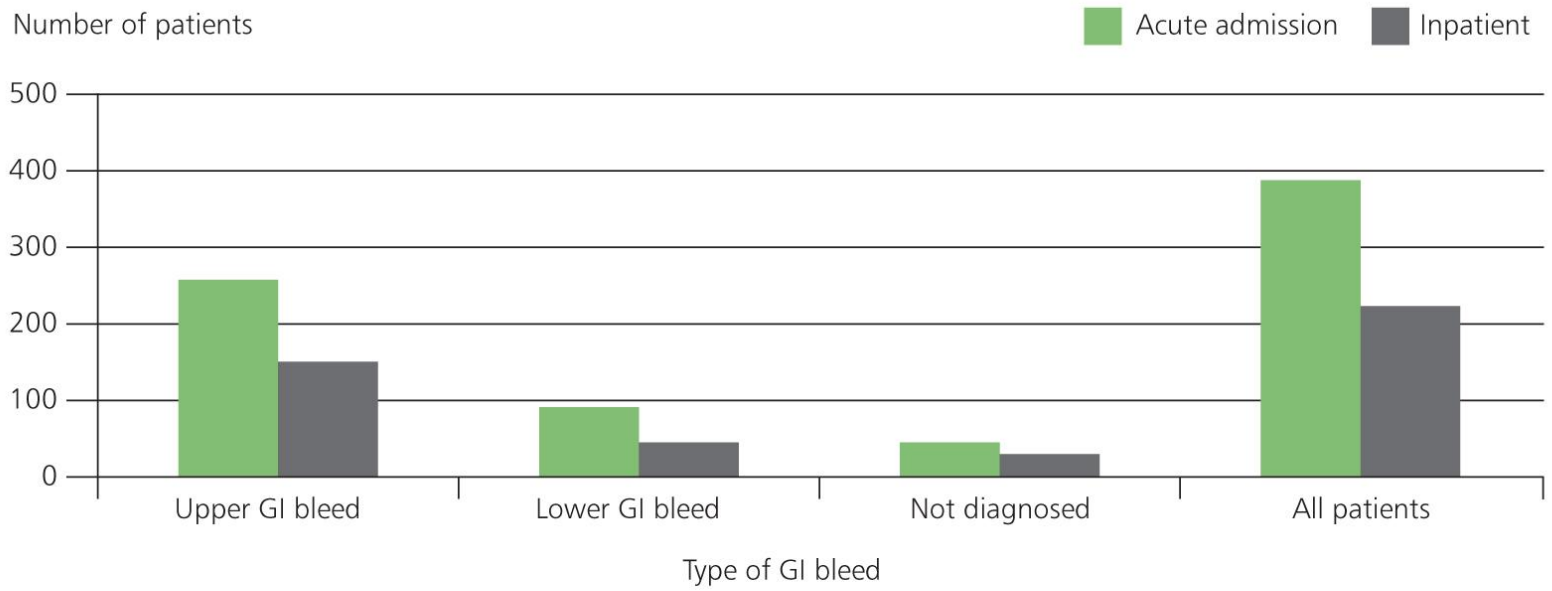


Figure 3.4 Type of bleed by admission type

Co-morbidities

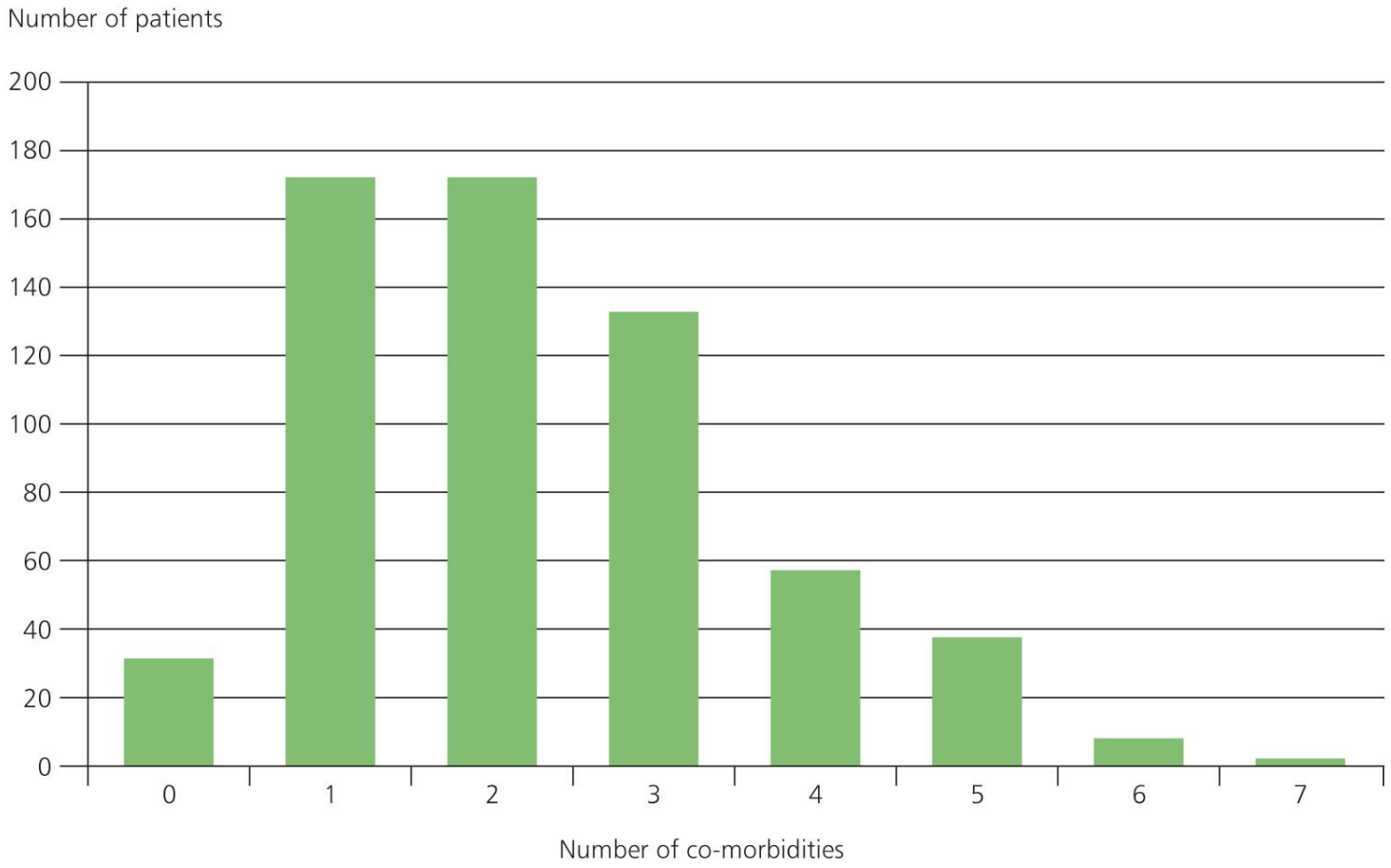


Figure 3.5 Distribution of the number of co-morbidities

Admission

Admission

Table 4.1 Type of admission

Type of admission	Number of patients	%
Non-elective	593	96.6
Elective	21	3.4
Subtotal	**614**	
Not answered	4	
Total	**618**	

CASE STUDY 7

An elderly patient presented with bright red rectal bleeding under the general medical team. There was no evidence of haemodynamic stability. The admission haemoglobin was 90g/L with a platelet count of 70x10/^{9}L. Four units of blood and two units of platelets were administered. The haemoglobin was not re-checked during the transfusions. An OGD the following day was normal. A belated per rectal examination revealed a palpable rectal tumour. No consultant review was recorded.

The reviewers considered the clinical assessment was poor, the OGD was an unnecessary invasive procedure and the blood and platelet transfusions were not indicated. Appropriate consultant review may have improved the quality of the assessment and avoided unnecessary interventions.

Time to consultant review

Table 4.3 First consultant review was sufficiently prompt for patient's condition – reviewers' opinion

Timely consultant review	Number of patients	%
Yes	296	84.1
No	56	15.9
Subtotal	**352**	
Not answered	6	
Total	**358**	

Team managing upper GI patient on admission

Table 4.4 Team that managed patient on admission/ when they presented with an upper GI bleed

Team that managed patient	Number of patients	%
General/acute medicine	140	47.5
Gastroenterology/GI bleed team	40	13.6
General surgery	29	9.8
Emergency medicine	22	7.5
Care of the elderly	16	5.4
Critical care medicine	15	5.1
Cardiology	10	3.4
Trauma & orthopaedics	3	1.0
Hepatology	2	0.7
Other	18	6.1
Subtotal	**295**	
Unknown	17	
Total	**312**	

Team managing lower GI patient on admission

Table 4.6 Team that managed patient on admission/ when they presented with a lower GI bleed

Team that managed patient	Number of patients	%
General surgery	40	40.8
General medicine	24	24.5
Surgery (other)	6	6.1
Emergency medicine	6	6.1
Gastroenterology/GI bleeding team	4	4.1
Care of the elderly	4	4.1
Critical care medicine	4	4.1
Other	10	10.2
Subtotal	**98**	
Unknown	8	
Total	**106**	

CASE STUDY 9

An elderly patient recovering from hip fracture surgery on an orthopaedic ward developed melaena. The patient was reviewed and managed by the foundation trainee who monitored reducing haemoglobin. A clotting screen and group and save were omitted. No consultant review occurred for 72 hrs during which the haemoglobin dropped to 60g/L. The foundation doctor had difficulty obtaining input from the gastroenterology team who eventually agreed to perform an OGD. This failed to reveal the cause of the bleeding. Despite subsequent transfusion the patient continued to bleed and the gastroenterology team was called again. A repeat OGD revealed a bleeding DU which was successfully treated and the bleeding stopped.

The reviewers felt that care had been suboptimal because of delays in performing endoscopy and accepting responsibility for the GI bleed.

Presentation of bleed

Table 4.7 Presentation of GI bleed

Presentation	Number of patients	%
Admitted with a GI bleed	296	62.2
Inpatient GI bleed	180	37.8
Subtotal	**476**	
Unknown	9	
Total	**485**	

Delay in recognition of bleed

Table 4.8 Delay in recognising the inpatient's GI bleed – reviewers' opinion

Delay	Number of patients	%
No	135	79.4
Yes	35	20.6
Subtotal	**170**	
Unknown	10	
Total	**180**	

Initial risk assessment score used

Table 4.9 Initial risk assessment score used

Risk assessment score used	Number of patients	%
Yes	125	34.1
No	242	65.9
Subtotal	**367**	
Unknown	108	
Not answered	15	
Total	**490**	

Initial risk assessment by type of admission

Table 4.10 Initial risk assessment undertaken by type of admission

	Admitted with upper GI bleed		Inpatient upper GI bleed		All upper GI patients	
Risk assessment score used	**Number of patients**	**%**	**Number of patients**	**%**	**Number of patients**	**%**
Yes	80	42.3	29	26.9	109	36.5
No	109	57.7	79	73.1	190	63.5
Subtotal	**189**		**108**		**299**	
Unknown/not answered	53		55		109	
Total	**242**		**163**		**408**	

Shock index

Table 4.11 Shock index

Shock index	Number of patients	%
≤0.7	210	35.8
>0.7 ≤1	225	38.3
>1 ≤1.3	101	17.2
>1.3	51	8.7
Subtotal	**587**	
Insufficient data	31	
Total	**618**	

CASE STUDY 10

An elderly patient with an exacerbation of COPD was admitted and treated with antibiotics and steroids. The patient normally took warfarin for atrial fibrillation which was stopped after two weeks when some streaky haemoptysis developed. Aspirin was started without ulcer prophylaxis. After a further two weeks GI bleeding occurred with a drop in blood pressure and haemoglobin. There was no endoscopy service on-site and the patient was deemed too unstable at that stage to transfer for OGD. Several days later the patient was transferred and the OGD was performed. However, the patient subsequently died from respiratory complications.

The reviewers felt that the combination of steroids and aspirin without proton pump inhibitors for ulcer prophylaxis, along with the delay to OGD, may have contributed to the death.

Medications stopped in hospital

Table 4.13 Medications that were stopped in hospital post GI bleed

Medication	Prior to GI bleed	Stopped post GI bleed	% stopped
Aspirin	209	180	86.1
Proton pump inhibitor	128	5	3.9
Warfarin	80	68	85.0
Heparin/low molecular weight heparin-prophylactic dose	79	77	97.5
Clopidogrel	78	66	84.6
Non steroidal anti-inflammatory drugs (NSAIDs)	39	39	100.0
Steroids	36	13	36.1
Heparin/low molecular weight heparin-treatment dose	27	27	100.0
H2 antagonists	26	9	34.6
Selective serotonin reuptake inhibitors (SSRIs)	21	2	9.5
Novel anticoagulants	7	6	85.7
Other anti-platelet agents	4	2	50.0
Bisphosphonates (oral)	15	7	46.7

Medication

Table 4.15 Medication inappropriately continued – reviewers' opinion

Inappropriate medication continued	Number of patients	%
Yes	35	8.8
No	364	91.2
Subtotal	**399**	
Unknown	86	
Total	**485**	

Investigations

Table 4.17 Investigations omitted at presentation – reviewers' opinion

	Admitted with a GI bleed		Inpatient GI bleed	
Investigations omitted at presentation	**Number of patients**	**%**	**Number of patients**	**%**
Yes	47	19.7	44	33.1
No	191	80.3	89	66.9
Subtotal	**238**		**133**	
Unknown	58		47	
Total	**296**		**180**	

Treatments

Table 4.20 Treatments omitted prior to endoscopy – reviewers' opinions

Treatments omitted prior to endoscopy	Number of patients	%
Yes	37	9.2
No	367	90.8
Subtotal	**404**	
Unknown	81	
Total	**485**	

Haemoglobin

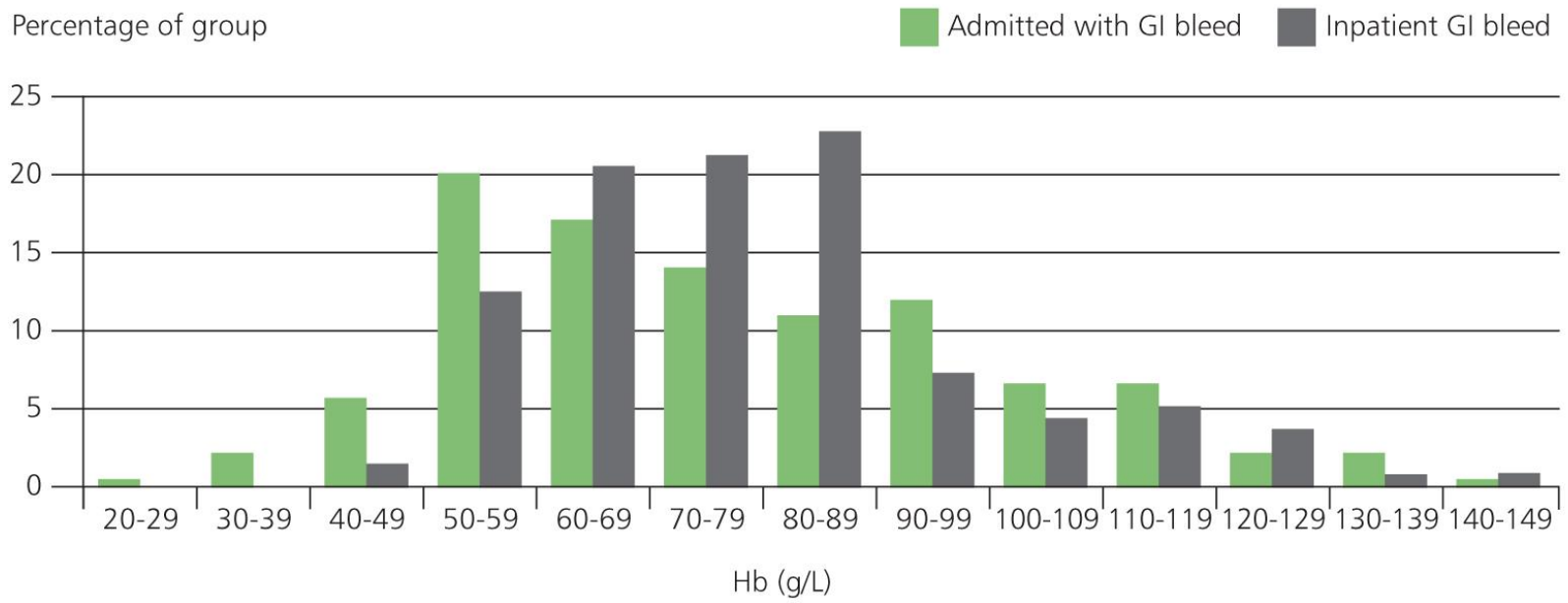


Figure 4.4 Haemoglobin at the time of the GI bleed

CASE STUDY 11

An elderly patient was admitted as an emergency on a Friday night with haematemesis and melaena. The patient was reviewed by the emergency medical team and commenced on IVI PPI and transfused 6 units of blood over 12 hours. There was no gastroenterology or emergency GI bleeding service available at the weekend and they waited until Monday for an OGD. A further 4 units of blood was given because of ongoing bleeding. At endoscopy the patient was found to have a bleeding duodenal ulcer which was controlled with adrenaline and heater probe.

The reviewers felt that there was an inappropriate delay in performing endoscopy which led to excessive transfusion and put the patient's life at risk.

Appropriate blood product use

Table 4.27 Appropriate blood product use – reviewers' opinion

Appropriate blood product use	Number of patients	%
Yes	342	80.3
No	84	19.7
Subtotal	**426**	
Unknown	59	
Total	**485**	

Appropriate blood product use

Table 4.28 Improved management may have reduced the use of blood products – reviewers' opinion

Improved management may have reduced the use of blood products	Number of patients	%
Yes	113	24.7
No	344	75.3
Subtotal	**457**	
Unknown	28	
Total	**485**	

Time to OGD by blood usage

Table 4.29 Time to OGD by appropriate blood usage

	Better management may have improved blood usage				
Time to OGD reasonable	**No**	**Yes**	**Subtotal**	**Not answered**	**Total**
Yes	192	31	223	12	**235**
No	65	39	104	6	**110**
Subtotal	**257**	**70**	**327**	**18**	**345**
Unknown	10	1	11	1	**12**
Total	**267**	**71**	**338**	**19**	**357**

Diagnostic Pathway

Simon McPherson

Diagnostic detail

- Category
- Anatomical Site
- Pathological Diagnosis

Presenting features

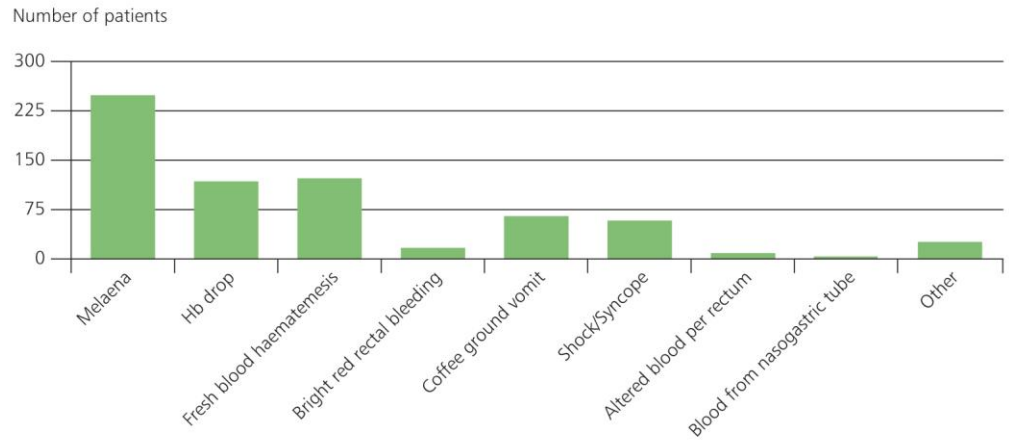


Figure 4.2 Presenting features – upper GI bleed patients

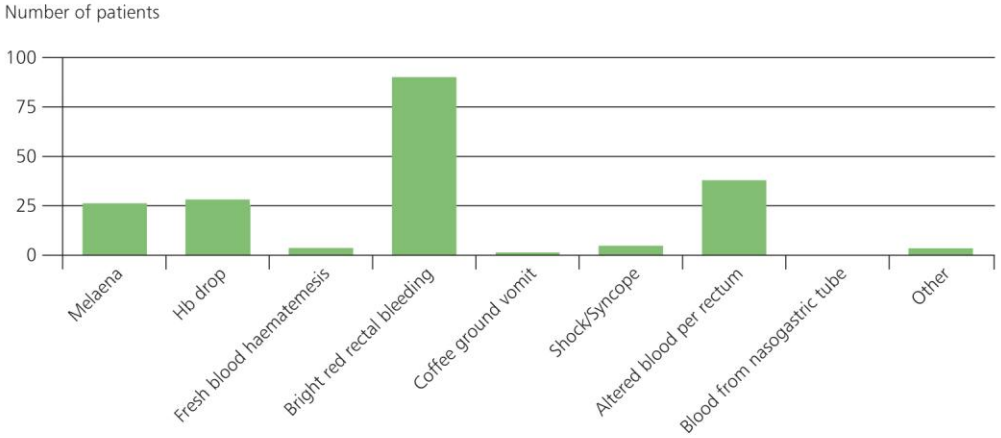


Figure 4.3 Presenting features – lower GI bleed patients

Diagnostic investigations

Table 5.3 The number of investigations per patient presented by the category of bleeding recorded by the clinician.

Number of investigations	Upper GI bleed	Lower GI bleed	Not diagnosed	Total
1	301	50	22	373
2	51	39	16	106
3	12	17	6	35
4	7	10	4	21
5	1	3	0	4
6	0	0	0	0
7	0	1	0	1
None recorded	36	18	24	78
Total	**408**	**138**	**72**	**618**

- 86% (466/540) had an OGD first
  - 76% UGIB
  - 14% LGIB
- 9.8% had >2 investigations as IP
- 11.7% (72) no diagnosis
  - 64% (46/72) had zero or one investigation

CASE STUDY 13

A middle-aged patient was admitted with melaena. Admission haemoglobin was 140g/L dropping to 70g/L the next day. The following day the patient was transfused 2 units and had a normal OGD. No re-bleed or further assessment plan was recorded. A further 2 unit blood transfusion was received and they were discharged on day 2 with no follow-up documented.

The reviewers considered that the patient was discharged too early given the severity of the initial GI bleed and should have had a colonoscopy, and if that was negative, a CT scan.

Diagnostic investigations

Table 5.3 The number of investigations per patient presented by the category of bleeding recorded by the clinician.

Number of investigations	Upper GI bleed	Lower GI bleed	Not diagnosed	Total
1	301	50	22	373
2	51	39	16	106
3	12	17	6	35
4	7	10	4	21
5	1	3	0	4
6	0	0	0	0
7	0	1	0	1
None recorded	36	18	24	78
Total	**408**	**138**	**72**	**618**

- 78 no investigation
  - 43 died in hospital
  - IP bleeds majority
  - 38 DNACPR +/- documented limitation of Rx
  - 40
    - Inadequate documentation
    - Failure to investigate

Anatomical site of bleeding

Table 5.5 Anatomical site identified

Anatomical site identified	Number of patients	%
Yes	363	61.5
No	227	38.5
Subtotal	**590**	
Not answered	28	
Total	**618**	

- Upper GI bleed 75%
- Lower GI bleed 47%

Table 5.6 Sites of bleeding

Anatomical site of bleeding*	Number of patients
Oesophagus	76
Oesophagus/gastric	3
Gastric	77
Gastric/duodenum	8
Duodenum	124
Ileum/ jejunum	7
Ascending/transverse colon	15
Descending colon	6
Sigmoid colon	16
Ano-rectal	18
Unclear data	12

Bright Red Rectal Bleeding (BRRB)

- Ano-rectal pathologies
- SIGN
- 25% LGIB guideline
- 68% proctoscopy +/- rigid sigmoidoscopy available 24/7

Bright Red Rectal Bleeding (BRRB)

- 67 patients
- 17/67 ano-rectal pathology (5 haemorrhoids)
- 3/67 proctoscopy +/- rigid sigmoidoscopy recorded
- PR recording/timing not formally assessed

Bright Red Rectal Bleeding (BRRB)

- 23 OGD first
  - 19 LGIB
- 17 shock index >1
  - All 5 BRRB due to UGUB SI >1
- 17 BRRB no investigation
  - 8 discharged without follow-up

CASE STUDY 12

A middle-aged patient with 3 stone weight loss and intermittent bright red rectal bleeding was admitted to a general medical ward with increased rectal bleeding and symptomatic anaemia. The patient was already on the waiting list for an out-patient colonosocopy. Two rectal examinations recorded a palpable abnormality. Proctoscopy was not performed, but an OGD was normal. Following a 5 unit blood transfusion, without any haemoglobin check, the patient was discharged. Colonoscopy two months later diagnosed an unresectable recto-sigmoid carcinoma.

The reviewers considered the OGD was unnecessary in a patient with a palpable rectal tumour. The rectal tumour should have been diagnosed during the admission. They considered the patient was over transfused and that care was fragmented with no evidence of leadership or co-ordination of care.

Pathological cause

Table 5.8 Pathological cause of bleeding identified

Pathological cause of bleeding identified	Number of patients	%
Yes	370	64.9
No	200	35.1
Subtotal	**570**	
Not answered	48	
Total	**618**	

Table 5.9 Pathological cause of bleeding

Pathological cause of bleeding	Number of patients
Peptic ulceration or erosion	166
Tumours	38
Varices	37
Oesophagitis/gastritis/duodenitis	32
Diverticular disease	18
Angiodysplasia	14
Dieulafoy lesions	8
Haemorrhoids	5
Rectal ulcers	3
Other	10
Not recorded or not legible	49

- Anatomical but not pathological
- Converse
  - Multiple ulcers
  - Anticoagulation
  - Diverticular
  - Syndromic

Recommendation

All patients with a possible lower GI bleed should have 24/7 access to proctoscopy/ rigid sigmoidoscopy to diagnose and treat their bleeding.

Control of Bleeding

Endoscopy in Upper GI Bleeding

Oesophago-gastro-duodenoscopy (OGD)

Table 6.1 Patient underwent an OGD

Patient underwent OGD	Number of patients	%
Yes	381	79.4
No	99	20.6
Subtotal	**480**	
Unknown	5	
Total	**485**	

Table 6.2 Decision not to perform OGD was appropriate – reviewers' opinion

Appropriate decision	Number of patients	%
Yes	64	71.1
No	26	28.9
Subtotal	**90**	
Unknown	9	
Total	**99**	

- 11/26 access to OGD
  - 8 on-site delay
  - 3 no on-site
- 12/26 clinical
  - 8 delayed ward referral
  - 4 "too unwell"

Time to OGD

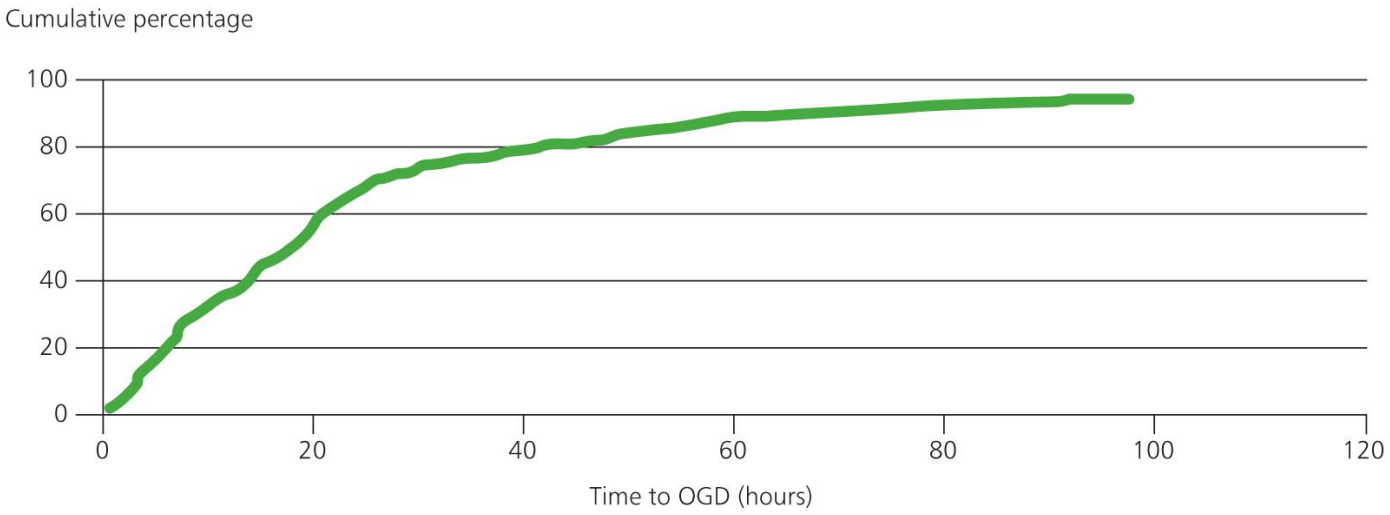


Figure 6.1 Time to OGD

- NICE QS 38 2013 suspected UGIB OGD < 24hours
- All patients = time of admission or presentation (IPs)
- 65% (205/316) < 24 hours

CASE STUDY 14

A middle-aged patient with cardiovascular disease was admitted on a Monday at 5am with haematemesis, melaena, sweating, dizziness and raised urea. Admission haemoglobin was normal. An OGD was planned for the afternoon endoscopy list but was not performed. The patient collapsed with haematemesis that night and had an emergency OGD in theatre with successful treatment of a bleeding duodenal ulcer.

The reviewers considered that the patient should have received an endoscopy within 6-12 hours during working hours when there were facilities and a suitably skilled endoscopist were available that afternoon. Cancelling the planned procedure put the patient's life at risk and resulted in an avoidable emergency procedure and extra blood transfusion.

Shock Index and time to OGD

- 12% (73/610) shock/syncope
- Haemodynamics at presentation 26% (152/587) SI >1

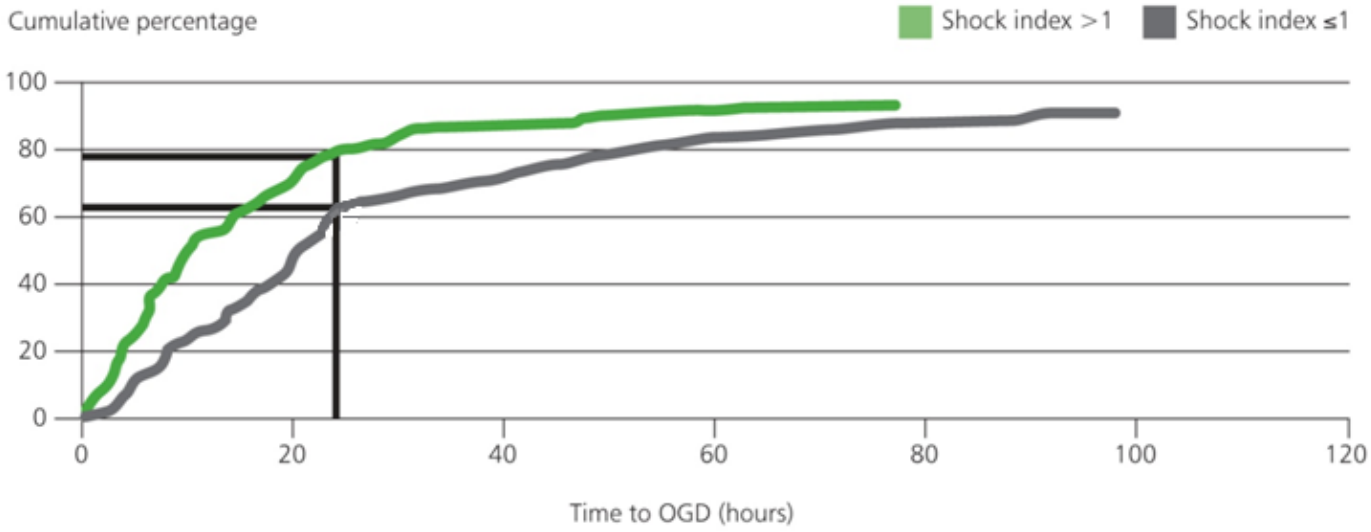


Figure 6.2 Time to OGD compared with a shock index great or lower than 1

- OGD < 24 hours
  - 79% (74/94) SI >1
  - 62% (139/225) SI <1

Shock Index and time to OGD

- NICE QS - in those with haemodynamic instability
  OGD < 2 hours of optimal resuscitation
- 8.5% (8/94) SI >1 had OGD < 2 hours
- < 4 hours
- 22% (21/94) < 4 hours with SI >1

Table 6.3 Time to endoscopy vs. shock index

Time to endoscopy	Shock index at presentation ≤1	%	Shock index at presentation >1	%
<2 hours	4	1.8	8	8.5
2-4 hours	16	7.1	13	13.8
4 to 24 hours	119	52.9	53	56.4
>24 hours	86	38.2	20	21.3
Total	**225**		**94**	

CASE STUDY 15

A young patient with a history of alcohol misuse was admitted to a gastroenterology ward with large volume ascites. The abnormal liver function tests improved during the admission. 10 days into the admission, at 6pm on a weekday, the patient developed per rectal bleeding and abdominal pain followed by massive haematemesis. They were transferred to the ITU and intubated. A Sengstaken tube was inserted for presumed variceal bleeding but did not control the continuous mouth and nose bleeding. An OGD was not performed as there was no out-of-hours endoscopy service. A total of 15 units of red blood cells, 4 units of FFP and 2 of platelets were transfused. The patient was considered too unstable for transfer to another hospital. A decision was made on ITU for supportive /palliative treatment only. The patient died a few hours later.

CASE STUDY 15

Whilst the reviewers recognised that this was a challenging case, the patient should have had an emergency OGD within two hours of presentation. Endoscopy services were available on-site in-hours and there should have been arrangements for out-of-hours emergency care. The reviewers further considered that the presumptive diagnosis of variceal bleeding may have been wrong as the Sengstaken tube did not have any impact and pain is not a recognised presentation of variceal bleeding.

Timeliness of OGD

- Clinical condition, not guidelines
- Too slow
  - Clinicians 15% (67/433)
  - Reviewers 31% (114/369)
- Speciality of first consultant review vs. OGD too slow
  - 8% (8/99) gastroenterologists
  - 9% (5/53) colorectal and general surgery
  - 26.5% (44/166) other medical specialities

OGD procedure

- 74% (342/461) consultant performed
    - 13% trainee directly supervised
- 13% (62/461) trainee alone / indirect supervision
- No difference IH vs. OOH
- No difference in haemostasis consultants vs. trainees

OGD location and record keeping

Table 6.8 Location of OGD being performed

Location of OGD	Number of patients	%
Endoscopy unit	368	77.0
Theatre	67	14.0
ICU	21	4.4
HDU	20	4.2
Ward	2	0.4
Subtotal	**478**	
Not answered	12	
Total	**490**	

- 23% (110/478) performed outside endoscopy unit
- OOH 49.5% (55/111) outside endoscopy unit
- 23.8% (117/490) date or time omitted
    - Not when in unfamiliar environment
    - 75% (88/117) endoscopy unit OGDs

OGD sedation

Table 6.10 Sedation used

Sedation used	Number of patients	%
Conscious sedation	288	60.9
No sedation	128	27.1
General anaesthesia	44	9.3
Unconscious sedation	13	2.8
Subtotal	**473**	
Not answered	17	
Total	**490**	

- 26 sedation by anaesthetist (9 unconscious)
- 271/288 conscious sedation by endoscopist (4 unconscious)
- General anaesthesia
  - 37/42 Theatre or ITU
  - 5 endoscopy

CASE STUDY 16

A young patient with Child's C hepatic cirrhosis was admitted with dark red rectal bleeding. The initial care was appropriate save that antibiotics were not commenced. An OGD was performed 4 hours post admission with topical pharyngeal anaesthesia alone showed varices and oesophagitis. The endoscopist did not band the varices and recorded that the procedure was poorly tolerated. The reviewers could not agree whether the varices should have been treated. A flexible sigmoidoscopy revealed altered blood only. The patient continued to bleed with ongoing melaena and fall in haemoglobin. A second OGD was performed days later, again with throat spray alone, and no recognition of the difficulties at the first OGD. Variceal banding was performed but required multiple attempts. As with the first OGD, the patient tolerated the procedure poorly and was recorded as being distressed.

CASE STUDY 16

The reviewers considered that the second OGD was inappropriately delayed and whilst both OGDs should have been under sedation / GA / airway protection when variceal bleeding was suspected, it was unacceptable that a second OGD was performed without reference to the difficulties recorded on the first. They questioned whether there was sufficient anaesthetic support for GI bleeding. No procedure should have to be abandoned due to a lack of ongoing resuscitation/sedation to the point that the patient finds the procedure too uncomfortable or too distressing.

In the commentary on other similar cases the reviewers suggested that the patient would have benefitted from anaesthetic or critical care support. They could not determine if this was an issue with the availability of teams, the location of the OGD procedure or the need for escalation not being identified.

OGD sedation and monitoring

- NCEPOD “Scoping Our Practice” 2004
  - 14% over-sedated
- 7%/ (14/199) excessive sedation
- 4 required naloxone or flumazenil

- Monitoring
  - Operator cannot monitor (RCoA 2013 Safe Sedation Practice)
  - 4 cases endoscopist monitoring
  - 75/271 no record
  - 19% (78/415) inadequate documentation (clinicians)
  - 42% in “Scoping Our Practice”

OGD monitoring

- BSG (JAG) 2007 Quality & Safety Indicators for Endoscopy
  - Oxygen, BP and ECG monitoring available
  - Unit sedation policy

Table 6.12 Combinations of monitoring used

Monitoring	Number of patients	%
Pulse oximetry + blood pressure + ECG	42	15.2
Pulse oximetry + blood pressure	168	60.9
Pulse oximetry and/or blood pressure **omitted**	66	23.9
Total	**276**	

CASE STUDY 17

An elderly patient on dual anti-platelet agents for a recent myocardial infarction was admitted following a fall. Two days later on the day of planned discharge the patient had a GI bleed. At OGD dual therapy was applied to a duodenal ulcer. Sedation was with 3.5mg of midazolam. Oxygen saturations fell from 96% pre OGD to 86% post OGD. There was no action taken and there was no record of handover of the fall in oxygen saturation. Oxygen saturations were not recorded on the ward, although other observations were performed. IV PPI was written up at the first OGD but never given. A re-bleed occurred 2 days later. OGD and treatment were repeated. A further GI bleed on day 5 was fatal.

The reviewers considered that the patient should not have been returned to the ward with low oxygen saturations and administration of the prescribed PPI could have prevented the re-bleeds and death.

Findings at OGD

Table 6.14 Findings at OGD

Findings at OGD	Number of patients	%
Non-variceal bleeding	213	46.1
Variceal bleeding	38	8.2
Upper GI bleeding but cause obscured by blood	25	5.4
No upper GI bleed found	186	40.3
Subtotal	**462**	
Not answered	28	
Total	**490**	

Non-variceal upper GI bleed treatment

- 213 NVUGIB on OGD
- 74/178 no treatment
  - 54/74 documented absence of high risk stigmata
  - 20 no reason recorded
- 22% (23/104) adrenaline alone
  - 10/23 supported
  - 11/23 inappropriate
- 11% (20/174) inappropriate treatment

Table 6.15 Treatment (data from assessment form)

Treatment	Number of patients
Adrenaline + coagulation therapy	30
Adrenaline + clips	26
Adrenaline	23
Adrenaline + clips + coagulation therapy	10
Clips	6
Coagulation therapy	6
Adrenaline + haemospray	1
Clips + coagulation therapy	1
Other	1
None	74
Total	**178**

Post OGD re-bleed plan

- Bleeding intermittent
- Literature 5-20% patients re-bleed
- BSG (JAG) 2007 Quality Indicator

"contemporaneous written report in the notes of all inpatients including recommendations on further management following OGD for a GI bleed"

Table 6.17 Documented treatment plan if re-bleed occurs

Documented re-bleed plan	Number of patients	%
Yes	115	58.4
No	82	41.6
Subtotal	**197**	
Not answered	16	
Total	**213**	

Non-variceal re-bleed plan

Table 6.18 Recommended next steps and/or treatment plan if re-bleed occurs

	Number of patients
Redo OGD	64
Surgery	29
Interventional radiology	13
CTA	10
End of life care	9
Other	9

Answers may be multiple; n=113

- 64 re-do OGD
- 11 surgery next recommended action without consideration of IR
- 13 IR incl. 6 endoscopic clips placed to guide IR if re-bled
  - 5 re-bled and successfully embolised

Variceal bleeding

- 42 known hepatic cirrhosis
- Outcome severity of liver disease + bleeding
- Risk Scoring
  - 1/42 Childs-Pugh score
  - 0/42 MELD

Table 6.19 Types of variceal bleeding at OGD

Variceal bleed	Number of patients
Oesophageal varices	32
Oesophageal varices & gastric varices	5
Subtotal	**37**
Not answered	1
Total	**38**

Variceal treatment

Table 6.20 Endoscopic therapy of oesophageal varices

Endoscopic therapy	Number of patients
Band ligation	27
Sclerotherapy	2
Band & Sengstaken	3
Band, sclerotherapy & Sengstaken	1
Danis stent	1
Clips	1
None	3
Total	**38**

Table 6.22 Variceal bleeding controlled at initial endoscopy

Haemostasis achieved	Number of patients
Yes	25
No	12
Subtotal	**37**
Not answered	1
Total	**38**

- 31/38 band ligation
- 0/5 glue for gastric varices
- 4 Sengstaken tubes - reviewers all appropriate

Variceal medical treatment

- Terlipressin at presentation
  - 34/38 prescribed
  - 4 not administered
  - 21/22 stopped at 5 days or before
- Prophylactic antibiotics
  - 14/38

CASE STUDY 18

A young patient with known alcohol dependency was admitted with a significant upper GI bleed. Antibiotics and terlipressin were started and the patient was referred early to the liver team who immediately took over the patient and arranged urgent endoscopy under general anaesthesia with banding of oesophageal varices within four hours of admission. Post discharge varices surveillance was organised.

The reviewers recognised that early referral and transfer of the patient had led to early control of bleeding and excellent co-ordinated management of liver disease.

Variceal re-bleed plan

Table 6.24 Treatment included in re-bleed plan for variceal bleeds

Included in treatment plan for re-bleed	Number of patients
Redo OGD	19
End of life care/palliative care	3
Surgery	2
TIPSS	2

Answers may be multiple; n=24

- 67% (25/37) re-bleed plan

OGD management

- Complications rare 2.2% (8/365)
  - Exacerbation of bleeding
  - Aspiration pneumonia

Table 6.26 Quality of endoscopic management - reviewers' opinion

Quality of endoscopic management	Number of patients	%
Good	194	52.4
Adequate	133	35.9
Poor	42	11.4
Unacceptable	1	<1
Subtotal	**370**	
Unknown	11	
Total	**381**	

- Less than good
  - Delays to OGD
  - Choice of treatment

Control of Bleeding

Colonoscopy/ Flexible Sigmoidoscopy in Lower GI Bleeding

Lower GI bleeding

- Lower GI bleeding less attention
- Existing guidance limited
    - ASGE 2014 LGIB cf. UGIB
        - Less likely to develop shock or require blood transfusion
        - Lower GI bleeding
            - » 4 units PRBC population = general GI bleed population
            - » No difference in shock index between NVUGIB and LGIB
- Hospital level
    - 25% Lower GI bleed guidelines
    - 86% Variceal bleeding guideline

Lower GI bleeding

- 58% (80/137) had an OGD first
- 54% (74/137) had colonoscopy/flexible sigmoidoscopy
  - 3 as an emergency < 24 hours
  - 50/69 BRRB or altered blood PR as presentation

Table 6.29 Appropriateness of the decision not to perform colonoscopy or flexible sigmoidoscopy - reviewers' opinion

Appropriate decision	Number of patients	%
Yes	297	92.8
No	23	7.2
Subtotal	**320**	
Unknown	61	
Total	**381**	

Colonoscopy

- 28% (22/79) identified site of bleeding [CQ]
  - 6/22 treated (argon plasma coagulation)
  - 5/6 haemostasis
  - 16/22 no treatment - reviewers appropriate

Table 6.31 Time to colonoscopy/flexible sigmoidoscopy appropriate for the patient's condition – reviewers'opinion

Reasonable time frame	Number of patients	%
Yes	50	70.4
No	21	29.6
Subtotal	**71**	
Unknown	3	
Total	**74**	

CASE STUDY 19

An elderly patient on warfarin for a recent deep vein thrombosis was admitted with altered blood per rectum without haemodynamic compromise. INR was 2.3 and an OGD 36 hours post presentation was normal. Five days later a colonoscopy was performed. At discharge the bleeding was attributed to a warfarin induced diverticular bleed.

The reviewers commented that there was unusually refreshing clarity in the clinical notes with entries timed and designation clearly recorded. The delayed colonoscopy was considered to have extended the hospital stay by 2 to 3 days.

Colonoscopy/ sigmoidoscopy

Table 6.32 Overall grading for colonoscopy and/or a flexible sigmoidoscopy management

Quality of management	Number of patients
Good	27
Adequate	28
Poor	10
Unacceptable	1
Unknown	8
Total	**74**

- Less than good in 59% (39/66)
  - Poor bowel preparation
  - Long delays to the procedure

Control of Bleeding

Interventional Radiology (IR) in Upper and Lower GI Bleeding

Interventional radiology

Table 6.33 Patient underwent interventional radiology

Interventional radiology	Number of patients	%
Yes	36	7.8
No	423	92.2
Subtotal	**459**	
Unknown	26	
Total	**485**	

Table 6.34 Appropriateness of the decision to perform interventional radiology – reviewers' opinion

Appropriate decision not to perform interventional radiology	Number of patients	%
Yes	313	93.7
No	21	6.3
Subtotal	**334**	
Unknown	89	
Total	**423**	

- Patients transferred for IR under-represented

Interventional radiology

Table 6.35 The reasons interventional radiology procedures were performed

Reason for interventional radiology	Number of patients
Haemostasis not achieved endoscopically	16
Diagnosis on CTA	18
Haemodynamically unstable, no bleeding on CTA	7
Haemodynamically unstable, CTA not performed	4
TIPSS	2

- 11 haemodynamically unstable
- 32/36 IR appropriate time for patient's condition

Interventional radiology

Table 6.36 Grade of interventional radiologist

Grade of interventional radiologist	Number of patients
Consultant	30
Senior trainee supervised by consultant	3
Unknown	2
Not answered	3
Total	**38**

Table 6.37 Presence of a trainee assisting the interventional radiologist

Trainee assisting	Number of patients
Yes	6
No	10
Unknown	22
Total	**38**

- IR shortage speciality

Interventional radiology treatment

- 50% (18 /36)
  - 16 embolisation
  - 2 TIPSS
- 14/15 reason for not performing treatment documented (reviewers opinion)
  - Majority no bleeding or causal lesion found
- 65% (21/32) Re-bleed plan
- Outcome
  - 6/36 died (all expected)
  - 2/36 complications (1 ischaemia, 1 coil misplacement)

Control of Bleeding

Surgery in Upper and Lower GI Bleeding

Surgery

- 50% less over 10 years (Emergency Laparotomy Network 2012)
- 6% (36/586) surgical procedure

Table 6.40 Type of surgery undertaken

Type of surgery	Number of patients
Under-running /oversewing bleeding duodenal /gastric ulcer	14
Colectomy	8
Small bowel resection	7
Local rectal procedure	2
Gastrectomy	2
Other	3
Total	**36**

Reason for Surgery

- 21/36 uncontrolled bleeding
- 9 no IR cover
- Most of endoscopic cases suitable for IR
- 20/35 no IR discussion
  - Most suitable
  - Consent

Table 6.42 Reason for surgery

Reason	Number of patients
Bleeding despite maximal endoscopic therapy	15
Bleeding despite interventional radiology therapy	6
Interventional radiology not available in this hospital in-hours	5
Interventional radiology not available in this hospital out-of-hours	4
Suspected peritonitis or perforation	3
Unfit for transfer for interventional radiology	2
Suspected malignancy	1
Other	11

**Answers may be multiple; n=36*

Pre-surgery

- Pre-operative risk assessment
  - Informs treatment options, consent and post-op care
  - 17/33 risk assessment
  - 5 formal risk assessment score recorded

- 97% (31/32) acceptable time frame
  - Access to surgery good - 97% 24/7 admitting hospitals
  - 69% OGD
  - 88% IR

Surgical procedure

Table 6.45 Grade of primary operating surgeon and anaesthetist

Grade of clinician	Surgeon	Anaesthetist
Consultant	30	30
Senior trainee supervised by consultant	4	1
Senior trainee performed alone	1	3
Subtotal	**35**	**34**
Not answered	1	2
Total	**36**	**36**

- 30/36 Consultant - High quality service
- 26 trainees assisting – ?educational experience
- OGD and IR improving in bleeding control
- More complex cases to surgery
- Delivering training + maintaining skills in surgery is challenging

Post surgery

- 33/36 controlled bleeding
- 30/34 went to ITU(24) or HDU(6)
- 13/36 complications
  - 5 re-bleeds
  - 4 enteric leak
  - 4 wound infection
  - 1 death
- 38% (13/34) re-bleed plan
  - 9 uncontrolled bleeding or re-bled
  - 6 further procedures for GI bleeding

Recommendations

Minimal monitoring during procedures for *major GI* bleeds should be blood pressure, pulse oximetry and ECG. Monitoring should be provided by suitably skilled individuals who are separate from the procedural team and available 24/7.

The core procedural data to be recorded at every OGD should be defined and audited.

Endoscopy lists should be organised to ensure that GI bleed emergencies can be prioritised and all acute patients with GI bleeding have their endoscopy within 24 hours.

Recommendations

Hospitals should improve access to colonoscopies for patients with a *major GI bleed* to avoid the unnecessary delays seen in this report.

Resuscitation and airway support during endoscopy and interventional radiology procedures should be equivalent to facilities during emergency surgery. Unstable patients should have anaesthetic and/or critical care support.

Outcomes

Re-bleeding

- Unselected UGIB 10-15% (incl. BSG 2007)
- LGIB not widely recognised
- Not defined in study- discretion of reviewers

Table 7.1 Re-bleed occurred

Re-bleed	Number of patients	%
Yes	138	23.2
No	457	76.8
Subtotal	**595**	
Unknown	23	
Total	**618**	

Re-bleeding

- Upper GI bleeds 22.5% (92/408)
- Lower GI bleeds 25.4% (35/138)

- IPs 27.3% (67/245)
- Admissions with GI bleed 19.2% (71/370)

Re-bleeding

Table 7.2 Intervention following a re-bleed

Therapeutic endoscopy	30
Conservative management	41
Interventional radiology	6
End of life care/palliative care	24
Surgery	4
Other	12

- 40 active intervention
- 65 no active intervention

CASE STUDY 20

A fit young patient presented feeling suddenly unwell. Although not recognised as being shocked they had a shock index of 1.2. Haemoglobin was 60g/L and the patient later passed melaena. Consultant review and a normal OGD were timely. The patient deteriorated 12 hours later and had a CTA which was normal. They then re-bled again 24 hours later. A CTA at 2am showed active bleeding in the distal ileum. A superior mesenteric artery catheter angiogram at 3am did not identify any abnormality. 12 hours later a small bowel lesion was resected at laparotomy. In total the patient received 15 units of blood.

The patient had a good outcome with well planned and co-ordinated care, in particular re-bleed plans were recorded.

Escalation of care

- 17.9% (68/485) level 2/3 care
  - 30 post surgery
  - 7.8% (38) no surgery
  - cf. other patients with lower mortality
- 7% (23/312) should have had care escalated

Length of stay

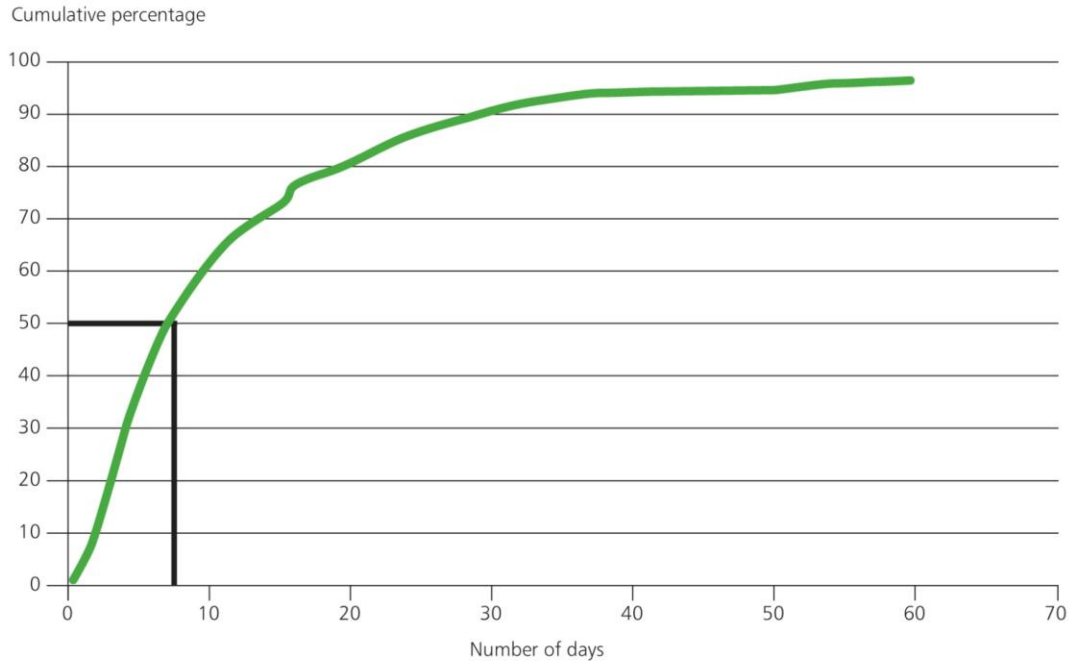


Figure 7.1 Length of stay - acute admission with GI bleeding

- Median 8 days
- 20% >18 days
- 10% 1 month +

Complications

Table 7.4 Post GI bleed complications

Post GI bleed complications	Number of patients	%
No	378	77.8
Yes	108	22.2
Subtotal	**486**	
Not answered	132	
Total	**618**	

Table 7.5 Complication that occurred

Complication	Number of patients
Pneumonia	33
Renal failure	28
Significant cardiac event	17
Hospital acquired infection	11
Hepatic failure	11
Stroke/transient ischaemic attack	4
Thromboembolic disease	2
Other	12

- 22.2% (108/486) one or more complication
- Majority unavoidable (9 avoidable)
- Unselected GI bleed complications = majority of mortality

Outcome of hospital episode

Table 7.6 Outcome of hospital episode

	All		Admitted with GI Bleed		Inpatient GI bleed	
Outcome of hospital episode	**Number of patients**	**%**	**Number of patients**	**%**	**Number of patients**	**%**
Discharged to previous place of residence	386	64.4	276	76.7	109	46.2
Patient died during the admission	142	23.7	52	14.4	89	37.7
Discharged to other hospital	36	6.0	18	5.0	18	7.6
Other	35	5.8	14	3.9	20	8.5
Subtotal	**599**		**360**		**236**	
Not answered	19		10		9	
Total	**618**		**370**		**245**	

- Mortality
  - NVUGIB = 21.5% (77/358)
  - LGIB = 20% (18/138)
  - VUGIB = = 32% (16/50)
  - No diagnosis = 29% (21/72)

Mortality

Table 7.7 Mortality

	Died	Total number of patients	Mortality %
All patients	3,093	29,796	10.4
≥4 units	921	4,563	20.2
No blood	1,496	20,631	7.3

Table 7.8 Mortality by degree of sickness using shock index as a marker

Shock index	Alive	Deceased	Mortality %	Total
≤0.7	172	38	18.1	210
>0.7 ≤1	170	55	24.4	225
>1.0 ≤1.3	73	28	27.7	101
>1.3	36	15	29.4	51
Insufficient data	25	6	19.4	31
Total	**476**	**142**		**618**

Cause of death

- 124/142 cause of death
  - 49% (61/124) complications
    - 30 respiratory
    - 18 malignancy/age related causes
    - 13 cardiac
    - 8 MOF
  - 36% (45/124) GI bleeding
- 79% (107/142) palliative care pathway
- 71% (90/127) died outside of HDU/ITU

BUT

- 69% (98/142) had at least one investigation
  - Not expected to die at outset
  - ? Avoidable or poor initial assessment

Morbidity and mortality meetings

Table 7.9 Death discussed at a morbidity and mortality meeting

Death discussed at M&M meeting	Number of patients
Yes	45
No	46
Subtotal	**91**
Unknown	41
Not answered	10
Total	**142**

Table 7.10 Remediable factors in care identified locally

Remediable factors in care identified	Number of patients
No	38
Yes	3
Subtotal	**41**
Unknown	1
Not answered	3
Total	**45**

- 31.7% (45/142) discussed

- 3/45 M&Ms remediable factors
- Reviewers grading
  - 48/108 RI clinical +/- organisational
  - 8/108 less than satisfactory

Recommendation

All deaths from *major GI bleeds* within 30 days of admission should undergo combined multidisciplinary peer review to identify remediable factors in patient care.

Overall Quality of Care

Overall quality of care

Table 8.1 Overall assessment of care

Overall assessment of care	Number of patients	%
Good practice	210	44.1
Room for improvement clinical	157	33.0
Room for improvement organisational	31	6.5
Room for improvement clinical and organisational	57	12.0
Less than satisfactory	21	4.4
Subtotal	**476**	
Insufficient data	9	
Total	**485**	

- 45% RI clinical care
- 18.5% RI organisational factors

Overall quality of care

- No difference in quality of care ratings
  - NVUGIB
  - VUGIB
  - LGIB
  - No diagnosis

Overall quality of care

- Minor difference between weekday vs. weekend
  - 44% vs. 38%

- OOH vs. IH weekday = no weekend effect

Overall quality of care

- New admissions
  - Shock index <1 no difference IH vs. OOH
  - Shock Index >1
  - 59% (16/27) good care presented 8am-6pm weekdays
  - 36% (13/36) remainder

Recommendations

Principal recommendations

Patients with any acute GI bleed should only be **admitted** to hospitals with 24/7 access to on-site endoscopy, interventional radiology (on-site or covered by a formal network), on-site GI bleed surgery, on-site critical care and anaesthesia.

Hospitals that do **not admit** patients with GI bleeds must have 24/7 access to endoscopy, interventional radiology and GI bleed surgery for patients who develop a GI bleed while as an inpatient for another condition by either an on-site service or a formal network.

Principal recommendations

The traditional separation of care for upper and lower GI bleeding in hospitals should stop. All acute hospitals should have a Lead Clinician who is responsible for local integrated care pathways for both upper and lower GI bleeding and their clinical governance, including identifying named consultants, ideally gastroenterologists, who would be responsible for the emergency and on-going care of all *major GI bleeds.*

All patients who present with a *major upper or lower GI* bleed, either on admission or as an inpatient, should be discussed with the duty or on-call (out-of-hours) consultant responsible for *major GI bleeds,* within one hour of the diagnosis of a *major bleed.*

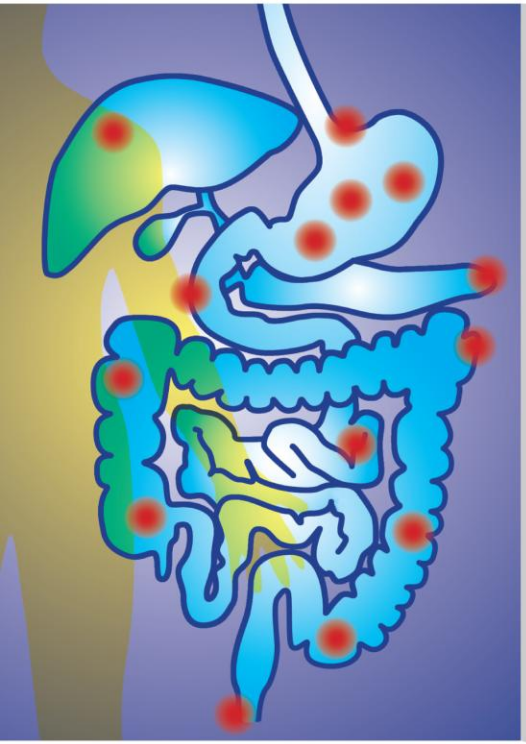
Principal recommendations

The ongoing management of care for patients with a *major* bleed should rest with, and be directed by the named consultant responsible for GI bleeds; to ensure timely investigation and treatment to stop bleeding and reduce unnecessary blood transfusion.

All patients with a GI bleed must have a clearly documented re-bleed plan agreed at the time of each diagnostic or therapeutic intervention.

Recommendations

A consensus exercise should be undertaken by specialties with an interest in GI bleeds to define *'major/severe' GI bleeding*.



Time to Get Control?

A review of the care received by patients who had a severe gastrointestinal haemorrhage

Thank you

www.ncepod.org.uk

NCEPOD