RESEARCH

Provision of out-of-hours services for acute upper gastrointestinal bleeding in England: results of the 2014–2015 BSG/NHS England national survey

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ABSTRACT

Background There has been a drive to raise the standard of management of acute upper gastrointestinal bleeding (AUGIB) in the UK, including three previous audits, sponsored by the British Society of Gastroenterology (BSG).

Objective To review the results of the latest BSG/National Health Service (NHS) England national survey of endoscopy services in England between 2014 and 2015.

Method All NHS hospitals accepting acute admissions in England (168) were invited to respond to the survey.

Results Overall, 142 hospitals (84%) returned data. 85% of hospitals used a validated risk assessment score at the time of patient's admission. While 80% of hospitals provided a 24/7 endoscopy service for unstable patients, and another 10% were in network to provide an acute service, only 60% performed an endoscopy within 24 hours for stable acute admissions or inpatients with AUGIB. 11% of hospitals operated an out-of-hours ad hoc rota. 43% felt that pressure from routine work affected their ability to offer a next-day oesophagogastroduodenoscopy service, while 20% of hospitals struggled to recruit endoscopists. 28% of units reported that the previous national audit performed in 2013 had a positive influence on service development.

Conclusions This survey has revealed significant deficiencies in provision of services for patients with AUGIB in England, without a significant increase in number of hospitals providing an emergency AUGIB service since the last national audit in 2013.

INTRODUCTION

Acute upper gastrointestinal bleeding (AUGIB) is one of the most common medical emergencies, with an incidence of approximately 90 000 cases per year in the UK.¹ This is equivalent to one GI bleeding every 6 min, with an overall 10% mortality.²

There has been a drive to raise the standard of management of AUGIB in the UK, including three previous audits, sponsored by the British Society of Gastroenterology (BSG). The first audit of AUGIB in the UK was performed in 1993 across four healthcare regions,¹ and reported an overall mortality rate of 14%. The second audit was performed nationally,² and reported significant deficiencies in provision of service, for example, only 52% of hospitals had a formal consultant-led out-of-hours (OOH) endoscopy service. Despite this, the mortality rate had improved compared with 1993 (7% vs 11% in those admitted as an emergency with upper GI bleeding and 26% vs 33% in those who developed an upper GI bleeding while in hospital). The last round of audit, which was performed in 2013,³ focused mainly on the organisation aspects of the service within England.

These audits have been performed against the backdrop of guidelines on the management of acute upper and lower GI bleeding by Scottish Intercollegiate Guidelines Network (SIGN) in 2008⁴ and the quality standards document on the management of upper GI bleeding by

Table 1 Summary of organisation of endoscopy services in England

Criteria*	Yes—% (n) 2015
Do you have an AUGIB rota that offers endoscopy to unstable patients 24/7 if required?	80.3 (114)
Are all acute admissions offered an endoscopy within 24 hours of admission with a GI bleeding?	59 (85)
Are all inpatients offered an endoscopy within 24 hours of having a GI bleeding?	60.3 (85)
Do you operate an OOH ad hoc rota*?	11.4 (16)
Do you have a formal agreement with another trust (trusts) to offer this service?	10.6 (15)
Do you have trainees on the rota as sole operators (ie, do not require a consultant to come in from home as well)?	8.5 (12)
Are any of your endoscopists on any other rotas (eg, general medical rotas)?	70.4 (100)
Do you have an endoscopy nurse rota for AUGIB?	52.8 (75)
Do other nurses cross cover in case of an OOH AUGIB?	28.9 (41)
Do you have interventional radiology on site?	61 (86)
Are you part of a network with appropriate patient pathways to provide OOH interventional radiology?	46.1 (65)

*Ad hoc rota: an informal agreement between consultants to deliver OOH service.

AUGIB, acute upper gastrointestinal bleeding; OOH, out-of-hours.

National Institute for Health and Care Excellence (NICE) in 2012.⁵ In 2010, the BSG and the Royal College of Physicians produced a toolkit for safer upper GI bleeding services⁶ outlining nine service standards including one which specifies that ‘for patients who require more urgent intervention either for endoscopy, interventional radiology or surgery, formal 24/7 arrangements must be available’.

This paper reviews the results of the latest BSG/National Health Service (NHS) England national survey of endoscopy services in England between 2014 and 2015.

METHOD

Survey questions were agreed by the authors. All NHS hospitals accepting acute admissions in England (168) were invited to participate in the study. In December 2014, lead clinicians of each endoscopy unit were asked to complete an online questionnaire asking about service arrangements for AUGIB in their hospitals. In February and March 2015, units that had failed to respond were recontacted. In total, 142 (84%) hospitals returned data.

RESULTS

All the survey questions are presented here with the same wording as they appeared in the survey. A list of the questions is provided in online supplementary appendix 1.

Table 1 summarises the organisational aspects of services, in relation to the questions asked regarding specific sections from the published guidelines and standards.¹ Response rate: 142 (out of 142 original responders)—questions were mandatory.

Other questions asked in the audit:

Does your department use a validated risk assessment score (eg, Blatchford/Rockall) when admitting

patients with AUGIB? Response rate: 142 (out of 142 original responders) (**figure 1**).

If you can offer an OOH service but not a next-day service, what stops you offering a next-day oesophago-gastroduodenoscopy service for those bleeders who are stable? Response rate: 65 (out of 142 original responders) (**table 2**).

If, since the March 2013 survey, you have introduced an OOH service for patients with AUGIB, how did you achieve this? Response rate: 19 (out of 142 original responders) (**figure 2**).

Did the findings of the endoscopy survey undertaken in 2013 influence service development? If so how? ‘Yes’ 36 (28%) (24 of 36 respondents provided an explanation); response rate: 139 (out of 142 original responders) (**figure 3**).

Do you have a surgical rota able to provide the surgery necessary in case of failure to control upper gastrointestinal haemorrhage by endoscopic or interventional radiology methods? Response rate: 142 (out of 142 original responders) (**figure 4**).

Figure 1 Use of validated assessment scores for patients with acute upper gastrointestinal bleeding (AUGIB) at time of admission (one hospital uses a locally modified version of Rockall score, and was counted as not using a validated risk assessment score).

¹Criteria derived from published BSG, SIGN and NICE guidelines and UGIB toolkit.

Are there any issues that you want to let us know about, which have not been covered in this survey? Response rate: 40 (out of 142 original responders) (table 3).

Table 2 Factors preventing endoscopy units from delivering next-day oesophagogastroduodenoscopy service for stable bleeders

Reasons provided	Percentage of responders*
Pressure from elective work	43
Lack of routine lists at weekends	29
Acute medical/surgical commitments	20
Number of endoscopists	11
Lack of nurses/nursing rota	5
OOH theatre/endoscopy unit access	5
Cross-site transfer issues	5
Delay in receiving referrals	5
Low priority for managers	3

*More than one response allowed per hospital. OOH, out of hours.

Figure 2 Methods and triggers used by units to introduce OOH service for AUGIB since March 2013 survey. %, percentage of responders; AUGIB, acute upper gastrointestinal bleeding; CQC, care quality commission; GIM, general internal medicine; OOH, out-of-hours.

Figure 3 Influence of the 2013 endoscopy survey on AUGIB service development in endoscopy units. %, percentage of responders providing an explanation; AUGIB, acute upper gastrointestinal bleeding; NICE, National Institute for Health and Care Excellence.

DISCUSSION

Over the last 20 years, significant effort has been made to improve the clinical and organisational care of patients with AUGIB. The evidence for early endoscopy has been conflicting, with some studies suggesting that early endoscopic intervention does not change outcome.⁷ However, more recent studies have suggested that early endoscopy may reduce resource utilisation, improve patient outcome and reduce mortality.^{8,9}

It is now widely accepted that the gold standard for AUGIB should include 24/7 access to specialists in endoscopy, interventional radiology and surgery.^{5,6,10-12}

In this survey, 84% of Trusts in England responded. It is noteworthy that 85% of units that replied are using risk assessment scores, which can help stratify risk and can either predict mortality¹³ or the likelihood of needing endoscopic intervention.¹⁴ While 80% of hospitals reported providing a 24/7 endoscopy service for unstable patients and another 10% are in networks to provide an acute service, only 60% said they perform an endoscopy within 24 hours for stable acute admissions or inpatients with AUGIB. Just under 8% of hospital Trusts did not have any arrangements for OOH endoscopy. These figures have not changed significantly since the last audit in 2013 (77% OOH service and 56% endoscopy within 24 hours). The three most common reasons cited for lack of a next-day service are: pressure from elective work, lack of routine lists at weekends and acute medical/surgical commitments.

The 2013 audit³ highlighted three case studies as to how an AUGIB service can be provided and showed that patients can be safely transferred between acute sites.¹⁵ It appears that the results of the previous audit have had a positive influence on service development in almost 30% of hospitals, either through raising

Figure 4 Availability of emergency surgical services for treatment of uncontrollable acute upper gastrointestinal bleeding in National Health Service hospitals in England.

Table 3 Main reported challenges of setting up AUGIB services facing endoscopy units (free-text field; multiple reasons provided by responders)—a sample of the free-text responses has been provided in online supplementary appendix 2

Recruitment difficulties for endoscopists	20%
Pressures of general medical/surgical rota	18%
Challenges of cross-site working (eg, transfers, pooling resources, destabilising one of the trusts)	13%
Challenges of surgical colleagues on rota (eg, unable to band varices)	13%
Lack of engagement from senior managers	10%
OOH operating theatre issues (eg, unfamiliar, delays, equipment)	8%
Challenges of starting nursing rotas	5%

AUGIB, acute upper gastrointestinal bleeding; OOH, out of hours.

awareness of new models of service delivery, such as cross-site cover, protected morning endoscopy time, developing an OOH nursing rota or raising awareness among the senior managers.

It is also encouraging that since the last audit in 2013, 19 units have started an OOH service. This has been achieved primarily by medical endoscopists coming off the general medical on-call rota, increasing endoscopy staff or organising cross-site cover. The 2013 survey also had a positive effect on service development and responders reported that it had helped raise the awareness of the issue of OOH bleeding with hospital management. However, in three trusts an OOH rota has been achieved by creating an informal internal rota, creating extra pressure on the consultants. Indeed, participating in two on-call rotas (endoscopy and general medicine or surgery) is very common, with consultants in 70% of hospitals reporting such an arrangement.

Perhaps what is more disappointing about this survey is the difficulty in providing an endoscopy within 24 hours for stable patients with AUGIB. Some common themes have emerged in this survey regarding the challenges faced by departments in delivering an optimal service. These include pressures of elective endoscopy, lack of routine endoscopy lists at the weekend, on-call commitments of other rotas, difficulties in recruiting endoscopists, challenges of cross-site working and lack of engagement from senior managers.

Soon after the completion of this survey, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) published a report into the care received by patients who had suffered a severe GI haemorrhage, 'Time to Get Control?' The report's findings (based on 2013 data) on OOH endoscopy availability and next-day scope availability are broadly similar to the current survey.

The challenges described in this survey for the delivery of an endoscopy service come at the same time as many other pressures on GI endoscopy services including the need to deliver colorectal cancer screening, the need to cope with increasing referrals and a lower threshold for possible symptomatic GI cancers as well as uncertainty about the source of the expansion that is needed in the number of trained GI endoscopists. Each of these issues will need some specific solutions, but all of them require increased endoscopy capacity.

CONCLUSION

This survey and the NCEPOD report reveal some serious organisational deficiencies in service provision and described significant shortcomings in clinical care of patients with AUGIB in England. The NCEPOD report has made a number of recommendations, the first of which was that patients with acute GI bleeding should only be admitted to units with 24/7 access to on-site endoscopy, interventional radiology (on-site or networked), on-site 24/7 surgery and critical care. This is in keeping with the move towards 7-day working in the NHS.^{5 16 17}

The evidence from this survey indicates that a number of units would struggle to meet these recommendations. While there is evidence of improvement in recent years, much work is needed to raise the national standard of endoscopy services to an acceptable level. The organisational challenges are clearly described and the frustration felt by clinicians delivering these services is all too real, as evidenced by responses we have received to this survey. We hope that this survey can be a further stimulus to units to help improve access to endoscopy for patients suffering from AUGIB.

Key messages

What is already known on this topic?

- ▶ Therapeutic endoscopy after acute upper gastrointestinal bleeding (AUGIB) has been shown to reduce rebleeding and the need for surgery.
- ▶ Early endoscopy after AUGIB may reduce resource utilisation, improves patient outcome and reduces mortality.
- ▶ In England, access to out-of-hours (OOH) endoscopy was only available in 77% of hospitals admitting patients with AUGIB in 2013.

What this study adds?

- ▶ In this survey, 80% of hospitals provided OOH endoscopy service (compared with 77% in the 2013 national survey).
- ▶ Consultants in 70% of hospitals participated in two on-call rotas (endoscopy and general medicine or surgery).
- ▶ Twenty-eight per cent of units reported that the previous national audit performed in 2013 had a positive influence on service development.

How might it impact on clinical practice in the foreseeable future?

- ▶ We hope that this survey can be a further stimulus to units to help improve access to endoscopy for patients suffering from AUGIB.

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REFERENCES

- 1 Rockall TA, Logan RF, Devlin HB, *et al.* Incidence of and mortality from acute upper gastrointestinal haemorrhage in the United Kingdom. Steering Committee and members of The National Audit of Acute Upper Gastrointestinal Haemorrhage. *BMJ* 1995;311:222–6.
- 2 Hearnshaw S, Logan RF, Lowe D, *et al.* Use of endoscopy for management of acute upper gastrointestinal bleeding in the UK: results of a nationwide audit. *Gut* 2010;59:1022–9.
- 3 Denton E. Acute upper gastrointestinal bleeding: an overview of out of hours service provision and equity of access. 2013. http://www.nhs.uk/media/2487421/augib_out_of_hours_service_provision.pdf (accessed Feb 2016).
- 4 Scottish Intercollegiate Guidelines Network. SIGN Guideline No. 105 “Management of Acute Upper and lower gastrointestinal bleeding”. 2008. <http://www.sign.ac.uk/guidelines/fulltext/105/index.html> (accessed Feb 2016).
- 5 National Institute for Health and Clinical Excellence (NICE). Acute upper gastrointestinal bleeding: management. 2012. <https://www.nice.org.uk/guidance/cg141/evidence/acute-upper-gi-bleeding-full-guideline-186534541> (accessed Feb 2016).
- 6 Academy of Medical Royal Colleges. Upper Gastrointestinal Bleeding Toolkit. 2010. <http://www.aomrc.org.uk/projects/item/upper-gastrointestinal-bleeding-toolkit.html> (accessed Feb 2016).
- 7 Tsoi KKF, Ma TKW, Sung JJY. Endoscopy for upper gastrointestinal bleeding: how urgent is it? *Nat Rev Gastroenterol Hepatol* 2009;6:463–9.
- 8 Tsoi KKF, Chiu PWY, Chan FKL, *et al.* The risk of peptic ulcer bleeding mortality in relation to hospital admission on holidays: a cohort study on 8,222 cases of peptic ulcer bleeding. *Am J Gastroenterol* 2012;107:405–10.
- 9 Wysocki JD, Srivastav S, Winstead NS. A nationwide analysis of risk factors for mortality and time to endoscopy in upper gastrointestinal haemorrhage. *Aliment Pharmacol Ther* 2012;36:30–6.
- 10 Hwang JH, Fisher DA, Ben-Menachem T, *et al.* The role of endoscopy in the management of acute non-variceal upper GI bleeding. *Gastrointest Endosc* 2012;75:1132–8.
- 11 Barkun AN, Bardou M, Kuipers EJ, *et al.* International consensus recommendations on the management of patients with nonvariceal upper gastrointestinal bleeding. *Ann Intern Med* 2010;152:101–13.
- 12 Tripathi D, Stanley AJ, Hayes PC, *et al.* UK guidelines on the management of variceal haemorrhage in cirrhotic patients. *Gut* 2015;64:1680–704.
- 13 Rockall TA, Logan RF, Devlin HB, *et al.* Risk assessment after acute upper gastrointestinal haemorrhage. *Gut* 1996;38:316–21.
- 14 Blatchford O, Murray WR, Blatchford M. A risk score to predict need for treatment for upper-gastrointestinal haemorrhage. *Lancet* 2000;356:1318–21.
- 15 Shokouhi BN, Khan M, Carter MJ, *et al.* The setting up and running of a cross-county out-of-hours gastrointestinal bleed service: a possible blueprint for the future. *Frontline Gastroenterol* 2013;4:227–31.
- 16 Seven day consultant present care implementation considerations. *Acad R Med Coll*, Nov 2013. <http://www.aomrc.org.uk/publications/reports-guidance/seven-day-implementation-considerations-1113/>
- 17 Keogh PSB. NHS Services, Seven Days a Week. 2013.