

Acute Upper Gastrointestinal Bleeding

An overview of out of hours service provision and equity of access





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" Equality and diversity are at the heart of the NHS strategy. Due regard to eliminate discrimination, harrassment and victimisation, to advance equality of opportunity, and to foster good relations between people who share a relevant protected characteristic (as cited in under the Equality Act 2010) and those who do not share it, has been given throughout the development of the policies and processes cited in this document."

Foreword by Professor Erika Denton

Gastroenterology and, in particular, endoscopy units are dealing with an ever increasing rise in demand, particularly for high volume elective procedures.

Teams are working hard to support this increase, balancing capacity with access needs of all patients whether urgent, elective or surveillance. This report focuses on the current provision of urgent upper GI endoscopy and begins to explore the service changes needed to deliver equitable access to care for all patients. It is recognised that good service planning needs to take into account service demands in their totality and that acute endoscopy services are only one element of a full endoscopy, and indeed acute care, portfolio.

This report highlights the variation which exists across current services and gives some practical examples of how endoscopy teams have worked to develop new service models to improve the services that they provide. There is no 'one size fits all' solution to this challenge as geography, workforce and provider circumstances all impact on how services can be delivered. We have worked successfully with our British Society of Gastroenterology colleagues to understand the elements of delivery models that provide safe care seven days a week which could be adopted by endoscopy departments more widely. I hope you find this report useful in planning your future services.

Professor Erika Denton FRCP, FRCR National Clinical Director for Diagnostics, NHS England

Introduction

NICE Acute Upper Gastrointestinal Bleed guidance (CG141) published in 2012¹, specifies the following with respect to the timing of endoscopy and workload:

- Offer endoscopy to unstable patients with severe acute upper gastrointestinal bleeding immediately after resuscitation
- Offer endoscopy within 24 hours of admission to all other patients with upper gastrointestinal bleeding.

Units seeing more than 330 cases a year should offer daily endoscopy lists. Units seeing fewer than 330 cases a year should arrange their service according to local circumstances.

Background

In 2007, an audit to establish the organisation of endoscopy services for acute upper gastrointestinal bleeding (AUGIB) was undertaken. This found that only 52% of hospitals had a formal consultant led out of hours endoscopy service. In addition it reported that these hospitals had lower risk adjusted rebleeding and mortality rates².

In response to the 2007 audit, the National Patient Safety Agency commissioned the Royal College of Physicians and the British Society of Gastroenterology (BSG) to undertake a project to describe models of best-practice in out of hours endoscopy. This resulted in a guidance document – Upper Gastrointestinal Bleeding Toolkit³, which outlined 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.'

The most recent survey of units in England showed that 62% of services are able to provide a formalised rota of endoscopy specialists 24/7 and that 56% can offer acute admissions an endoscopy within 24 hours of admission.

Our challenge is to provide equity of access and service provision in all units. Endoscopists are often providing informal adhoc 24/7 services out of good will, sometimes within small groups, alongside medical on-call which can lead to a heavy out of hours commitment, unsustainable in the long term.

Endoscopy professionals agree that to improve patient safety and optimise care their aim should be to increase the provision of 24/7 services, so all patients have access to emergency services if needed.

¹ Acute upper GI bleeding (CG141), National Institute for Health and Care Excellence (NICE) (July 2013) http://publications.nice.org.uk/acute-upper-gastrointestinal-bleeding-management-cg141

² 'Use of endoscopy for management of acute upper gastrointestinal bleeding in the UK: results of a nationwide audit',

Hearnshaw, Logan, Lowe et al, Gut (March 2010), http://gut.bmj.com/content/59/8/1022.full.pdf

³ Upper Gastrointestinal Bleeding Toolkit, Academy of Medical Royal Colleges (October 2010) http://www.aomrc.org.uk/projects/item/upper-gastrointestinal-bleeding-toolkit.html No one service model delivers a solution for all providers. This publication showcases some excellent case studies which demonstrate different solutions within varying sized organisations and, in some cases, across sites.

The aim is to ensure that every patient has 24/7 access to a safe, high quality upper gastrointestinal endoscopy service, with facilities to perform an interventional procedure to treat an upper gastrointestinal haemorrhage, linked in to other essential interventions such as Interventional Radiology or Surgery. Comprehensive endoscopy services improve access for inpatients and can also provide support to medical colleagues and extend elective provision over the weekend to maximise senior clinical support for patients. Reorganisation of services across the whole week offers opportunities to extend elective work across the week, with teams providing routine lists at weekends according to demand. This has been shown to increase managerial support for out of hours (OOH) formalised rotas and reduces the peak in demand experienced on Mondays, as well as giving patients greater choice.



Case for change

AUGIB is a common medical emergency that has a 10% hospital mortality rate. Despite advances in management, mortality has not significantly improved over the past 50 years.

The recent death of a 94 year old gentleman following an AUGIB during out of hours, at a hospital where no formal GI bleed rota existed, led to concerns being raised by the Coroner, which received local and national news coverage⁴. He questioned whether hospitals who were unable to provide a 24/7 service should be performing procedures such as percutaneous endoscopic gastrostomy (PEG), which are currently routinely undertaken in most hospital trusts.

⁴ Coroner's concern at out-of-hours doctor support services at Kingston Hospital', Your Local Guardian 24 November 2012, http://www.yourlocalguardian.co.uk/news/local/kingstonnews/10065810.Coroner_s_concern_at_doctor_delay_death/ Department of Health (2011) Implementing seven day working in imaging: Good Practice Guidance NHS Improvement (2012) Towards best practice in interventional radiology NHS Improvement (2012) Equity for all: Delivering safe care, seven days a week

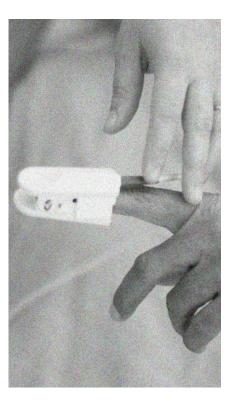


GI bleed safety

A patient safety report provided to support NICE quality standards, by the National Reporting Learning Service (NRLS), between 1 Jan 2010 and 31 Dec 2011, reported

 53 relevant incidents, with nine incidents categorised as 'delay in endoscopy' Examples from the report include:

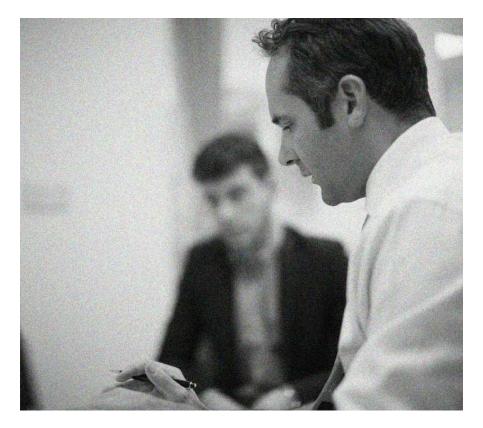
- Access to specialist expertise 'Uncontrolled upper GI haemorrhage despite medical intervention. No staff in hospital trained to insert Linton tube. Patient died due to uncontrolled bleeding'
- Delay in Endoscopy 'No availability of endoscopy service. Patient had massive GI bleed and went into circulatory shock'
- Access to specialist expertise 'Unable to contact gastro consultant on call for major haemodynamically unstable upper GI bleed.'



Finance

NICE included detailed costing for these services in 2012 which support business planning for service development⁵.

- Benefits and savings of implementing full evidence based guidelines for GI bleeding include: An increase in early discharge through the use of formal risk assessment scores for all patients and through considering patients with a preendoscopy Blatchford score of 0 for early discharge
- Reduced mortality and complications
- More appropriate use of blood transfusions through the use of local protocols
- Reduced length of stay achieved by the implementation of daily endoscopy lists for units seeing more than 330 cases a year.



⁵ National Institute for Health and Care Excellence (NICE) (June 2012) CG 141 Acute upper GI Bleeding: costing report http://www.nice.org.uk/nicemedia/live/13762/59577.pdf

Current work

In March 2013, NHS Improving Quality and the British Society of Gastroenterology distributed an AUGIB survey to all endoscopy units in England, to assess the baseline position of AUGIB services for out of hours provision.

The questionnaire is selfreported, however, the returns have been assessed to ensure there is an appropriate match between question responses and the self-reported Red, Amber, Green final score.

To date there has been a 92% response rate of fully completed questionnaires, with a 97% response rate to the Red, Amber, Green self-reported service status

Upper GI Bleed Survey March 2013 - Responses to survey

149 out of 153 = 97% Full survey - 141 (92%) Status only - 8 (5%)

GREEN - Survey completed

AMBER - RAG status supplied, no survey received

WHITE - No survey received

Red circled Trusts represent organisations under investigation in the Sir Bruce Keogh report

Green squares represent where more than one site has submitted data from a Trust

Data as at 5 March 2014 Number of responses 146 out of 149 The survey aims to assess endoscopy units against the recommendations within the NICE Guidance and recommendations in the AUGIB Toolkit to evaluate current compliance rates. Units are asked to rate themselves 'Red, Amber, Green' based on their responses.

Upper GI Bleed Survey March 2013 - RAG status

Green – 98 (67%) Amber – 34 (23%) Red – 14 (10%)

149 of 153 = 97% responded

Self-reported RAG status of out of hours AUGIB service

GREEN - Core service provision on formal network pathways to an agreed recipient Trust

AMBER - Intermittent core service provision and for limited formal network provision

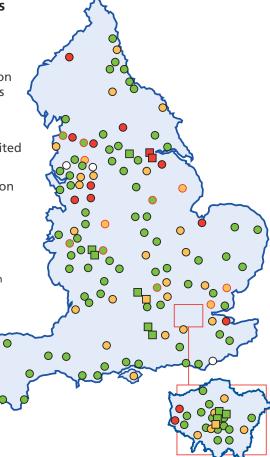
RED - No core service provision and no network pathways (includes ad hoc rotas)

WHITE - N/A or no data

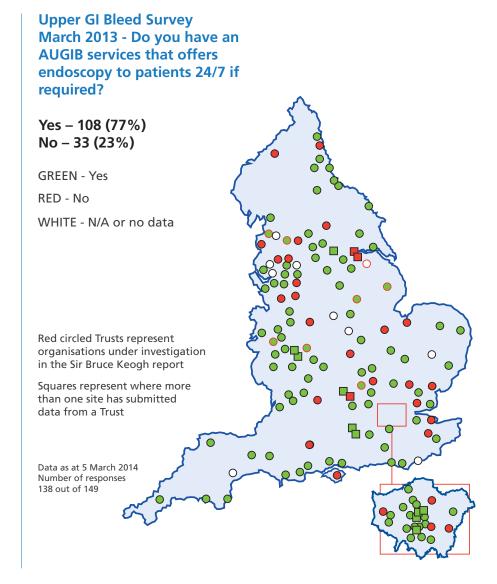
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Squares represent where more than one site has submitted data from a Trust

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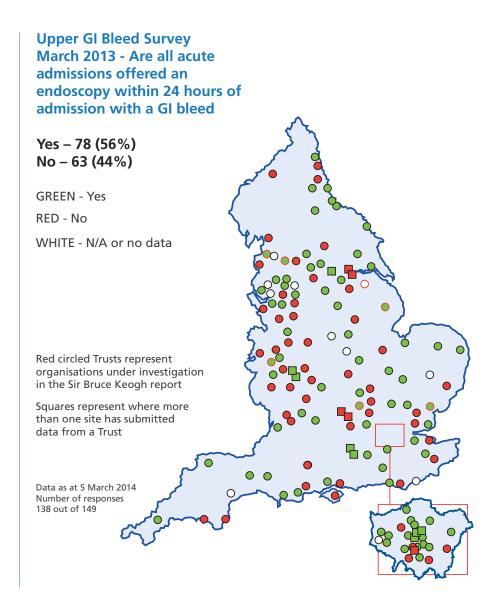


NICE Quality Standard 2 Timing of endoscopy (immediate for haemodynamically unstable)



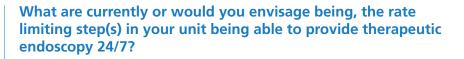
NICE Quality Standard 3

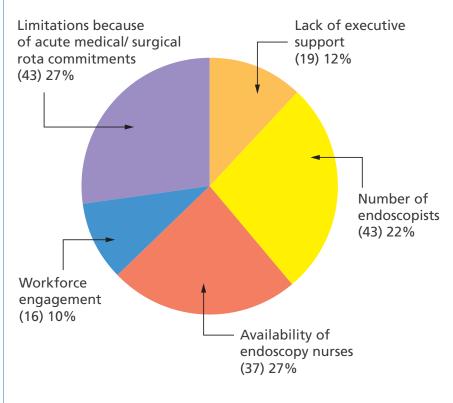
People with AUGIB who are haemodynamically stable are offered endoscopy within 24 hours of admission



Further questions explored where funded lists and sessions were being provided for endoscopy in evenings and weekends routinely, and which services planned to implement sessions within the next twelve months. Sites that routinely offered funded evening and weekend lists ran at 49% (69 sites) and 51% (72 sites) said that they did not routinely provide those services. For those sites not currently offering evening and weekend lists 61% (44 sites) responded that it was their intention to do so within the next 12 month period.

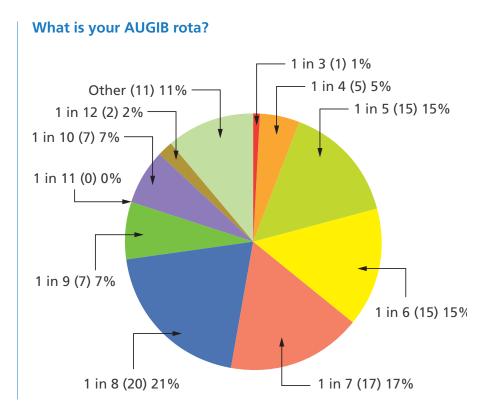
The sites were also asked what they believed to be the constraints in implementing formalised OOH services for AUGIB services, in order for future support to be appropriately targeted.







On call rota commitments were also assessed and whether they appeared to be sustainable over the longer term. Participation in general medical on call was asked alongside to give a more complete picture of services.



Future improvement work

A plan is being developed, aligned to the seven day services strategy, whereby in early 2014, NHS Improving Quality will bring together clusters of endoscopy units in London and Manchester to engage teams in reviewing local service provision, and assist in developing cross unit solutions for those teams with the greater challenges.

Examples of good practice in other areas will, alongside the BSG Upper Gastrointestinal Bleeding Toolkit, support reduced variation of service provision. In order to accommodate a sustainable out of hours GI rota, many teams have found it necessary to reevaluate their commitment to general acute medical on call. This is at a time of significant and increasing pressures for A&E services, therefore, any proposal to change on call commitments needs to balance these demands carefully.

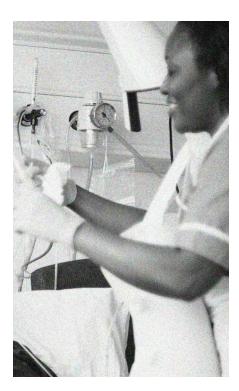
The themes running through all successful ways of working are:

- Accurate mapping of AUGIB demand and safety issues, supported by surgical and physician colleagues
- Provision of a cost benefit analysis as outlined in NICE guidance CG141 (see page 8)
- Propose acute on call rotas tailored to the specific needs and circumstances of each provider.

Case studies

The following three cases studies provide examples of how teams have tackled such challenges.

Further examples can be accessed at: www.nhsiq.nhs.uk



CASE STUDY ONE

University Hospitals of Leicestershire NHS Trust

Provision of an out-of-hours emergency endoscopy service: the Leicester experience

Published in Frontline Gastroenterology, 22 May 2013 Frontline Gastroenterology 2013;4:288-295 doi:10.1136/flgastro-2013-100313

Overview

University Hospitals of Leicester Trust serves an approximate population of 1,000,000 people across three sites: the Royal Infirmary, Glenfield and General Hospitals.

Each site provides a two session day elective service 9am-5pm weekdays with an inpatient mop-up session daily at the Royal Infirmary Hospital.

The non-elective service is provided for the majority of the time at the Royal Infirmary with ambulances presenting patients directly to A&E.

Occasionally patients require intervention at other sites either on ITU, theatre or in the endoscopy unit, a mobile team (one endoscopist and two nurses) will travel to the patient, mobile stacks are held in each unit. The nursing staff have worked cross site to ensure they are familiar with all of the units.

Background

Before August 2006 UHL had no formal endoscopy rota for out of hours relying on adhoc arrangements and consultant goodwill. Patients were usually treated in theatres by the on call surgical and medical teams. Clinical leads felt that this was not optimal provision and after a serious incident began configuring an endoscopy out of hours service on call rota.

Initially one endoscopist and one nurse provided a weekend only rota however, this was soon improved to cover weekdays and based in endoscopy as theatre access was poor.

The gastroenterologists withdrew from the general medical on call rota to provide a comprehensive out of hours service for GI bleeds, preferably scheduled for a supporting professional activities (SPA) the following day to reduce disruption to elective work. An upper and lower non-emergency admitted patient service was delivered between 9am-1pm at weekends to support earlier clinical decision making and discharge for stable patients.

The Trust has a shared reporting system across all three sites and a robust system captures all out of hours activity.

Weekend service model

The weekend service model starts at 8am with nurses ringing wards to try and capture all referrals. At 9am each day there is a mop up session taking first any emergencies and then more stable inpatients. The demand for consultant input remains high after 3pm therefore the full team are available until 8pm. After 8pm the team of one consultant and two senior nurses are on call until 8am.

Workforce

Endoscopists provide a 1:10 Consultant on call service. Two trained nurses and one auxiliary 8am – 8pm weekends. Initially senior nurses were funded and volunteered for on call, then as new band 6's and above were taken on the on call was incorporated within their contracts.

Increase workforce funding was initially aligned with the business case to become a Bowel Cancer Screening centre.

Impact for patients

Increased endoscopy access has facilitated earlier care pathway decisions and in some cases reduced the length of stay.

There have been no serious untoward incidents since the introduction of the service.

Impact overall system

Since the introduction of the service demand increased quickly in the first six months then steadily stabilised within the next year. In 2010/11, 222 patients were referred, since starting the average intervention rate of 17% was mostly for variceal banding and adrenaline injection.

Phone calls to discuss GI emergencies are common and in the last year there has been an increase in non-GI bleed cases, possibly due to medical bed pressures.

Challenges and solutions

Introduction of an endoscopy on call meant the withdrawal from the acute medical on call and required compensatory rest periods both for gastroenterologists and nurses. Where possible timetabled non patient centred PAs were allocated after on call to reduce the impact on elective services. Non-emergency cases started to spill over into the weekend emergency list – solution was to provide daily inpatient list at weekends and increase provision Friday PM.

Reduced threshold for referral. Good communication of expectations by displaying the referral protocol in appropriate areas alongside constant education and feedback to colleagues.

Nurses need to familiarise themselves with each of the unit's layout requiring cross site working during the day to prepare for out of hours.

Top tips

- Endoscopists on call need the support of endoscopy nurses. There is a strong requirement for dedicated senior nursing staff on call, as whilst endoscopists can utilise theatre nurses they are less effective when dealing with unfamiliar endoscopic procedures.
- Ensure the majority of procedures are undertaken in endoscopy, out of hours access to theatres can be difficult due to high demand.
- Endoscopists will need to take a step back from acute medical on call commitments but this is balanced by providing inpatient and emergency endoscopy support.

- Providing an in reach out of hours service can lead to over referral with reduced thresholds. It is important to jointly develop and monitor an agreed referral protocol. The shared protocol is available electronically on the hospital system.
- Regularly educate and inform medical and surgical colleagues, talk at physician meetings about the service, update and display the protocol in appropriate areas such as the medical assessment unit. The majority of the demand is from A&E and medical wards.
- It is useful to set a required level of seniority to access endoscopy consultant expertise, this will reduce inappropriate contacts for referral and discourage very junior clinicians delaying in starting appropriate interventions awaiting an endoscopy opinion.
- Timely referral of patients with GI bleeding, weekend nurses call first thing check for emergency bleeders but do not always catch everyone, need to be proactive with referrers. An area which has been recognised where there is room for improvement is a robust handover at weekends which emulates the weekdays.

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CASE STUDY TWO

The Dudley Group NHS Foundation Trust

Provision of an out-of-hours emergency endoscopy service: the Dudley experience

Overview

The Dudley Group NHS Foundation Trust is a district general hospital which serves more than 400,000 people living in Dudley and the surrounding areas. The group is made up of three hospital sites, with one inpatient hospital (Russells Hall) and two outpatient hospitals (Corbett and Guest).

The endoscopy service has six consultants and four nurse endoscopists, with three endoscopy rooms delivering approximately 31 funded sessions a week. All of the consultants provide dedicated out of hours service and are competent in delivering emergency therapeutic procedures. The team see around 250 AUGIB cases in a year.

Elective hours are 9am-5pm Monday to Friday with a planned list of Saturday sessions.

Service model

The unit is based on the main inpatient site at Russells Hall where six consultants provide a 1:6 on call out of hours including weekend ward rounds, supported by two endoscopy nurses for out of hours emergency scoping. The team do not form part of the general medical rota.

Referrals are made electronically 9am-5pm (protocol is available through the Trust hub), but urgent cases discussed with an on call consultant. GI bleed slots are ring-fenced, one every morning before 10am with an additional PM slot on Friday and Monday to reduce the impact of the weekend. The standard is to make referrals before 10am to ensure referrals are timely; this has reduced the number of referrals made out of hours.

Background

The service changed to the current format around two years ago when four key issues were identified; assessment and resuscitation of patients, timeliness of the referral, identifying the urgency of the patient and subsequent patient preparation creating delays. The key driver for improvement was identifying a GI champion at the front door, who in turn gave four service priorities to reduce mortality, improve access (24hr) and reduce transfusions.

Challenges and solutions

The lead and his team looked at the fundamental challenges and identified four key issues which needed to be resolved.

Assessment and resuscitation of patient

Early assessment and appropriate resuscitation saves life hence this has been the focus of attention. This issue was addressed by regular teaching session to FY1/FY2/CT and nursing staff. GI champions at the front door played a vital role in education.

Identifying the patient in a timely way

The team noticed that inpatients were referred later on in the day and realised that standards needed to be set and advertised so that patients would come onto the GI bleed physician's radar as early as possible. This became part of the protocol of referral before 10am. Ideally patients with significant GI bleed should go to a ring fenced GI bleed bed, a GI ward or a HDU type area.

Clinical urgency

The protocol triggers a visit for senior clinician assessment with a Rockall score greater than two, identifying the urgency of the patient and subsequent need for out of hours support.

Readiness of patient

Patient transfer from EAU to main wards, for example, can create issues with communication about how to prepare the patient and any endoscopy request already made. Constant education reduces the incidence of delays such as the patient being fed. Need to educate the junior doctors through a GI bleed teaching session as part of induction and alongside clinical audit. To sustain the work, all inappropriate or untimely referrals are escalated as well as delays due to patients not being ready. The GI lead then re-educates where necessary to ensure continued high standards.

Impact for patients

Dr Ishaq has kindly shared a patient's view below of the service.

I am writing following a relatively short stay at Russells Hall with a message of sincere gratitude from the bottom of my heart.

On Tuesday 23 July I collapsed at home with a massive gastric bleed, my BP was 45/30 and I was haemorrhaging, when Ambulance and Paramedics arrived I barely had a pulse, and I was later told by staff literally one more minute and I would have died. Upon arrival I was taken to Resuscitation where a doctor and nurse worked on me and stayed with me for over two hours.

Following this I was transferred to C7 where I found nothing short of exemplary medical and nursing care. It is often the case that people are ready to complain and criticise but I wish to write with the contrary. It is difficult to single out members of staff as every single person I met contributed to my recovery, however (named staff) deserve my most sincere gratitude for their professionalism, care and dedication to the needs of the patient. Dr Ishaq and his team were outstanding in their care and intervention. Excellence is not an adequate description, (name) didn't just respond to me as a patient, she atoned to my personality, her role went beyond practical nursing care to address the interaction between patient and health care professional.

I have never experienced such high quality of medical care as exists in Russells Hall. To see what the staff endure and the control they exercise in difficult conditions was awe inspiring.

It is not an exaggeration that I owe my life to the staff, without them I would not be here, I cheated death as I put it whilst I was in hospital but the truth is that I had a full team of professionals who would not give up on me and refused to let me go. I will never forget and neither should I the people concerned and as I said gratitude is not enough I am indebted to Russells Hall Hospital Centre of Excellence and the staff to whom I and my family literally owe my life.

With the kindest regards to you and everyone, thank you from the bottom of my heart.

Ray Bagshaw

Impact on overall system

The team have audited the intervention rate of patients scoped within 24 hours as recommended by NICE, since the introduction of the new GI service this has increased from 88% to 97%.

Of note the unit also has a complex case mix with >15% of the referrals for alcohol related health problems compared with a national average of 5-10% At the moment the overall numbers are small therefore it is too early to measure an impact on mortality but generally evidence suggests that increasing equity of access to specialist input across seven days a week increases patient safety.

Top tips

- Must have a team of dedicated endoscopists and endoscopy nurses with a GI bleed lead that leads and inspires change by involving others, engaging and making team members stakeholders.
- Build an awareness campaign, advertise the service and the standards expected, continual education and feedback for referrers.
- Look at the facts and figures to identify the root cause of problems and how to tackle them.
- Prevention early endoscopy intervention reduces the need for blood transfusion and the associated risks.
- Measure and understand the service demand and match your capacity appropriately to the day of the week and time. Ring fence these slots

Contact details

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CASE STUDY THREE

Queen Elizabeth II Hospital, Welwyn Garden City, East and North Hertfordshire Trust

Provision of an out-of-hours emergency endoscopy service: the East and North Hertfordshire experience

Overview

The East and North Hertfordshire NHS Trust serves a population of around 580,000 people delivering endoscopy services on two sites, the Queen Elizabeth Hospital (QE II, Welwyn Garden City and the Lister Hospital, Stevenage. The team see around 460 AUGIB cases in a year with around 30% requiring urgent intervention.

From Friday evening through to Monday morning emergency patients at QE II are stabilised and transferred by ambulance to the Lister hospital where the emergency endoscopy service is based. On weekend mornings any emergency endoscopy procedures are performed at the beginning of the lists with elective outpatient cases performed afterwards.

Interview

An interview was conducted with Drs Greenfield and Shokouhi which describes in detail why and how the service was set up, and includes how the team gained support from colleagues for backfill and funding.

The discussion reviews the advantages of the service and how this supports acute cases over and above GI bleeds alongside elective weekend working. It also describes the impact, key considerations, learning points and top tips in setting up a cross-site service.

Please visit the NHS Improving Quality website at: www.nhsiq.nhs.ukto see a list of questions and video responses.

Impact overall system

Full details of the service review can be seen in the published article: Shokouhi BN, Khan M, Carter MJ, et al. Frontline Gastroenterology 2013;4:227-231.

The setting up and running of a cross-county out of hours gastrointestinal bleed service: a possible blueprint for the future. In conclusion the article describes the multiple benefits of the cross-site model:

- Consistent timely intervention
- Reduced disruption to emergency operating theatres
- Endoscopy nurse participation ensures a safer and better patient experience alongside better decontamination.

Background

Identifying the need

The clinical team felt that relying on endoscopists to cover out of hours work on a 'goodwill' agreement was not conducive to a modern endoscopy service. A formal system was required.

Implementing the changes

The process began with the medical and gastroenterology clinical directors working together with physician colleagues to make the case that these very sick and sometimes complex patients, required specialist support.

The current gastroenterologists already had medical on call commitments which meant additional endoscopy on call would be unsustainable.

An agreement was reached with clinical leads and Trust managers that cardiology colleagues would be removed from general medical on call during the week and the endoscopy team at the weekend. This workload was taken up by recruiting additional acute medicine and associate specialist support and a small remuneration increase for those already on the rota.

Endoscopy nurses restructured their on call commitments to become on call 18:00 to 08:00 hrs weekdays and 24hrs over the weekend, with additional support for urgent and elective weekend lists.

Service model

Transfer of stable patients between sites emulates the system in place for acute medical bed pressures. The Lister site was chosen as the receiving centre due to the unit's location within the main hospital building. QE II patients, too unwell for transfer, are treated in theatres.

Medically stable urgent patients are discussed between on call team registrars with those deemed appropriate allocated a slot in the regular weekend lists.

Outcomes

The on call commitment ratio is currently 1:8 and the team are called out on average once per week.

Patients have commented that they are pleasantly surprised to have the opportunity for consultant level input in their care.

Top tips

- Define the needs of your service by understanding the demand for non-elective support during the weekends.
- Understand the needs/workload/rotas of medical and surgical colleagues.
- Review the service set up: is it safer to provide services that are situated within the main hospital as opposed to a stand-alone unit?
- Gain agreement from staff: ensure physician and nursing teams are supportive and understand the benefits to patients.
- Ensure the unit is adequately staffed at weekends with the appropriate level of skill to deal with potentially very sick patients.

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