**BENCHMARKING OF ACTIVITY, PROCESS AND OUTCOME OF EMERGENCY ADMISSION FOR ULCERATIVE COLITIS ACROSS ENGLISH HOSPITALS**

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**Introduction** The UK IBD Registry aims to make information work better for patients, clinical teams and the NHS. As part of the benchmarking reports provided to participating Trusts, we have developed organisational level metrics from routinely collected hospital episode statistics (HES) data – working with front-line teams to iteratively develop reports with feedback on content and local face-validity. We report national-level findings and institutional variation in activity, process and outcome of emergency care for UC.

**Methods** Admitted patient care data for English hospitals were analysed, identifying all-cause admissions for patients with UC and constructing algorithms to identify emergency activity, track process and outcome for UC-specific emergency admissions (UC-Em-Ad), including in-hospital death (I-H-D) and emergency surgery (Em-Surg), all-cause 30 day readmission (30D-RA) and twelve month outcome. Reports containing 5 year national and local trends and cumulative 5 year performance were distributed to sites in Dec 2017. This analysis summarises selected data for 133 Trusts present in all fiscal years (11/12 to 15/16).

**Results** Nationally, there were 31,371 UC-Em-Ad (2,657,999 bed days; median LoS 6 days; 22,809 patients; mean age 40 years; male 50%; additional coded co-morbidities in 23%) with 1451 Em-Surg (4.62% crude surgery rate; mean age 44 years; male 56.1%), 324 I-H-D (1.03% crude mortality rate; mean age 76 years; 67% had additional coded co-morbidities; only 16% of deaths were post-surgery), 4916 30D-RA (15.7% crude readmission rate). At Trust level, mean (95% limits) for indirectly standardised rates were: I-H-D 1.03% (0.90%–1.15%), Em-Surg 4.79% (4.31%–5.27%), 30D-RA 15.55% (15.0%–16.1%). Few outliers were identified and none consistently over time, with no significant trends identified for volume-outcome relationships. Funnel plots and regression analyses will be presented.

**Conclusions** These data provide real-world insights into processes and outcomes of emergency care for UC across England in the last five years, with a series of metrics to support both national and local quality improvement efforts. Linkages between HES and local Registry data offers potential to validate, refine and extend these benchmarking metrics.

**Funding** Crohn’s and Colitis UK

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**FAECAL IMMUNOCHEMICAL TESTS (FIT) FOR SURVEILLANCE AFTER SCREENING AND POLYPECTOMY: AN ACCURACY AND EFFICIENCY STUDY**

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**Introduction** Individuals at intermediate-risk for colorectal cancer (CRC) following adenoma removal within the English Bowel Cancer Screening Programme (BCSP) are invited for three-yearly surveillance colonoscopy. Given the invasive nature of colonoscopy and scarcity of endoscopy resources, there is a need for an alternative surveillance method. We aimed to determine whether annual testing with the faecal immunochemical test (FIT) is an effective alternative.

**Methods** Individuals aged 60–72 years and scheduled for surveillance following removal of intermediate-risk adenomas were recruited within the BCSP from January 2012 to December 2013. Quantitative FIT (OC-Sensor, Eiken) was offered at one, two, and three years post-polypectomy. Invites who returned a completed consent form and an analysable FIT at Round 1 were included. Participants testing positive ≥40 μg haemoglobin (Hb)/g faeces at Rounds 1 or 2 were offered early colonoscopy and were not invited to further FIT rounds. All other participants were offered the routine three-year surveillance colonoscopy. Diagnostic accuracy for CRC and advanced adenomas (AAs: adenomas≥10 mm, with tubulovillous or villous histology, or high grade dysplasia) was calculated at each round, using colonoscopy as the reference standard. We estimated diagnostic accuracy with lower haemoglobin thresholds and multiple rounds.

**Results** Of 8008 invites, 5946 (74%) consented and returned an analysable FIT at Round 1. Uptake of FIT was higher (97%) in Rounds 2 and 3. FIT positivity decreased by round, from 6% to 4% in Rounds 1 to 3. In total, 26 participants were diagnosed with CRC and 443 with AAs. At 40 μg/g, sensitivity and specificity of the first FIT were, respectively, 31% and 94% for CRC and 18% and 95% for AAs. Sensitivities for CRC and AAs were higher, and specificities lower, with lower thresholds and multiple rounds. At 10 μg/g, the programme sensitivity and specificity of three rounds were, respectively, 85% and 71% for CRC and 57% and 73% for AAs.

**Conclusions** Annual low threshold FIT achieved relatively high sensitivity for CRC over three years. If this strategy replaced three-yearly surveillance colonoscopy, the number of colonoscopies could potentially be reduced by 70%. However, sensitivity for AAs was limited. Further research is needed to consider the implications for clinical practice of missing CRCs and AAs with FIT-based surveillance.
**Introduce** Faecal microbiota transplantation (FMT) has been shown to be highly effective treatment in placebo-controlled trials, however little real life data exists particularly from UK centres. We report our experience in a single tertiary referral centre.

**Method** Data was collected prospectively from January 2015 to November 2017 for patient demographics, comorbidities, route of FMT administration, 30 day and 1 year mortality. Primary endpoint was resolution of diarrhoea without relapse 10 weeks after first FMT. Resolution of diarrhoea without relapse 10 weeks after second FMT was also recorded.

**Results** 35 adult and 2 paediatric patients were approved for FMT for treatment of rCDI of which 35 patients underwent the procedure. 2 patients clinically deteriorated before FMT could be performed such that FMT became inappropriate.

27/35 (77%) were female, with a mean age of 67 y (range 4–91), and a mean ASA grade of 2.0 (0–4). Patients had received 3.1 (2–5) courses of antibiotics for clostridium difficile and 27 (77%) were external referrals. 32 FMTs were performed via colonoscopy and 3 via nasojejunal tube.

3 patients died within 30 days of FMT (mean ASA grade 3.3) but none directly related to the FMT or C Diff. There was once further expected death 90 days after FMT. No other major side effects or safety concerns were seen.

Of the patients who survived to day 30; 28 out of 32 (87.5%) patients had cessation of diarrhoea without relapse after 10 weeks. 4 patients had recurrent diarrhoea within 10 weeks of FMT of whom 2 had a 2nd FMT resulting in cessation of diarrhoea with no relapse after 10 weeks. The other two patients clinically deteriorated due to underlying medical conditions such that a 2nd FMT was inappropriate. All patients who survived had resolution of symptoms after their first or second transplant.

**Conclusion** FMT is a highly effective treatment for rCDI in the real world with resolution of symptoms and no relapse after 10 weeks achieved in 89.7% of patients undergoing 1 st FMT increasing to 100% after a 2nd FMT.

No safety concerns were identified during the study period. The 3 deaths within 30 days of FMT highlight the comorbid population who develop rCDI and better patient selection is required to ensure appropriateness of FMT in high risk groups.

**Introduction** Patients with Inflammatory Bowel Disease (IBD) often struggle with access to prompt advice regarding and place a heavy reliance on overstretched services. We have a track record in guided self-management of IBD so explored whether this could be built into a novel patient-centred portal with direct on line access to a fully personalised health record, integrating individualised plans of care and disease monitoring tools.

**Methods** In a unique collaboration with local patients, the patient charity Crohn’s and Colitis UK, health care and IT teams, we developed, implemented and evaluated a web based portal at Salford Royal. At the outset, a user group of patients was established and their views and needs were central to each step of the development, refinement and evaluation of the portal. From this group it was clear that there was a particular demand by IBD patients to have access to their health records and reliable information.

**Results** We have built and refined the ‘MY IBD’ portal, which is fully integrated with the electronic patient record and delivers:

1. Access to personalised information: diagnosis, visual aids and links to CCUK information resources
2. Immediate access to blood results, investigation results, clinic letters
3. Disease activity assessment tools
4. A personalised plan of care available online for the patient
5. Improved communication with the IBD team: messaging facility and trigger emails when disease activity scores are high.

720 patients are now using the portal. Overall usability was scored as excellent, showing patients were helped with decision-making. Improvements were seen in perceived support (p=0.06) compared to non-users with a trend to improved disease related knowledge (p=0.14). An average of clinic 2.9 attendances per year (2014–15) reduced to 0.6 attendances for portal self-management users (2016–2017) releasing over 500 clinic appointments. Satisfaction with self-management remains high with 98% of patients rating the process as good/excellent. User group sessions have captured value to patients. They expressed it had ‘completely changed my care’, ‘having up to date information about your condition leads to less stress and better health’ and ‘puts patients back in control of their illness’.

The portal has also been refined for integration with the IBD registry.

**Conclusions** Patient experience and service have improved. Portal patients are more in control, with greater independence to self-manage through better understanding of their condition. Other Trusts are now seeking to adopt the portal and we welcome enquiries to establish it in other NHS sites.

**Acknowledgments** funded by CCUK, ‘Living with IBD’.
Gloucestershire in 2016. GPs may refer patients<45 years with symptoms fulfilling ROME criteria for IBS which is refractory to first line management (as per NICE guidance) and with faecal calprotectin (FC) level less than 150 ug/g directly to a dietitians-led clinic. The pathway and service aim to provide effective and expert management for this patient group, whilst reducing invasive investigation and referrals into secondary care gastroenterology clinics.

Methods GP requests for faecal calprotectin testing and subsequent referral to the RIBS service were audited over a 2 year period. Outcomes from intermediate FC results and referrals for lower GI endoscopy were audited annually for 6 month and 1 month periods retrospectively.

Results GP’s requested on average 31 FC tests/month in 2016, rising to 54/month in 2017. 76% of these returned a negative (<50 ug/g) or intermediate (50–150 ug/g) result, with 60% of these patients being referred to the RIBS service. Proportion of patients with an intermediate FC referred directly to the RIBS service were similar in both audit periods (2016: 29%; 2017: 29.5%). Seven patients with an intermediate FC result had a high result at re-test three months later. These cases were discussed within MDT and referred for lower GI endoscopy as appropriate. Colonoscopy audit over a one month period prior to service set-up (May 2015) showed 100 patients<45 years had lower GI endoscopy, 35% of these met ROME criteria for IBS. One year later, 106 patients<45 years underwent lower GI endoscopy over one month with only 18% meeting ROME criteria for IBS. This figure fell again to 10% in May 2017. In all cases where symptoms met ROME criteria for IBS, lower GI endoscopy showed no major pathology. Over 300 direct access referrals have been managed through this pathway to date with 70% patients reporting satisfactory relief of IBS symptoms following dietary manipulation. Patients who do not respond are discussed in a consultant-led MDT with advice, review or investigation arranged as appropriate.

Conclusions The integrated care pathway and direct access RIBS service has led to a reduction in patients with ROME criteria IBS referred to GI consultants and for costly invasive lower GI investigation. GPs adhere to the care pathway and request FC tests appropriately as demonstrated by the 76% return of negative or intermediate results. Our data supports the validation of a higher negative FC cut off of 150 ug/g; no cases of IBD have been missed in this patient cohort to date. We continue to recommend ongoing education and audit prospectively to ensure optimisation of the service.

**Abstracts**

**OTU-033 IMPACT OF POINT-OF-CARE TESTING FOR PATHOGENS IN PATIENTS WITH SUSPECTED GASTROENTERITIS: A RANDOMISED CONTROLLED TRIAL**

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Introduction Patients presenting to hospital with diarrhoea are routinely isolated as an infection control measure whilst awaiting results of laboratory stool tests which typically take several days. Novel rapid molecular testing platforms, which test comprehensively for gastrointestinal (GI) pathogens, generate a result in 1 hour, making them potentially deployable as point-of-care tests (POCT). Their use may therefore rationalise the use of isolation facilities.

Methods In this ongoing pragmatic, parallel group, open label, randomised controlled trial, adult patients presenting to hospital with acute diarrhoea (<14 days) were recruited and randomised 1:1 to receive either POCT with the FilmArray GI panel or to routine clinical care. Results of POCT were communicated to clinical and infection control teams. The primary outcome measure was duration of time in a side room and secondary outcome measures included turnaround time, proportion of patients with a pathogen detected, and proportion of patients correctly de-isolated. Statistical analysis was done using GraphPad Prism Version 7.

Result We performed an interim analysis using data collected from the first 100 patients. The groups (n=50) were well matched in terms of baseline characteristics. 34% of patients had inflammatory bowel disease. The median [IQR] turn-around time for results was 1.7 [1.6–2.3] hours in the POCT group and 61 [49–84] hours in the control group, p=0.0001. Pathogens were detected in 48% of patients in the POCT group and 20% in the control group, p=0.0057. The median duration of side room isolation was 2.1 [1.0–4.3] days in the POCT group (for those testing positive) compared to 2.7 [1.8–5.0] days in the control group, p=0.037. For those testing negative for pathogens, this was 1.4 [0.6–3.8] days in the POCT group versus 2.7 [1.8–4.9] days in the control group, p=0.0066. 62% of pathogen-negative patients were correctly de-isolated in the POCT group versus 20% in the control group, p=0.0012.

Conclusion POCT using the FilmArray GI panel resulted in a rapid turnaround time for results and an increase in the proportion of patients with pathogens detected. POCT was associated with a reduction in the duration of side room use. If these benefits are maintained in the full study and supported by health economic analysis, molecular POCT for GI pathogens should become standard of care.

**OTU-034 IBD PSYCHOLOGICAL SUPPORT PILOT REDUCES IBD SYMPTOMS AND IMPROVES PSYCHOLOGICAL WELLBEING**

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Introduction Growing evidence suggests that psychological stress can increase activity of inflammatory bowel disease (IBD)1,2,3,4. However there is insufficient access to psychological support services for IBD patients in the UK1. Current evidence demonstrates that psychological therapies improve quality of life in the short term, and supports the efficacy of antidepressant medication5 in improving disease activity.

Methods Our digestive disease unit at a major teaching hospital secured funding to pilot a Psychological Support Service for Patients with Inflammatory Bowel Disease (PSSPIBD) to provide outpatient psychological support to patients with IBD.

Between October 2015 to March 2017, 85 patients were assessed and treated by PSSPIBD, staffed by a psychiatrist (0.1WTE) and clinical health psychologist (0.3WTE) with special interests in IBD. Referrals were made for patients...
Integrating Major Haemorrhage Policies: Recruit and Retain Blood Donors

Introduction
Major haemorrhage is a common medical emergency in endoscopy rooms where on-site critical care support is not always standard. Successful management requires resuscitation, appropriate and safe use of blood products alongside effective communication between clinical and laboratory teams.

Methods
A time and space study was completed looking at staff roles within the endoscopy room, typically endoscopist, nurse (RN) and Health Care Assistant (HCA); and the unit as a whole during major GI bleeds. Barriers to effective resuscitation, timely provision of blood products, communication with laboratories/other clinical teams were identified.

Results
We identified variation in the following key areas:

1. Staff roles and numbers in room
2. Communication between nursing, medical and laboratory teams
3. Need for a team leader to free up the endoscopist

The following protocol was developed.

Endoscopist
Declares major haemorrhage.

Nursing
Room RN activates in-room buzzer triggering protocol.

Three additional RNs and 1 HCA supplement the original room team.

RN A (Team Leader) Activates Laboratory MHP via ‘2222’ call, coordinates the room, allocates staff roles, runs resuscitation, communicates with additional teams

RN B - assists with therapeutics
RN C - patient observations, fluid/medication delivery, scribes
HCA A - runner for equipment etc
Porter - available throughout

Laboratory ‘2222’ call triggers the laboratory and blood bank to prepare and dispatch: 4 units packed red cells, 4 units fresh frozen plasma and 1 pool of platelets directly to the endoscopy unit by a dedicated porter. The lab remains on standby as required.

The policy’s introduction was supplemented by training sessions including simulated scenarios to increase staff awareness, confidence and responsiveness to major haemorrhage.

Conclusion
We believe this protocol is the first to give a practical description of a process dovetailing clinical and laboratory response to major haemorrhage. Having a clearly defined team leader and standardising individual staff roles allows streamlined communication with other clinical groups in a non-critical care environment.

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Integrating Major Haemorrhage Policies: Endoscopy and Laboratory Working Together

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Introduction
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uncomplicated haemochromatosis. From these, 66 were potentially eligible for blood donation; 58 were ineligible due to age or co-morbidity and 32 were in the induction phase and therefore not eligible.

Prior to the introduction of this service there were 9 regular blood donors amongst this eligible cohort.

56 (85%) of the potentially eligible patients expressed interest in blood donation and 54 (81%) applied. The blood service included 6 patients for medical reasons and 8 have not attended. This new pathway has therefore resulted in 31 new, and 40 in total, regular blood donors. This cohort has been responsible for the donation of 334 units of blood, 236 of these coming from new donors.

Conclusions 5 year follow-up of this blood donation facilitation service has confirmed that patients with haemochromatosis are willing to be involved in regular blood donation. The number of units donated from these patients has significantly contributed to the regions supply of red cells and could help alleviate ongoing national shortages. The current pathway in Newcastle is now recognised as the ‘gold standard’ in blood donations amongst patients with haemochromatosis. National rollout of this pathway may have significant impact on the availability of this highly valuable commodity.

**Abstracts**

**ADTU-10 THE SETTING UP AND RUNNING OF A GASTROENTEROLOGY VIRTUAL OUTPATIENT CLINIC FOR NEW REFERRALS**

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**Introduction**

The outpatient services are under increasing pressure across the NHS. A novel approach to virtual outpatients was trialled in this study. The aim was to provide virtual triage and virtual co-ordination of investigations and care of gastroenterology GP referrals, avoiding a physical outpatient visit when deemed clinically safe and appropriate.

**Methods**

All gastroenterology referral, excluding urgent or two-week wait referrals, from Barking, Redbridge and Havering CCG’s were included. To support local consultant capacity, we adopted a unique approach by recruiting NHS gastroenterology consultants from around the country to boost local capacity virtually. They were able to review gastroenterology referrals via the bespoke IT platform and work in their own time to meet the demand of the area.

All referrals were initially triaged by a gastroenterology consultant. The consultant could triage the patient to: GP advice only (discharge), outpatient clinic if patients were deemed too complex, and Virtual Hospital pathway. The Virtual Hospital pathway involved a combination of investigations or telephone consultations by junior doctors. All the results were reviewed by the consultant. The outcomes included discharge to GP, further investigations, or outpatient clinic review, for example, for chronic disease management.

**Results**

A total of 1189 of patients were referred to the service from March 2017-January 2018. Of these, 21.19% were discharged to GP with simple advice, 14.97% were deemed to complex and reviewed in outpatient clinics, and 63.84% entered the virtual hospital pathway. The average time taken for the initial consultant triage was 5 hours and 2 min compared to several weeks for an initial outpatient appointment.

99% of referrals were triaged within 48 hours. 2.5% of routine referrals were upgraded to urgent and 1% were upgraded to cancer pathway. Of the 189 patients discharged from the Virtual Hospital, the average time for patients to complete the pathway was 10.11 weeks. No clinically adverse incidents have been reported. The service has been well received by patients, and ~1% of patients requested an outpatient visit.

**Conclusions**

The virtual hospital has created a safe and efficient healthcare pathway, utilising technology that significantly reduces hospital footfall, reducing patient waiting times and delivers system-based cost savings. We have identified a sustainable solution to improve and meet increasing demand despite limited capacity within the NHS. The Virtual Hospital demonstrates that majority of patients under virtual specialist care can be managed within the community setting or virtually. Early triage also helps reduce clinical risk for patients who would have otherwise waited several weeks for a clinic appointment.

**PTU-073 A THOUSAND CAPSULES: SIX YEARS’ EXPERIENCE FROM A DISTRICT GENERAL HOSPITAL IN ENGLAND**

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**Introduction**

The diagnostic role of capsule endoscopy CE has rapidly evolved over the past two decades and is currently regarded as one of the gold standard test to investigate the small bowel. Although most publications are from tertiary referral centres, there is a paucity of data on feasibility and clinical utility of CE in a district General hospital (DGH) setting in the United Kingdom (UK). We aimed to evaluate the capsule endoscopy service in our Hospital since it has been established in 2011.

**Methods**

We retrospectively reviewed and analysed the CE reports of all patients who had the test between April 2011 and April 2017. Exclusion criteria: Retained capsule, difficulty to swallow capsule and inadequate views due to poor bowel prep. We assessed demographics, indications, outcome, complications and completion of the test among the whole cohort. We also looked at the diagnostic yield (DY).

**Results**

In the aforementioned period, Small bowel CE was performed on 1029 patients. 71 (6.9%) patients were excluded as per exclusion criteria. 958 (528F/430M; Mean age 59 years, Range: 17–92) patients’ reports were reviewed and analysed. OGIB was recorded as the main indication 81.4% (iron deficiency anaemia, IDA: 74.9% (n=718), overt bleeding 6.5% (n=62)). Other indications included investigation of small bowel Crohn’s disease (CD) 10.3% (n=99), weight loss: 1.7% (n=16), angiodyplasia: 1.3% (n=12), abdominal pain: 2% (n=19) and others: 7.2% (n=69). Complete small bowel examination was achieved in 902 patients (94.2%). 56 patients (5.8%) had sub optimal views due to rapid transit time. The test was normal in 61% (n=581). Small bowel angioectasia was detected in 13.8% (n=132). Other findings included aphthoid ulcers: 11.8% (n=113), inflammation and oedema suggestive of Crohn’s disease in 8% (n=76), polyoidal lesion 1.5% (n=17), colonic pathologies 1.5% (n=14) and others 5.8% (n=56). Patients with suspected small bowel Crohn’s disease had initial patency capsule to prevent lodgement. Retention was recorded in 3% of patients (n=3) due to strictures. One patient’s stricture improved with
steroids therapy, the second patient underwent surgery for a malignant stricture and the third patient had enteroscopy and removal of the capsule; biopsies of the stricture were inconclusive. The overall cohort DY for all indications was 39% (n=377/958).

**Conclusions** This is the largest series from a DGH in England. Our data has shown that CE is safe, non-invasive and feasible in a district hospital setting. It has a good DY, acceptable to patient and allows adequate look at the small bowel. Recommendations: Despite the major role of CE in GI investigation, there is a lack of structured training. We recommend formal accreditation and training to be added to the Gastroenterology advance training curriculum.

**Abbreviations**

- DGH: District General Hospital
- MC: Microscopic Colitis
- CE: Capsule Endoscopy
- IBD: Inflammatory Bowel Disease
- IBD helpline: Specialised nurse-led service for management and outcomes of IBD

**Abstracts**

**PTU-074**

**MICROSCOPIC COLITIS: INCIDENCE AND BIOPSY PATTERN IN A DISTRICT GENERAL HOSPITAL IN ENGLAND**

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**Introduction** Microscopic colitis (MC) is characterised clinically by chronic watery diarrhoea and usually by normal-looking colonic mucosa on endoscopy. This creates controversy regarding the role of routine mucosal biopsy protocol. Despite an increasing incidence, understanding and awareness of MC remain low. The European Microscopic Colitis Group (EMCG) established a series of recommendations to enhance awareness about MC.

**Aim & methods** We aim to evaluate the incidence of MC in our centre; a district general hospital seeing a population of 250,000 in North east England. We retrospectively retrieved, reviewed and analysed data from all lower gastro-intestinal (GI) endoscopy reports and colonic biopsies histology reports for patients diagnosed with MC between January 2010 and December 2016. We assessed demographics, indications, endoscopy and biopsy histology reports of the cohort of patients with established MC.

**Results** 145 patients were identified. Three patients were excluded due to unavailable endoscopy reports leaving 142 eligible patients included in this service evaluation. The annual incidence rate of MC has increased by more than 5 folds over the six years period [Figure 1]. Females predominated the cohort with 93 patients (65.5%) with a mean age of 61 years (range 19–85). The mean age for males was 60 years (range 19–88). 137 patients underwent colonoscopy, while only five patients had flexible sigmoidoscopy. Indications were: chronic diarrhoea 83.1% (n=118), altered bowel habits 12.7% (n=18), anaemia 0.7% (n=1), per-rectal bleeding 0.7% (n=1), and Inflammatory Bowel Disease surveillance 2.8% (n=4). Endoscopy was normal in 85.2% (n=121), while 6.3% (n=9) of patients were found to have area of inflammation. Terminal ileal biopsies were performed in 12.7% (n=18) and were all negative.

Majority of patients (55.6%, n=79) were found to have lymphocytic colitis LC, while Collagenous colitis was demonstrated in 42.3% (n=60) of patients and only 2.1% (n=3) had a mixed histological picture of LC and MC reported. 89 patients (63%) had right, left and recto-sigmoid mucosal biopsies while the rest had random mucosal biopsies.

**Conclusion** Data from our centre showed annual increase diagnosis of MC. TI biopsy were all negative and therefore inconclusive in diagnosis of MC. In view of the lack of clear diagnostic biopsy protocol in normal lower GI endoscopy in patients presenting with chronic diarrhoea, either random colonic or segmental mucosal biopsies can be done to look for MC.

**REFERENCES**


**Figure 1:** increase in the diagnosis rate of MC.

- CC: Collagenous colitis
- LC: Lymphocytic colitis

**PTU-075**

**WHAT IS THE BENEFIT OF TELEPHONE AND VIRTUAL IBD CLINICS IN A DGH?**

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**Introduction** Inflammatory Bowel Disease (IBD) services across the UK are under increasing pressure. To improve efficiency, pathways of care have been proposed. However these are difficult to cost due to a lack of data on current service provision, leading to challenges with commissioning.

We set out to characterise our IBD service in a District General Hospital (DGH) setting, having recently implemented a new pathway to streamline the service. A second aim was to establish if our service met the NICE quality standard of looking at IBD referrals within 4 weeks.

**Methods** Prospective data from clinics at two DGHs were gathered from 92 patient journeys over 52 weeks. The activity of a new IBD helpline was analysed over a 28 week period and outcomes prospectively recorded. Specifically the activity avoided as a result of the helpline was analysed and costed. Finally, the outcomes from a new virtual IBD clinic were prospectively collected over a 10 week period.

**Results** 33% of clinic patients had IBD, of which 59% were in remission. 41% of patients were felt suitable for non-clinic follow-up. 76% were interested in the concept of ‘self-management’ during remission. 95% of patients rated the consultation experience as ‘good’ or ‘very good’. There was an average 1 new to 4 follow-up encounters within the first year from referral; 26% were successfully conducted by telephone. Median time from initial referral to first outpatient contact was 9.1 weeks (4.9–19.9). 58% were not seen within 4 weeks of referral.

The IBD helpline received 543 calls in 28 weeks (average 83/month). The interventions avoided due to this service were; 156 GP consultations, 231 outpatient reviews, 39 ED attendances and 6 admissions. Estimated cost saving due to activity avoided was £37,913, with helpline costs of £2065. 92% of patients rated the helpline as ‘good’ or ‘very good’. 100% of patients reported a response within 24 hours (weekdays).

Since September 2017, 10 virtual IBD clinics have led to 191 treatment decisions. High cost biologic drugs have been stopped in 7 patients, without having to wait for face-to-face review, with an estimated saving of £12,300. 59 patients were identified as needing annual review and 51 identified as needing urgent treatment decisions.
Abstracts

Overall quantifiable cost savings from the helpline and virtual clinic totalled £11,000/month.

Conclusions Telephone and virtual clinics result in earlier treatment decisions for IBD patients and give quantifiable cost savings as part of an IBD pathway at a DGH. By increasing virtual clinics and encouraging patient autonomy, we can aim to improve the NICE quality standard of seeing new IBD patients within 4 weeks of referral. Improving autonomy over services for both clinician and patient can allow for more efficient IBD care.

PTU-076 USING GOOGLE SEARCH TREND DATA TO ASSESS PUBLIC INTEREST IN UPPER GI CANCER SYMPTOMS

Lance Alleyne*, Philip Harvey, Nigel Trudgill. Sandwell And West Birmingham Hospitals, Birmingham, UK

10.1136/gutjnl-2018-BSGAbstracts.450

Introduction Search engine data has been used to predict disease outbreaks based on search volumes for symptoms. Trend data can also assess information-seeking behaviour for cancer symptoms.

‘Be Clear on Cancer’ (BCOC) for upper GI cancers ran 26/1/15–28/2/15 and resulted in increased two week wait (2ww) OGD referrals. We use Google search data to identify information-seeking behaviour for symptoms of upper GI cancers and corresponding local 2ww referral patterns in response to BCOC.

Methods Search data from 10/2/13–3/2/18 for: ‘heartburn’, ‘indigestion’, ‘reflux’ and ‘heartburn AND cancer’ was extracted from ‘Google Trends’ and ‘Google Adwords’. Google Trends normalised weekly search traffic to a ‘relative search volume’ (RSV) index between 0 (<1% of the peak weekly search volume) and 100 (equivalent to the highest weekly search volume during the study period).

Data was compared to monthly 2ww referrals for upper GI cancers at our centre over the study period. Lower GI cancer referrals were used as a control.

Results A mean annual increase in weekly RSV (compared to the annual mean RSV) for the terms ‘heartburn’ and ‘indigestion’ in the last week of December annually (from 2013 to 2017) of 67% and 60% respectively (figure 1). In the last week of January 2013, there was also a peak in RSV for ‘heartburn’ of 73%, corresponding to BCOC. This peak was higher than the Christmas 2014 increase (56%) and not replicated in the study period.

Data was compared to monthly 2ww referrals for upper GI cancers at our centre over the study period. Lower GI cancer referrals were used as a control.

Results A mean annual increase in weekly RSV (compared to the annual mean RSV) for the terms ‘heartburn’ and ‘indigestion’ in the last week of December annually (from 2013 to 2017) of 67% and 60% respectively (figure 1). In the last week of January 2013, there was also a peak in RSV for ‘heartburn’ of 73%, corresponding to BCOC. This peak was higher than the Christmas 2014 increase (56%) and not replicated in the study period.

Conclusions Peaks in information-seeking behaviours were observed each Christmas for upper GI symptoms resulting in a significant increase in 2ww referrals. BCOC generated a larger increase in interest with additional cancer association, but impact (as measured by information seeking) fell sharply over the course of the campaign.

Future BCOC programmes may benefit from 2 separate campaigns of reduced duration. Service pressures during such campaigns may be eased by such campaigns avoiding January.

PTU-077 A PILOT INTERNATIONAL SURVEY OF COLONOSCOPY RELATED INJURY IN ENDOSCOPISTS

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10.1136/gutjnl-2018-BSGAbstracts.451

Introduction Colonoscopy is physically demanding for endoscopists and for patients. Repetitive movements during colonoscopy can lead to overuse injuries. Our aim is to explore the prevalence and range of colonoscopy-related musculoskeletal injuries (CRI) in endoscopists.

Methods A cross-sectional electronic survey of 1825 endoscopists was made. The sample was comprised of members of British Society of Gastroenterology, European Society of Gastrointestinal Endoscopy and National Nurse Endoscopy Group. The survey comprised 20 questions. These included: endoscopists’ workload, level of experience and their perceived CRIs. All endoscopists who perform colonoscopy independently were included in the analysis.

Results Initial results include 337 completed questionnaires out of 1825 (18.4%). Of those, 319 (94.5%) participants are fully independent in colonoscopy. 254 out of 319 (79.6%) have experienced musculoskeletal injuries. These were reported as either possibly (n=143, 46.7%) or definitely (n=90, 29.4%) related to colonoscopy.

Factors that were significantly associated with higher rates of CRI: >6 hours per week (equivalent to 2 or more lists/week) (p=0.0001), >5000 lifetime number of colonoscopies during the first week of BCOC, dropping to 722% in week 2% and 173% by week 5 - mean 673% overall.

Abstract PTU-076 Figure 1

Searches for ‘heartburn AND cancer’ reached their peak RSV (100) in the last week of January 2015, correlating with BCOC (figure 2). Mean RSV over the entire five year reference period was 7.48, with a 1336% increase in searches during the first week of BCOC, dropping to 722% in week 2% and 173% by week 5 - mean 673% overall.

Abstract PTU-076 Figure 2

Data from our centre showed a mean 19.2% increase in 2ww referrals for suspected upper GI cancers in January of every year (compared to the mean number of monthly 2ww referrals for the preceding 12 months), except January 2016 where there was an 11% reduction in the number of referrals. There was a 29.9% increase in 2ww referrals from January to February 2015 which corresponds to BCOC. Suspected colorectal cancer referrals observed a mean 3% increase each January compared to the preceding 12 month average.

Conclusions Peaks in information-seeking behaviours were observed each Christmas for upper GI symptoms resulting in a significant increase in 2ww referrals. BCOC generated a larger increase in interest with additional cancer association, but impact (as measured by information seeking) fell sharply over the course of the campaign.

Future BCOC programmes may benefit from 2 separate campaigns of reduced duration. Service pressures during such campaigns may be eased by such campaigns avoiding January.
performed ($p=0.0002), >150 procedure performed per year ($p=0.0001). Female endoscopists are also at a significantly higher risk of CRI and more likely to require time off-work ($p=0.0001).

Commonly injured areas were:

- lower back (n=95, 30.45%), neck (n=90, 28.85%) and left thumb (n=80, 25.64%) of injured endoscopists applied some modification to their practice e.g. stretching exercises and ergonomic changes.
- 130 (48.5%) endoscopists thought that repetitive hand movements was a likely causative mechanism. 125 (46.6%) believed that torquing the scope and body position were precipitating CRI.

Several treatment modalities were used; physiotherapy (n=109), medications (n=70), rest (n=43), splinting (n=31), steroid injections (n=26) and surgery (n=11).

Conclusions From our initial results, a significant proportion of endoscopists experience CRI. Higher prevalence of CRI was significantly associated with >5000 total life-time colonoscopies, >6 hour/week performing colonoscopy, >150 procedure/year and female gender. These results highlight the need to recognize CRI as an important issue and to adopt preventative strategies routinely in the future.

### Abstract PTU-077

<table>
<thead>
<tr>
<th>Factor</th>
<th>No. (%)</th>
<th>Possible/definite CRI (n=233)</th>
<th>No CRI (n=73)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>217</td>
<td>148 (46.4)</td>
<td>59</td>
<td>0.0001</td>
</tr>
<tr>
<td>Male</td>
<td>66 (24)</td>
<td>84 (26.3)</td>
<td>(18.5)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>102</td>
<td>14 (4.4)</td>
<td>(31.76)</td>
<td></td>
</tr>
<tr>
<td>Colonoscopy/year</td>
<td>55 (17.2)</td>
<td>35 (11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;150</td>
<td>264 (82.8)</td>
<td>189 (59.2)</td>
<td>58</td>
<td>0.0001</td>
</tr>
<tr>
<td>&gt;150</td>
<td>102</td>
<td>14 (4.4)</td>
<td>(31.76)</td>
<td></td>
</tr>
<tr>
<td>Life-time total</td>
<td>200 (62.7)</td>
<td>144 (45.1)</td>
<td>47 (15.7)</td>
<td>0.0002</td>
</tr>
<tr>
<td>&lt;5000</td>
<td>119 (37.3)</td>
<td>89 (27.9)</td>
<td>(14.7)</td>
<td></td>
</tr>
<tr>
<td>&gt;5000</td>
<td>26 (8.2)</td>
<td>26 (8.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hour/week</td>
<td>46 (14.4)</td>
<td>34 (10.7)</td>
<td>11 (3.4)</td>
<td>0.0001</td>
</tr>
<tr>
<td>&lt;6</td>
<td>273 (85.6)</td>
<td>198 (62.1)</td>
<td>62 (19.4)</td>
<td></td>
</tr>
<tr>
<td>&gt;6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

97/125 (77.6%) QSs were being actively audited (within 12 months), increasing to 109/125 (87.2%) over the past 5 years. Currently 55/125 can be audited electronically, 24/125 require notes review and 46/125 involve a combined approach. Compliance was poor for QSSs needing notes review (49/70), but increased significantly with electronic audit data (51/55; $p=0.001$) (figure 1).

Figure 1 Existing QSS audit compliance

QSs within pre-existing structured audit plans with allocated audit staff had greater compliance (83/93, 89.2%) in comparison to those without (14/32, 43.8%, $p<0.05$). Several subspecialties had failed to continue to audit their service after termination of previously mandated national audits.

Conclusions The currently mandated audit of QSSs is a significant burden, with overlap of published gastroenterology QSSs and ambiguity in certain areas. The majority require some manual case-note review. Electronically audited QSSs are more likely to be monitored. Audit activity is improved when clear audit plans exist. Audit wanes when compliance is not mandatory.

Consensus between professional bodies is recommended to devise a practical and comprehensive list of GI standards without duplication. Designing an integrated planned rolling audit programme should improve compliance with national QSSs. Ideally all data should be collected electronically and prospectively to validate and simplify the process. Increased mandatory submission of data to professional bodies may promote improved continuous audit activity.

### Abstract PTU-078

**COMPREHENSIVE MAPPING OF QUALITY STANDARDS (QSS) IN GASTROENTEROLOGY (GI)**

Rebecca Anderson*, John Anderson. Gloucestershire Hospitals NHS Foundation Trust, Cheltenham, UK

10.1136/gutjnl-2018-BSGAbstracts.452

**Introduction** Audit is a vital part of quality assurance and enables individuals and services to monitor and improve standards. We describe the experience of mapping and implementing a comprehensive GI audit programme.

**Methods** Different GI QSSs are published by the British Society of Gastroenterology, Joint Advisory Group on GI endoscopy (JAG), National Institute for Clinical Excellence and National Confidential Enquiry into Patient Outcome and Death. These were reviewed, where necessary rationalised (overlap/repetition), and grouped by subspecialty. An audit lead was appointed for each subspecialty.

Existing QSS audit activity was mapped and compared to the new QSS template. Audit-leads then designed a comprehensive GI audit programme incorporating all QSSs, which was integrated into a rolling calendar of audit activity.

**Results** We identified 226 QSSs related to GI. 101 were removed (clinical, surgical or community domains), leaving 125 GI relevant QSSs (table 1).

**Table 1** Subspecialty QSSs

<table>
<thead>
<tr>
<th>Subspecialty</th>
<th>No QSSs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowel cancer screening</td>
<td>6</td>
</tr>
<tr>
<td>Endoscopic retrograde cholangiopancreatiography and endoscopic ultrasound</td>
<td>16</td>
</tr>
<tr>
<td>Hepatology and alcohol use</td>
<td>18</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>12</td>
</tr>
<tr>
<td>JAG</td>
<td>42</td>
</tr>
<tr>
<td>Nutrition, percutaneous endoscopic gastrostomy and coeliac</td>
<td>12</td>
</tr>
<tr>
<td>Other endoscopy (Barrett’s/ulcerpepsis)</td>
<td>4</td>
</tr>
<tr>
<td>Upper gastrointestinal bleeding</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
</tr>
</tbody>
</table>

**Abstract PTU-079**

**AMBULATORY MANAGEMENT OF SYMPTOMATIC ANAEMIA**

1Shameena Bharucha*, 1Anja Oklopcic, 2Julie Yates, 1Chew Tan. 1Department of Gastroenterology, Warrington and Halton Hospitals NHS Trust, Warrington, UK; 2Department of Haematology, Warrington and Halton Hospitals NHS Trust, Warrington, UK

10.1136/gutjnl-2018-BSGAbstracts.453
Introduction Current NICE guidance recommends restrictive blood transfusions to a target haemoglobin of 70-90 g/L.¹ In cases of symptomatic iron deficiency anaemia (IDA), parenteral iron is effective.² New IDA warrants urgent investigation. The financial burden of IDA is high rendering the introduction of an ambulatory management pathway at our trust beneficial.

Methods A single-centre retrospective analysis was undertaken of all patients with symptomatic anaemia, referred to ambulatory care between February and September 2017. Our aim was to assess pathway adherence and estimate cost savings.

Results 54 patients (26M; 28F) were referred to ambulatory care between 1/2/17 to 4/9/17 via the anaemia pathway. Mean age was 69 years (range 25 to 97). 44 (81%) were GP referrals whilst 10 (19%) were internal referrals. 72% (n=39) of patients were treated within 24 hours of referral; 17% (n=9) within 2–3 days; 11% (n=6) within 4–11 days.

81% (n=44) of these patients were ambulatory; 19% (n=10) required an in-patient stay for co-existing medical concerns. Causes of known anaemia included: GAVE – 7 (13%); Chronic illness – 9 (17%); Malignancy – 14 (26%); Gynaecological – 4 (7%). Of 20 (37%) patients with new anaemia, 15 (75%) patients were seen within 2 weeks by the relevant team. 2 (10%) delays occurred. 3 (15%) patients did not have IDA.

32 (59%) patients had IDA; 19 received intravenous iron alone (ferritin 3–57.7 μg/L, Hb 72–92 g/L); 13 received parenteral iron plus blood transfusion (ferritin 1.3–125.3 μg/L, Hb 56–80 g/L) and 22 had a transfusion alone (ferritin 12.8–3047.6 μg/L, Hb 53–82 g/L).

Conclusions The introduction of the anaemia pathway, has reduced emergency admissions of patients with symptomatic anaemia. Cancer fast track referrals of IDA have been effective and appropriately triaged and the anaemia pathway has been adhered to. IDA has been treated with parenteral iron, enabling restrictive transfusion. Each emergency IDA admission is estimated to cost £1165 more than a day case (£1640 vs £475, respectively).³ Between February and September 2017, we estimate to have saved 44 such admissions, resulting in an estimated cost saving of £51 260.

REFERENCES
3. Health and Social Care Information Centre. Hospital episode statistics (HES) data. 2015. Accessed under a commercial re-use licence via Harvey Walsh Ltd.
OPTIMISATION OF PATIENTS PRIOR TO IBD RELATED RESECTION USING A QUALITY IMPROVEMENT METHODOLOGY

Ashley Bond*, Keeley Davies, Catherine Stansfield, Kelly Owen, Simon Lal, Mattias Soop. Salford Royal Foundation Trust, Salford, UK
10.1136/gutjnl-2018-BSGAbstracts.456

Introduction Up to 70% of patients with Crohn’s disease and some 30% of patients with ulcerative colitis require abdominal surgery during their lifetime. Perioperative adverse events such as anastomotic leaks, intra-abdominal abscess and unplanned stoma formation are associated with potentially modifiable risk factors. Impaired recovery and complications cause considerable loss of quality of life in this population, who are often in a formative stage of life with considerable educational, professional and family commitments. In order to improve outcomes in elective or expedited IBD surgery, identification of these modifiable risk factors and their pre-operative optimisation in each individual patient is important, but preoperative management remains heterogeneous. We therefore aimed to implement a care bundle to systematically identify and optimise preoperative modifiable risk factors in IBD surgery.

Method A literature review identified five important modifiable pre-operative factors in IBD surgery: smoking, anaemia, malnutrition, steroid and immunosuppressant therapy, and intra-abdominal sepsis. From May 2017, a pre-operative patient optimisation bundle was developed to improve these risk factors. It was implemented using a continuous quality improvement (QI) methodology utilising the model for improvement, sequential plan-do-study-act cycles, tests of change and trust wide upscaling. The main outcome measure was days between failure, where failure was defined as non-compliance with one or more of the five components of the pathway. The care pathway was fully implemented from 1 September 2017, with a continuous QI approach.

Results 18 consecutive patients operated prior to the implementation date, were retrospectively assessed and 14 patients operated with the care bundle were prospectively studied. Mean days between compliance failure increased approximately 2-fold, from 11.7 to 26.1 days. From the first month of implementation, 100% compliance with the anaemia and smoking interventions were achieved, while full compliance with nutritional assessment and steroid weaning elements took longer time to achieve. Length of stay and incidence of Clavien-Dindo grade ≥II morbidity remain unchanged in this preliminary data.

Conclusion Quality improvement methodologies including PDSA cycles, tests of change and trust-wide up-scaling are effective in implement a complex multidisciplinary pre-operative optimisation care pathway for patients undergoing major IBD surgery.
audit of the total patients with a history of alcohol excess (n=30), 11 (36.7%) patients were currently driving. 11 (100%) patients had documented evidence being informed about their fitness to drive in accordance with national DVLA guidelines in the form of a label. Ongoing driving was verbally confirmed by HALT for each patient.

Conclusions Patients with alcohol excess were not being informed about their fitness to drive in accordance with national DVLA guidelines. Introduction of our label has since resulted in an improvement in the number of patients informed about their fitness to drive and adherence with national guidance. Therefore, the use of a simple aide memoire has demonstrated improved compliance with DVLA guidance and potentially reduced the risk of alcohol-related driving incidents.

REFERENCES

PTU-084
BARRETT’S OESOPHAGUS: A QUALITATIVE STUDY OF PATIENT BURDEN AND FOLLOW UP NEEDS

1,2James Britton*, 2,3Shaheen Hamdy, 2,3John McLaughlin, 4,5Maria Home, 2,5Yeng Ang. 1Wrightington, Wigan and Leigh NHS Trust, Leigh, UK; 2,3The University of Manchester, Manchester, UK; 2,3Salford Royal Foundation Trust, Salford, UK; 4,5The University of Leeds, Leeds, UK.
10.1136/gutjnl-2018-BSGAbstracts.458

Introduction The rising incidence of Barrett’s oesophagus (BO) has implications on both service provision and patient burden. Few studies have assessed the impact on patients or engaged them in the design of care pathways. This qualitative study aims to: 1) identify factors impacting on BO patients’ health-related quality of life; 2) explore their follow up needs and attitudes to new models of follow up care.

Methods An exploratory qualitative approach was utilised using 20 semi-structured, in-depth one-to-one interviews, audio recorded and transcribed verbatim. Patients undergoing BO surveillance at a single district general hospital were recruited using purposive sampling with the aim of achieving maximum variation in terms of age, sex and disease duration. Interviews focused on the impact of surveillance, physical and psychological symptoms, experiences of follow-up care, follow-up needs and new models of follow-up care. New models of care included a dedicated BO service and patient-initiated consultation by means of telephone or virtual clinic. Data were analysed using Framework approach, supported by NVivo Pro 11.

Results Data saturation occurred after 20 participant interviews. Median age was 63 years (range 42–77 years) and median disease duration was 5.6 years (range 1–15 years). 10 subthemes and three main themes emerged from data analysis: 1) Burden of disease – symptom control, worry of oesophageal cancer and surveillance endoscopy; 2) Follow up experiences – historic and current follow up care, at this DGH, was found to be inconsistent and often inadequate to meet patients’ needs and expectations. In particular, a lack of disease specific information; 3) Follow up needs – participants sought enhanced communication, organisation and structure of care. They valued face to face interaction with a specialist and were more likely to follow their advice. The concept of direct secondary care access in-between endoscopies was reassuring to participants. There was a strong preference towards a telephone patient-initiated consultation over an ‘impersonal’ online system.

Conclusions This qualitative research provides an in-depth account of the patients’ perspective of BO in an NHS setting. The potential burden to patients must be considered when implementing future care pathways or when designing a BO specific patient reported outcome measure. To improve patient experiences we recommend the implementation and prospective assessment of a complex care intervention, which encompasses dedicated BO surveillance, outpatient clinic and telephone direct access line.

PTU-085
A DEDICATED SERVICE IMPROVES THE ACCURACY OF BARRETT’S OESOPHAGUS SURVEILLANCE: A PROSPECTIVE COMPARATIVE COHORT STUDY

1,2James Britton*, 3Kelly Chatten, 4Thomas Riley, 5Alastair Cairns, 5neeja Prasad, 6Richard Keld, 2,3Shaheen Hamdy, 2,5John McLaughlin, 4,5Yeng Ang, 1,2Wrightington, Wigan and Leigh NHS Trust, Leigh, UK; 3The University of Manchester, Manchester, UK; 5,6Salford Royal Foundation Trust, Salford, UK.
10.1136/gutjnl-2018-BSGAbstracts.459

Introduction This study aims to assess the quality of current Barrett’s Oesophagus surveillance delivery against a dedicated service in the post BSG guideline era.

Methods All patients undergoing BO surveillance between January 2016 and July 2017 at a single NHS district general hospital (DGH) were included. Patients had their endoscopy conducted on a dedicated BO endoscopy list or a generic service list. Data were collected prospectively against the BSG guidelines. Prospective surveillance data were also compared to each patient’s prior surveillance endoscopy experience.

Results 361 patients were scheduled for surveillance of which 217 attended a dedicated list (29 discharged, 13.4%), 78 attended a non-dedicated list (7 discharged, 9%) and 66 did not have their endoscopy. The cohorts were comparable in terms of age, sex and co-morbidity prevalence. The dedicated list adhered more closely to the BSG guidelines (table 1). Histology results from the dedicated list cohort revealed higher rates of intestinal metaplasia (79.8% vs 73.1%, p=0.1155) and dysplasia/OAC (4.3% vs 2.6%, p=0.4082) when compared to the non-dedicated, although statistical significance was not reached.

Conclusions The post-BSG guideline era of BO surveillance remains suboptimal in this DGH. A dedicated service can improve the accuracy and consistency of surveillance care pathways in line with current best practice, although the clinical significance of this remains to be determined.
The impact of the TN was then assessed over five days. 20 lists (75 turnarounds) were examined without TN (control): turnaround time was still 20.8 min (range 6.57, median 19). Where the TN was present (three lists, 12 turnarounds), average turnaround was 18.4 min (range 5–42, median 16).

Two lists were assessed in detail. In contrast to the previous audit, no time was spent by the endoscopist on consent/cannulation during turnaround when the TN was present. Time taken on other activities remained the same.

**Conclusions**

The implementation of a turnaround nurse has removed the need for consent and cannulation during turnaround, freeing up the endoscopist for more value-added tasks. Average turnaround time only decreased by two minutes, however this could save 20 min over a 12-point list. This is likely because there are still unresolved obstructions to flow of the patients through the unit. There were patient factors (lateness, delay in getting ready), cases when the endoscope was not ready, and delay in typing the electronic report. We plan to train the nursing staff to help set up the computer/report and address the other issues in future cycles of the improvement project.

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**PTU-086**

**IMPROVING ENDOSCOPY EFFICIENCY BY REDUCING TURNAROUND TIME BETWEEN CASES**

Kathleen Bryce*, Robert Fearn, Sam Murray. Homerton Hospital, London, UK

10.1136/gutjnl-2018-BSGAbstracts.460

**Introduction**

An improvement in the efficiency of endoscopy lists could help meet increasing demand. We aimed to reduce the ‘turnaround time’ between procedures.

**Methods**

An Endoscopy Quality Improvement Fellow coordinated efficiency projects. Information was collected from the electronic patient record, from entries made by endoscopy staff (time of patient entry into endoscopy room, procedure start, finish, and time out of room) and were entered into a spreadsheet. For in-depth assessment of activities during turnaround, the fellow observed the whole list, collecting information in real time. Baseline results were discussed at the departmental meeting. Suggestions for improvement included nurse training in consent/cannulation and creation of a ‘turnaround nurse’ (TN) who would minimise turnaround time by performing those tasks necessary between cases. We re-measured to see the effect.

**Results**

A preliminary audit of 94 turnaround times over five days (23 lists) showed an average turnaround time of 20.3 mins. We excluded instances where the next patient did not attend/was cancelled.

Two lists were directly observed.

The activities performed simultaneously by the endoscopist, trainee and nurses included 20 min consenting per list, 7.5 min cannulating, 47 min typing reports, 12.5 min handling histology specimens, 47.5 min for equipment turnaround and 22 min for patient transfer/handover.

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**PTU-087**

**A SPECIALISED IBD SERVICE PROVIDES EQUALITY OF ACCESS TO HEALTHCARE, IRRESPECTIVE OF DEPRIVATION INDICES**

1Michael Burkitt*, 1Daniel Storey, 1Belle Gregg, 1,2Chris Probert, 1David Sawbridge. 1Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, UK 2University of Liverpool, Liverpool, UK

10.1136/gutjnl-2018-BSGAbstracts.461

**Introduction**

The Merseyside region is amongst the most deprived in the UK. The association between deprivation and poor healthcare outcomes is well-established. Many factors combine to influence this, including having poorer access to healthcare services.

The Royal Liverpool and Broadgreen University Hospitals NHS Trust (RLBUHT) provides a regional referral service for patients with complex inflammatory bowel diseases (IBD), and secondary care IBD services for its local area. We investigated whether the IBD clinic patients reflect the city’s deprivation, and analysed whether access to clinician time, and provision of high-cost biologic medicines was equitable.

**Methods**

Records of consultations from IBD clinics were obtained for the period 11/09/2014–20/10/2017. Data were linked to a departmental database of biologic prescribing and full-postcode English Indices of Multiple Deprivations 2015. In addition to published national deciles of multiple deprivations, deciles of deprivation within the Liverpool postcode area were generated.

**Results**

Data were collected for 3526 patients, and 15219 consultations. As expected, Liverpool was shown to be highly deprived: 32% of postcodes within the Liverpool area postcode were in the lowest national decile of deprivation (χ^2 p<0.001). Similarly, 40% of patients attending IBD clinic live at addresses in the most deprived decile nationally (χ^2 p<0.001). Due to the skew towards deprived patients, national deprivation indices have limited value in assessing access to services in Liverpool. By plotting the deprivation of patients based on a specific Liverpool deprivation index we demonstrated a more even distribution of patients, although the most deprived group remained overrepresented (χ^2 p<0.001). The distribution of IBD patients was similar to that
observed for patients with irritable bowel syndrome managed within the trust, suggesting that this is a true representation of the patient cohort served by the organisation. Patients accessed clinics with similar frequency whatever their deprivation status (Kruskall-Wallis 1-way ANOVA p=0.5215). Patients’ access to biologic agents was similar across Liverpool deprivation deciles ($\chi^2 = 0.058$).

Conclusions The IBD patient cohort managed at RLBUHT is highly deprived, even with respect to the surrounding city. Patients managed within the service have similar access to clinicians and high-cost treatment irrespective of deprivation. Whilst this study has not identified inequity of access to services, to confidently exclude this, further studies integrating primary and secondary care datasets are needed.

**Abstract PTU-088**

**SIMTOMAX® PRE-ENDOSCOPY IS A SAFE AND COST-EFFECTIVE WAY TO REDUCE THE NEED FOR DUODENAL BIOPSIES**

Andrew Claridge*, Laura Backhouse. Great Western Hospital, Swindon, UK

10.1136/gutjnl-2018-BSGAbstracts.462

**Introduction** The demand for endoscopic investigation of anaemia is increasing. Pre-endoscopic screening for coeliac disease (CD) is rarely available at the time of endoscopy mandating duodenal biopsies and the associated costs.

Simtomax is a point-of-care diagnostic test to rule out CD which can be performed in the immediate pre-endoscopy setting when CD serology is not available. This study investigates the safety and cost effectiveness of its use in clinical practice.

**Methods** A Simtomax test was performed immediately prior to gastroscopy on patients referred for the investigation of anaemia or iron deficiency anaemia (IDA), figure 1. Results were blinded to the patient and investigating clinician. Endoscopy with duodenal biopsies were then performed following BSG guidelines.

Patient diagnosis, outcomes and Simtomax result were correlated after completion of investigations using the hospital electronic record.

**IDA / anaemia referral**

**CD serology available**

- yes
- no

**Diarrhoea and / or weight loss**

- yes
- no

**Simtomax®**

**Abstract PTU-088 Figure 1**

**Results** Data was analysed on 105 (36 male) adults, mean age 67 years (s.d. 15). Patients were followed up for mean 11 months (s.d. 5).

No patient had CD serology (TTG-IgA) available at the time of endoscopy. Only 25% had CD serology recorded by study completion.

5/105 (4.7%) patients were diagnosed with coeliac disease. 7/105 patients tested positive to Simtomax, 5 of which were confirmed CD with histology. 2 of 5 coeliac patients tested negative for TTG-IgA. The negative predictive value (NPV) for Simtomax is 100% compared to TTG-IgA 93%, table 1.

**Abstract PTU-088 Table 1**

<table>
<thead>
<tr>
<th>Simtomax</th>
<th>TTG-IgA</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 (56–100)</td>
<td>98 (93–99)</td>
</tr>
<tr>
<td>50 (7–93)</td>
<td>100 (87–100)</td>
</tr>
</tbody>
</table>

Quality improvement 1: One patient diagnosed with CD following endoscopy tested negative to Simtomax. A review and further investigations revealed a normal TTG-IgA, IgA and negative HLA DQ2/DQ8. The histology result was overturned. The patient avoided a lifelong gluten free diet.

Quality improvement 2: One patient initially TTG-IgA negative with minimal histological changes had been discharged. A positive Simtomax test prompted a histology review; CD was confirmed, avoiding a missed diagnosis.

Cost of performing universal duodenal biopsies, 105 x £66.10 = £6940. £1388 per positive biopsy.

Cost of performing Simtomax on each patient, 105 x £20 = £2100. Cost of performing duodenal biopsies only following positive Simtomax, 7 x £66.10 = £463. Total cost of Simtomax pathway = £2563.

Total cost saving per 100 patients = £4169

Conclusions Simtomax is a simple and safe point-of-care test with a 71% PPV and 100% NPV. Simtomax reduces the need to perform duodenal biopsies to investigate IDA or anaemia when TTG-IgA serology is not available. Simtomax performs better than TTG-IgA as a pre-endoscopic screening test for CD.

**PTU-089**

**THE CLINICAL EFFECTIVENESS OF THE NUTRITION SUPPORT TEAM – AN ACUTE DISTRICT GENERAL HOSPITAL EXPERIENCE**

Joanne Coyle*, Olivia Gensale, Cara Finney, Natalie Daniel, Edmond Sung. George Eliot Hospital, Nuneaton, UK

10.1136/gutjnl-2018-BSGAbstracts.463

**Introduction** The George Eliot Hospital NHS Trust is a 310 bed acute district general hospital. The Nutrition Support Team consisting of a consultant gastroenterologist, nutrition nurse, speech and language therapist and a dietitian were established in 2011. This audit explores the safety and effectiveness of a multi-disciplinary nutrition support team (NST) in enteral and PN delivery. Data on 30 day mortality rates for gastrostomy feeding tubes and, line sepsis rates and appropriateness of patients receiving parenteral nutrition (PN) were analysed for both before and after the establishment of the NST.
Methods Prospective and retrospective data was collected from medical notes, dietetic records and NST meeting documentation. Two separate audits were completed including mortality rates post-PEG placements with and without NST input and parenteral feeding venous line sepsis rates with and without NST input.

Data was collected for patients who underwent PEG insertions and PN. 30 day mortality from PEG insertions and prevalence of line sepsis was analysed for period of 2010–2011 (before NST was established) and 2014 onwards (after establishment of NST).

The data collected were compared to the findings from the NCEPOD report (2010).

Results Enteral Feeding

In 2010–11, prior to the formation of the NST, 61 patients had gastrostomy feeding tubes placed within the hospital; of which 19 of those patients died within 30 days. This would equate to a 31% 30 day mortality rate. Data from three years with NST input covering 2014–16 showed that 63 gastrostomy tubes were placed, of which only 3 patients died within 30 days which equates to a 5% mortality rate.

Parenteral Feeding

Data collected from a report by NCEPOD (2011) which looked into the national average prevalence of line sepsis associated with PN showed a confirmed sepsis of 6% and a suspected line sepsis of 9.4%. Data collected from a two year period 2014–16 since NST had been established included 72 patients that showed confirmed line sepsis of 2.7% and a suspected line sepsis rate of 2.7%.

Conclusions The NST has improved the safety and efficacy of enteral and PN therapy in our trust. NST which has managed to decrease line sepsis and mortality rate of gastrostomy placements since its formation in 2011.

Prior to 2011, individual professionals worked in isolation with inconsistent communication between them. Patients were assessed by a nutrition nurse with focus on fitness for tube placement. The cohesive multidisciplinary team (MDT) approach to nutrition allows a more holistic assessment and treatment of the patient. Specialists within their fields discuss up to date information of the patient’s medical and nutritional status which can allow best interest decisions to be made alongside family members and other healthcare professionals as appropriate. This has ensured that placement of gastrostomy tubes is appropriate and within the window of opportunity in patients with progressive neurological conditions, preventing crisis in later stages of disease.

PN associated line sepsis has decreased since the formation of NST who have clinical ownership of the initiation and monitoring within the hospital. The NST has initiated protocols and has developed guidelines which advise on ways to maintain patient safety including PN specific wards, bedside PICC insertion service and establishing training for ward nursing teams.

PTU-090 THE IMPACT OF AN ACCELERATED PATHWAY FOR ASSESSING JAUNDICED HEPATO-PANCREATO-BILIARY (HPB) CANCER PATIENTS


Abstract PTU-090 Table 1

<table>
<thead>
<tr>
<th></th>
<th>2016–2017</th>
<th>2017</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time from referral to clinic (average days)</td>
<td>7</td>
<td>2</td>
<td>p&lt;0.0001*</td>
</tr>
<tr>
<td>Time from clinic to CT (average days)</td>
<td>4</td>
<td>1</td>
<td>p=0.05*</td>
</tr>
<tr>
<td>Emergency presentation through A+E (%)</td>
<td>66</td>
<td>5</td>
<td>p=0.001*</td>
</tr>
<tr>
<td>Bilirubin≤200 at time of referral (%)</td>
<td>86</td>
<td>76</td>
<td>p=0.45</td>
</tr>
<tr>
<td>Surgical resection (%)</td>
<td>19</td>
<td>47</td>
<td>p=0.104</td>
</tr>
<tr>
<td>Best supportive care (%)</td>
<td>62</td>
<td>36</td>
<td>p=0.13</td>
</tr>
</tbody>
</table>

*significant

Conclusion Despite the pre-existence of a fast track pathway in place with regional HPB surgeons, triaging patients daily and routing them to a clinic appointment within 7 days as happened previously is inferior to 5 day access for clinical assessment with early CT. This local organisational change within the currently available resources has had a tremendous impact on the quality of care that we have been able to offer our patients. This has also reduced the demand for emergency admissions and one would hope will translate into an increased longer term survival rate.

REFERENCE

1. Roberts, et al. A reduced time to surgery within a “fast track” pathway for periampullary malignancy is associated with an increased rate of pancreaticoduodenectomy HPB August 2017;713–720.
PTU-091 A REVIEW OF SPECIALIST HEPATOLOGY DIETETICS SERVICE; LIMITATIONS OF WEIGHT MANAGEMENT PROGRAMMES OBSERVING NICE GUIDANCE

Keely Fairbairn*, Sophie Martin, Suleman Moreea. Digestive Disease Centre, Bradford Teaching Hospitals, Bradford, UK

10.1136/gutjnl-2018-BSGAbstracts.465

Introduction Specialist dietetics support is an essential component in hepatology clinics for:

1. weight reduction in obese patients with non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) as per NICE guidance CG189(2014), NG7(2015) and NG49(2016). DOH weight management service(2013) and NICE PH53(2014) recommend all patients over 16 years with a BMI >25 lose 3% of their initial weight, with 30% achieving ≥5% wt loss.

2. nutritional support in those with low BMI(<18.5 kg/m²) or MUST score ≥1 as per NICE guidance QS24(2012) and CG32(2006).

We aim to review a) the outcome of our dedicated hepatology dietetic service for both weight reduction and nutritional support; and b) patient motivation and commitment to the service.

Methods For the period December 2015-April 2017, using our electronic databases we recorded demographics, weight and BMI at first meeting, number of clinic appointments, failure to attend rates, discharge weight and reason for leaving the intervention.

Results There were 450 available hepatology dietitian slots during the study period to which 154 patients were referred. 18% (27 patients) subsequently declined an appointment. The results are shown in figure 1.

In the weight reduction group of 61 patients, around half (n=33: M18, F15) opted out before achieving their goals. Only 16%(n=10: M5, F5) have been discharged so far having lost some weight, only 8%(n=5: M4, F1) achieving the desired ≥5% NICE target.

In the nutritional support group 42%(n=28: M19, F9) successfully gained weight. A significant proportion, 41%(n=27: M11, F16), failed to engage and left the service early. There was 1 unrelated death.

Abstract PTU-091 Figure 1 Outcome from hepatology dietetic clinics

Conclusions A multidisciplinary approach to nutritional support is recommended by NICE and DOH. Our study highlights the difficulty of engaging patients in the process. We do however show a positive impact in patients who are motivated to achieve their goals. As the one-to-one approach had limited impact we will be exploring group sessions to encourage participation.

Financially, 296 unfilled appointments accounted for £16 796 (£52/appointment) potential loss in income.

PTU-092 GENETIC REFERRAL RATE FOR PATIENTS WITH MULTIPLE ADENOMAS WITHIN A BOWEL CANCER SCREENING SERVICE

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10.1136/gutjnl-2018-BSGAbstracts.466

Introduction Patients with multiple adenomas may be suffering from a genetic predisposition towards polyp formation. Current guidelines from our local genetics service advise that patients presenting to the bowel cancer screening programme (BCSP) with ten or more adenomas, or more than five adenomas with a family history of colorectal cancer, are referred for genetics assessment. We suspect that this is not common practice, and have assessed adherence to current high risk polyp referral guidelines in North Central London (NCL) BCSP.

Methods A retrospective cohort study of all patients scoped within NCL BCSP over a twelve month period (August 2016 to August 2017) was performed. Each patient’s colonoscopy report was examined, and the number of resected adenomas confirmed by histology calculated. The historical record for each patient was then reviewed, in order to obtain a lifetime total of adenomas resected over all recorded colonoscopies. The results were stratified into patients with ten adenomas resected at one procedure, patients with ten or more proven adenomas detected over multiple episodes, patients who had at least five adenomas at a single procedure, and a combined total of at least five over multiple procedures. The records were then reviewed to see if those patients eligible for a referral were actually referred.

Results A total of 885 patients were included. Of these, 11 (1.2%) were found to have ten adenomas confirmed by histology at a single procedure. 17 (1.9%) further patients were identified as having ten or more adenomas over multiple procedures. Of these patients, one had evidence of referral to the genetics team within their local electronic records (3.6%). 58 patients were found to have had 5–9 adenomas removed at a single colonoscopy, and 14 (1.6% of total) of these had a family history of colorectal cancer (11 of whom were first degree). A further 36 patients had 5–9 adenomas confirmed by histology at multiple colonoscopies. 5 of these described a family history of colorectal cancer (0.6% of total), 3 of which were first degree relatives. None of these individuals were referred for genetics assessment.

Conclusions The guidance from the genetics team is not currently incorporated into practice by the frontline clinicians most likely to identify those individuals appropriate for referral. Further education and cascading of information is recommended at local level. This has implications for provision of genetics services, as potentially this will hugely increase activity. There are potential solutions, such as mainstreaming genetics advice to BCSP staff, but this will require additional resources and training.
PTU-093 ROLE OF MDT IN MANAGEMENT OF BENIGN HPB DISEASE-EXPERIENCE FROM A NON-HPB CENTRE IN UK

1MS Firdaus, 1M Ebubie, 1D Majumdar, 1J Greenaway, 1DG Craig, 1J Dean, 1L Dunn, 1L Nikal, 1J Hammond, 1J French, 2G Sen, 2V Mitra. 1Gastroenterology, James Cook University Hospital 2Radiology, James Cook University Hospital 3Upper GI Surgery, James Cook University Hospital 4HPB surgery, Freeman Hospital, Newcastle Upon Tyne

10.1136/gutjnl-2018-BSGAbstracts.467

Introduction In the UK, management of cancer patients are streamlined following discussions in the multi-disciplinary (MDT) meetings. There is growing evidence that MDT meetings play a key role in the management of complex benign diseases. Management of patients with complex pancreatico-biliary diseases can be challenging due to the lack of robust evidence. Further, widespread use of cross-sectional imaging has led to increased detection of incidental pathologies that may or may not be clinically relevant. In view of this, we established a benign HPB MDT in our institution to streamline the management of complex PB patients and report our experience over a period of 12 months.

Method The weekly benign HPB MDT at JCUH is attended by HPB physicians, interventional GI radiologist, specialist nurse, specialist registrars, upper GI surgeon and the visiting surgeon from the regional tertiary HPB unit. Referrals are sent via a dedicated pro-forma and recommendations are recorded electronically on the tructor’s info-flex software system. Retrospective analysis of a prospective maintained database was carried out between January 2017 to December 2017. Data was collected on patient demographics, cross-sectional imaging, diagnosis and clinical outcomes.

Results 263 patients were discussed (55% males) for benign indications. Median age was 67 years (range 21–91 years). The main reasons for MDT referral are summarised below:

- Incidental pancreatic cysts 76 (29%)
- Pancreatitis (acute/chronic/recurrent) 61 (23%)
- Complex CBD stones 33 (13%)
- Indeterminate biliary stricture 17 (6%)
- Complex GB pathology 16 (6%)
- Unexplained biliary and pancreatic duct dilation on imaging 11 (4%)
- Autoimmune pancreatitis 3 (1%)
- Others [e.g. bile leak, choledochal cyst, duodenal polyp, liver cyst, sphincter of Oddi dysfunction etc] 46 (18%)

The MDT’s recommendations were the following;

- Medical pancreatic clinic follow up: 53
- Radiological surveillance: 86
- Surgical clinic follow up: 53
- Endoscopic interventions: 49
- Radiological intervention: 8
- Referral to regional tertiary HPB surgical clinic: 43
- Discharge back to GP: 22

Conclusion Our data shows that the Benign HPB MDT facilitated the management of this complex group of HPB patients locally by the appropriate teams and fast tracked further management of selected complex patients at the regional centre requiring surgery and specialised endoscopic intervention.

REFERENCE

PTU-094 IMPROVING NEW TO FOLLOW-UP RATIOS IN A DISTRICT GENERAL HOSPITAL GASTROENTEROLOGY SERVICE

1Madeleine Frank*, 2Rosemary Phillips, 3Southend University Hospital, Southend, UK 2Princess Alexandra Hospital, Harlow, UK

10.1136/gutjnl-2018-BSGAbstracts.468

Introduction The NHS 5 year forward view emphasises the need to develop new models of care. In 2004 an audit showed our new (N) to follow-up (FU) ratio for patients attending the gastroenterology outpatient department (GOPD) at Princess Alexandra Hospital (PAH) was 1:2.52. Since then there have been changes in our service: 2 IBD clinical nurse specialists (CNS) have been appointed (providing telephone and nurse-led clinics); an irritable bowel syndrome (IBS) primary care pathway introduced, and an adhoc telephone service implemented to deliver test results and interim management.

This service evaluation assessed the current N:FU ratio for patients attending GOPD at PAH to determine whether we now meet our Clinical Commissioning Groups (CCG) contract N:FU ratio of 1:1.24 and British Society of Gastroenterology (BSG) commissioning recommendation advice to have ‘efficient use of OPD services with low FU:N ratios e.g. 1:1 for patients excluding those with chronic disease (inflammatory bowel disease (IBD) and liver disease (CLD))’.

Methods Data was collected for consecutive patients seen in GOPD from April 2016 for 3 months. Data collected included diagnosis (or symptom where a diagnosis not yet made), whether they were N or FU and the clinic outcome (discharged or FU). The N:FU ratio was calculated and compared with CCG and BSG targets.

Results Total number of patients seen by doctors 1,347 (593 N, 754 FUs). The N:FU ratio was 1:1.27. If the IBD and CLD patients were excluded (as per BSG) our N:FU ratio was 1:1.00. Commonest symptoms/diagnoses for N and FU patients are shown in Tables 1 and 2. Of N patients 26% discharged and 61% had FU. For FU, 30% discharged and 57% had FU. Others did not attend their appointment, or no outcome specified.

Conclusions A significant improvement in N:FU ratio (1:1.27) since last audit in 2004 (1:2.52), CCG targets (1:1.24) were now met. If IBD and CLD patients were excluded our N:FU ratio was 1:1.00. Commonest symptoms/diagnoses for N and FU patients are shown in Tables 1 and 2. Of N patients 26% discharged and 61% had FU. For FU, 30% discharged and 57% had FU. Others did not attend their appointment, or no outcome specified.
Abstract PTU-094 Table 1  Top 10 symptoms/diagnoses for new patients

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<thead>
<tr>
<th>Symptom/Diagnosis</th>
<th>N</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>GORD*</td>
<td>75</td>
<td>14</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>53</td>
<td>10</td>
</tr>
<tr>
<td>IBD</td>
<td>48</td>
<td>9</td>
</tr>
<tr>
<td>IBS**</td>
<td>39</td>
<td>7</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>ALD</td>
<td>22</td>
<td>4</td>
</tr>
<tr>
<td>Weight loss</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>Barrett's oesophagus</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Viral hepatitis</td>
<td>19</td>
<td>3.5</td>
</tr>
</tbody>
</table>

*Gastro-oesophageal reflux disease
**Irritable bowel syndrome

Abstract PTU-094 Table 2  Top 10 symptoms/diagnoses for follow-up patients

<table>
<thead>
<tr>
<th>Symptom/Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBD</td>
<td>243</td>
<td>29 (48% UC, 43% CD)</td>
</tr>
<tr>
<td>Liver disease</td>
<td>90</td>
<td>11</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>68</td>
<td>8</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>56</td>
<td>7</td>
</tr>
<tr>
<td>GORD</td>
<td>55</td>
<td>6</td>
</tr>
<tr>
<td>Anaemia</td>
<td>47</td>
<td>6</td>
</tr>
<tr>
<td>IBS</td>
<td>44</td>
<td>5</td>
</tr>
<tr>
<td>Weight loss</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Diverticular disease</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Barrett’s oesophagus</td>
<td>14</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Ulcerative colitis
**Crohn’s disease

PTU-095  FRONT DOOR PRESENTATION WITH IRON DEFICIENCY ANAEMIA MANAGEMENT PATHWAY

Catherine Fraser*, Elizabeth Mullaney, Amy Frost, Ellyn Dryden, Heather Clarke. Derby Teaching Hospitals NHS Foundation Trust, Derby, UK

Introduction This project aimed to improve the care of patients presenting via their general practitioner (GP) or emergency department (ED) with new iron deficiency anaemia (IDA) by reducing unnecessary blood transfusions; reducing unnecessary admissions for blood transfusion; arranging iron infusions in the ambulatory care ward (ACW) and streamline investigations.

Methods An audit between 7th March and 7th April 2016 identified 28 patients who were admitted and had blood transfusions, 9 of these could have potentially been managed in ambulatory care with an iron infusion. 6 patients had blood in the ambulatory care ward receiving 14 units in total. Pathology started to automatically test B12, folate and ferritin in all blood tests from ED and GPs with new potential IDA. A pathway for ED and GPs was set up to enable patients to be booked into ACW for iron infusions, or given oral iron, rather than admitted to medical assessment (MAU) for blood transfusion. Criteria for further investigation were set. A costing estimate was developed for the cost of the iron infusion vs blood transfusion; including nursing time and consumables. Training was delivered to the ambulatory care nursing staff in administration of iron infusions and a pathway developed with pharmacy to ensure timely delivery of the iron infusion.

Results The project was launched on 1st August 2016. Over 12 months to 31st July 2017, 65 patients, median age 70 (23–91) years, received an iron infusion in ACW. Median Hb 75 (40–130) g/dl, follow up Hb median 112 (75–155) g/dl a median of 34 (1–133) days post iron infusion. 10 patients additionally received blood, median 2 (1–6) units.

There was an overall reduction in units of blood transfused in MAU from 841 to 352 comprising of mostly of a reduction in ACW units transfused from 768 to 319.

There were 15 new diagnoses as a direct result of the incident presentation, 7 cancer, 7 non-cancer gastric ulcers and 1 recurrent metastatic ovarian cancer. There was an established diagnosis in 21 patients, 6 cancers and 13 non-cancer of which 6 were gastrointestinal causes. In 28 patients, no diagnosis was made. In 10 patients investigations were normal. In 9 patients it was decided they were not for appropriate for further investigation. 4 were not iron deficient, 4 had an unknown outcome and 1 patient was pregnant 2 months post iron infusion and not investigated further.

Conclusions This was the successful development and implementation of a pathway to streamline the care of patients presenting acutely with IDA. There has been a reduction in the number of units of blood transfused in MAU and a 58% reduction in the number of units of blood transfused in ACW. 65 patients have been treated with an iron infusion with an overall improvement in their Hb, with 23% receiving significant new diagnosis.

PTU-096  THE USE OF A SIMPLE BESPOKE IT TOOL SIGNIFICANTLY IMPROVES PATIENT COMPLIANCE WITH IMMUNOSUPPRESSANT MONITORING


10.1136/gutjnl-2018-BSGAbstracts.470

Introduction Immunosuppressant monitoring is a vital function of the multidisciplinary IBD team. However, it remains a difficult process to undertake safely and effectively in an NHS setting, consequently often incurring a significant governance risk.

To address this the IBD team developed a simple immunosuppressant monitoring tool (IMT). We report the initial results from this compared with a historical cohort.

Methods Using a simple Excel algorithm we developed a database that automatically populated blood monitoring dates highlighting individual patient’s status using a traffic light system. Patients were followed up in secondary care for the first 12 weeks with stable patients then handed over to primary care using a shared-care protocol. All immunosuppressant prescriptions were initiated through a specific IBD nurse/pharmacist clinic and prospectively monitored with data recorded on the IMT. Results were compared to a retrospective cohort of patients monitored prior to the introduction of the IMT.
Results 65 patients starting on immunosuppression were prospectively monitored using the IMT. These patients were compared with 30 historical controls. In the IMT group, 335 blood tests were required for 100% compliance over the first 12 weeks of monitoring. 298/335 (88.9%) of blood tests were taken, compared with 123/175 (70%) of blood tests taken in the control group initiated prior to the IMT (p=0.01). 100% of the 335 requested bloods were logged in the IMT with actions recorded for the 37 missing tests (28 missed blood tests chased via phone, 3 discontinued treatment, 2 delayed starters and 4 pending that week). Comments on abnormal bloods or metabolites were logged in 186 (53.5%) of cases. This data was not routinely collected prior to implementation of the IMT. Compliance with monitoring at all time points was better in the IMT than control group (week 1 95.4% v 93.3%, week 2 95.1% v 75.9%, week 4 95% v 72.4%, week 6 85.7% v 72.4%, week 8 86.0% v 55.2%, week 12 73.9 v 51.7%).

Conclusions Implementation of a simple bespoke IT monitoring tool using a traffic light system significantly improves compliance with blood monitoring in patients initiating immunosuppressant treatment. The development of an IT tool dramatically improved documentation and clinical governance surrounding monitoring. Feedback has been universally positive with the new system markedly reducing the nursing burden associated with monitoring. The IBD team has identified areas where compliance can be improved, which are now being actively investigated. We are happy to make the software available to other teams on request.

PTU-097 NEAR HOSPITAL ACCOMMODATION AS AN ALTERNATIVE TO ADMISSION FOR PATIENTS UNDERGOING COMPLEX ENDOSCOPY

George Goodchild*, Priyan Odedra, Jonathan R Potts, Margaret G Keane, Michael H Chapman, Gavin J Johnson, Stephen P Pereira, George J Webster. University College Hospital, London, UK

Introduction Use of hospital beds as pre/post procedure accommodation places a strain upon resources and risks ‘on the day’ cancellation. Nevertheless ‘day case then home’ may be a poor option for patients undergoing complex endoscopy who live many miles away. Our centre offers Near Hospital Accommodation (NHA) in a bespoke 35-roomed hotel 100 metres from the hospital at a cost of £120/night (versus £380 per inpatient bed). We aimed to assess the safety and utility of NHA for patients within our pancreatobiliary (PB) service.

Methods We undertook a retrospective audit of all PB patients who stayed in the NHA from Jan ’15 – Dec ’17. Data collected from the endoscopy database and electronic records included: procedure type, distance travelled, type of hotel room, length of stay and unplanned post-procedural hospital admissions from the NHA.

Results Over a 3 year period 152 patients stayed in NHA for 169 nights, ninety-three (61%) female with median age of 62 years (range 24–81). All patients underwent therapeutic ERCP, EUS, or cholangioscopy. The decision to use NHA was based upon case complexity and travel logistics. Most patients (89%) stayed one night and 11% stayed two nights (pre and post-procedure). Median one-way distance travelled was 107 miles (range 3–299 miles) (Fig 1). The total cost of NHA was £23,660, saving £40,560 over the equivalent inpatient beds.

Conclusion NHA is a safe, cost-effective alternative to hospital admission for selected patients undergoing complex endoscopy. The unplanned readmission rate was low, with no serious complications. The immediate cost saving was considerable, in addition to efficiency savings from the extra bed capacity generated and reduced late cancellations. Benefits to patients include visitor-friendly, hotel-standard accommodation, reduced travelling time on the day of the procedure and saving of private hotels fees. Further studies are needed to assess if this translates into increased patient satisfaction. With increasing centralisation of specialist services and ongoing financial pressures throughout the NHS, the NHA model of care offers advantages to hospitals and patients.

PTU-098 OPTIMISING ACCESS TO BEST-PRACTICE CARE IN PRIMARY BILIARY CHOLANGITIS ACROSS THE UK

1Simon Gwynn*, 2Ashley Barnabas, 3Iain Brew, 4Lyneey Corless, 5Valerie Ross, 6Tim Warren, 7BC Smith, 8Sarah Fairclough. 11Inducce Ltd, Chichester, UK, 3London North West Healthcare NHS Trust, London, UK, 4Leeds Teaching Hospitals NHS Trust, Leeds, UK, 5Hull Royal Infirmary, Hull, UK, 6 Bart’s Health NHS Trust, London, UK, 7Imperial College NHS Trust, London, UK, 8 Basildon and Thurrock University Hospital, NHS Trust, London, UK

Introduction Systematic review of the implementation of Integrated Care Pathways (ICPs) has shown that they can effectively support proactive care management, adherence to guidelines, improve equity of service access and reduce variance in practice. A multidisciplinary team applied this process to the case management of patients with Primary Biliary Cholangitis (PBC) in order to support the development of a defined standard of care management, based on current evidence and acknowledged best practice.

Methods Using a structured process of facilitation and project management, this multidisciplinary working group of specialists has developed an ICP for PBC in accordance with ICPAT standards and current best-practice thinking.

Results The ICP forms comprise a streamlined and easy to implement solution for structuring each consultation along the patient pathway. The forms support each activity undertaken around the patient as they progress along the pathway. The PBC ICP comprises:
EVALUATION TO SUPPORT SERVICE IMPROVEMENT FOR INPATIENT ENDOSCOPY: A HOT SITE EXPERIENCE

Aila Hart*, Marian O'Connor. St Mark's Hospital, London North West University Healthcare NHS Trust, London, UK

Introduction As a centre for excellence for Inflammatory Bowel Disease (IBD), St Mark's Hospital in North-West London attracts worldwide referrals while also treating local patients. As demand increases, yet NHS resource remains limited, pressure has heightened on the IBD service to improve capacity and reduce waiting times. This local service evaluation (SE) aimed to describe the current management of IBD outpatients, and patient and staff experience with the service, so that barriers to efficient care delivery could be identified and addressed.

Methods A SE involving the collection of retrospective and prospective clinic and patient level data was conducted in 2015 for patients attending outpatient clinics over one year. Data collected included numbers of patients attending clinics, disease characteristics, type of healthcare professional (HCP) seen and time from decision to prescribe a biologic to first dose (n=31). Surveys were conducted with patients with IBD (n=66) and HCPS (n=46). Key personnel were interviewed in 2017 to determine how results could be used to drive specific service changes.

Results A mean of 18 patients were seen per clinic (with a maximum of 41 patients); 73% patients were in follow-up and attending for routine review. Of 51 patients followed prospectively, 8% had a joint visit involving multiple HCPS and 59% were judged to be in remission by the care team. Median time from decision to prescribe biologic therapy to first dose was 13.6 weeks. While 80% patients reported clinic management was ‘good’/‘very good’, patients and HCPS were concerned about clinic space, patient volume and waiting times. Following the SE, a more integrated approach to treating patients and allocating staff resource was implemented to improve the pathway of care for patients (e.g. joint IBD multi-disciplinary clinics).

Conclusions Of the high number of patients attending clinics, many had stable disease or were in follow-up. Many patients were reviewed by different HCPS on different days, driving a plan for joint clinics to improve the patient journey. There were delays accessing parts of the service (e.g. biologic therapy). Patients and staff reported dissatisfaction with clinic space and capacity. These findings helped generate an action plan for specific service-level changes such as specialist IBD/MDMC clinics, new administrative processes, and facilitation of patient self-management. This project can be used as a model for others to identify and address barriers to quality and efficiency within their own services.

PTU-100 INPATIENT ENDOSCOPY: A ‘HOT SITE’ EXPERIENCE

Mohamed Hussein*, Ege Oztcan, Mehul Patel, Kwek Tang, Akeel Alia, Safi Musa. Royal Free Hospital NHS Trust, London, UK

Introduction Access to inpatient endoscopy is important for both patient management and flow within acute NHS Trusts. A daily dedicated weekday inpatient endoscopy list was introduced at Barnet Hospital, Royal Free London NHS Trust, to enhance service provision in line with NICE guidance (CG141, 2016). We report on our initial ‘hot site’ experience.

Method A single centre retrospective study involving all consecutive inpatients requiring endoscopy at a large district general hospital (445 beds) serving a population 500 000 during a 5 month period (January – May 2016). All patients were identified from the endoscopy procedure log. Additional data including endoscopy type, indication, therapeutic intervention and hospital discharge within 24 hours of endoscopy were collected using electronic patient records and the ‘Unisoft GI Reporting Tool’.

Results In total 440 inpatient endoscopies were performed; 322 (73%) gastroscopies, 82 (19%) flexible sigmoidoscopies and 36 (8%) colonoscopies. Median age was 76 years (interquartile range (IQR) 55–86), 53% were male. Gastrointestinal bleeds (GIB) accounted for 192/440 (44%) procedures. 40/192 (21%) lower gastrointestinal and 152/192 (79%) upper gastrointestinal bleeds (UGIB). Additional indications included 48/440 (11%) abnormal imaging, 48/440 (11%) dysphagia, 47/440 (11%) iron deficiency anaemia, 40/440 (9%) diarrhoea, 26/440 (6%) percutaneous endoscopic gastrostomy (PEG) tube insertion, 17/440 (4%) abdominal pain, 17/440 (4%) weight loss, 4/440 (1%) volvulus and 1/440 (<1%) for dyspepsia. Sedation was used in 315/440 (72%) cases, median midazolam dose was 2.5 mg [IQR 1–5 mg] and fentanyl 25mcg (IQR 0–50mcg). Median (IQR) procedure time for gastroscopy, flexible sigmoidoscopy and colonoscopy were 20 (IQR 15–25), 15 (IQR 10–20) and 30 (IQR 25–40) min, respectively, Colonoscopy completion rate was 31/36 (86%). Therapeutic intervention occurred in 88/440 (20%). In total 259/440 (59%) procedures were undertaken within 24 hours of request, 110/152 (73%) UGIB and 30/40 (75%) lower GI bleeds. Overall 30 day mortality was 47/440 (11%) and 114/440 (26%) patients were discharged within 24 hours.

Conclusion Gastrointestinal bleeding is the most common indication for inpatient endoscopy. A dedicated inpatient endoscopy list improves both patient management and flow with >70% GIB scoped within 24 hours and a quarter of all patients discharged within 24 hour. Therapeutic procedures
are expected in a fifth of all inpatient endoscopy. Optimal list timing merits further exploration, as does the prospect of extending the service to further improve outcomes.

**PTU-101** FIRST DEMONSTRATION OF TRAINEE-LED NETWORKS DELIVERING QUALITY IMPROVEMENTS IN GASTROENTEROLOGY SERVICES: A CALL TO ACTION

The GARNet*. Gastroenterology Audit and Research Network, East Midlands

10.1136/gutjnl-2018-BSGAbstracts.475

**Introduction** The GARNet was the first trainee-led gastroenterology network to complete a multi-site audit. We focussed on standards of care and outcomes in acute upper GI bleeding (AUGIB). Here, we present our regional experience with quality improvement (QI) and our subsequent re-audit.

**Methods** We audited patient care against national standards (NICE CG141 and QS38). Patients aged ≥16 years admitted with suspected AUGIB who underwent an inpatient OGD were prospectively identified between 01-30/11/16 and 01-30/11/17. QI focused on reducing time from presentation to endoscopy, using process mapping and staff questionnaires, to develop local action plans at each site. Fishers, Mann-Whitney and Wilcoxon tests were used for categorical, unpaired and paired continuous variables respectively.

**Results** See Table 1. 7 sites were able to participate in both rounds. There was a significant increase in the documentation of GBS and rebleed plans (vs. audit standard of 100%). There were non-significant reductions in the median time to OGD and the proportion within 24 hour. This improved at 5 sites (p>0.05 in paired analysis), and 5 vs. 6 sites achieved JAG 50% standard (no sites achieved 75% standard). In the 2017 cohort, 42% of patients had OGD delayed >24 hour. They had significantly lower GBS and longer length of stay (see Table 2). In patients receiving endotherapy, OGDS were more timely (18.4 hour [11.3–25.9] vs. 22.8 hour [16.9–43.5], p=0.005) but 31% were still treated after 24 hour.

**Conclusion** Locally-tailored QI driven through regional trainee-led audit can deliver modest improvements in patient care. This audit shows that further action is needed to meet standards. Time to OGD is a pragmatic measure of quality of care and not a clinical audit shows that further action is needed to meet standards. Time to OGD is a pragmatic measure of quality of care and not a clinical outcome. Service development would benefit greatly from a tool to identify patients most likely to benefit from timely endoscopic diagnosis and endotherapy. We propose that QI is co-ordinated at national level. We are collaborating with our fellow trainee networks to support such initiatives.

<table>
<thead>
<tr>
<th>Abstract PTU-101 Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (n)</td>
</tr>
<tr>
<td>Sites (n)</td>
</tr>
<tr>
<td>Age (years, mean±SD)</td>
</tr>
<tr>
<td>Sex (% male)</td>
</tr>
<tr>
<td>PPI pre-OGD (PPI-naïve (%)]</td>
</tr>
<tr>
<td>GBS recorded pre-OGD (%)</td>
</tr>
<tr>
<td>Time to OGD (h, median [IQR])</td>
</tr>
<tr>
<td>OGD within 24 hour (%) (range sites)</td>
</tr>
<tr>
<td>Rebleed plan (%)</td>
</tr>
</tbody>
</table>

GBS, Glasgow Blatchford score; ns, not significant (2-tailed p>0.05); PPI, proton pump inhibitor

**Abstract PTU-102 ARE WE COMPLIANT WITH NCEPOD GUIDANCE FOR GASTROINTESTINAL BLEEDING (GIB)?**

Maryam Jan*, Paul Bumford, Adrian Thuraisingam. Wirral University Teaching Hospitals, Wirral, UK

10.1136/gutjnl-2018-BSGAbstracts.476

**Introduction** GI bleeding is a common emergency. NCEPOD 2015 guidance recommends Consultant input within 1 hour, to both major upper and lower GIB; performance of endoscopy within 24 hours for all patients, and within 2 hours of stability in haemodynamically unstable patients. This guidance was incorporated into our local Trust GI bleed pathway. We have a 24/7 GIB on call rota and inpatient endoscopy lists 6 days/week. We have previously used our electronic endoscopy requesting system to identify the source of any delays in performing endoscopy. Following this we modified vetting and booking practices. We aimed to audit compliance with NCEPOD guidance and against our previous audits.

**Methods** Data were prospectively collated over 4 weeks from 6/2/17 to 5/3/17. Major GI bleeds were identified with either Glasgow Blatchford Score (GBS) score >8 or pre-endoscopy Rockall>5 or Shock index >1. Information was extracted from the hospital electronic health record and the Unisoft endoscopy reporting tool.

**Results** 42 patients presented with upper GIB (UGIB) and 9 with lower GIB (LGB). 95% of patients with UGIB had a pre-endoscopy Rockall score documented, compared to 83.3% post endoscopy. Shock index was documented in 82.3% of all GIB patients. 66.7% of patients with LGB had a PR exam and only 33.3% also underwent proctoscopy. 66.7% of patients had a flexible sigmoidoscopy and 33.3% had a colonoscopy.

15/11 of patients presented with major GIB, all of which were upper GBs. 10/15 of these patients were discussed with the on-call Gastroenterologist within 1 hour (66.7% compliance). No patients presented with a major lower or upper GIB, with haemodynamic instability, during this time frame.

80.4% underwent endoscopy within 24 hours. Table 1 demonstrates the breakdown of the mean cumulative length of time between each stage, from admission to undergoing endoscopy.
Abstract PTU-102 Table 1

<table>
<thead>
<tr>
<th>Step</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission - medical review</td>
<td>3 hours 45 mins</td>
</tr>
<tr>
<td>Medical review - endoscopy request</td>
<td>4 hours 18 mins</td>
</tr>
<tr>
<td>Endoscopy request - vetting</td>
<td>10 hours 39 mins</td>
</tr>
<tr>
<td>Vetting - endoscopy</td>
<td>21 hours 45 mins</td>
</tr>
</tbody>
</table>

Conclusion
Our audit demonstrates improved compliance with NCEPOD and NICE guidance. Following changes to the endoscopy requesting process, the% of patients undergoing endoscopy within 24 hours has improved (26% vs 80.4% in this re-audit). However, the incorporation of LGIB into the pathway revealed poor rates of compliance with proctoscopy and PR examination. Better communication is necessary between the surgical and medical teams for patients presenting with LGIB. Rapid Consultant Gastroenterologist input to patients with a major GIB happens frequently but needs further improvement. The introduction of an on call Gastroenterology baton telephone, and junior doctor education have been used to support the on call medical registrar with this.

Abstract PTU-103
COMPARATIVE RE-AUDIT OF NOVEL BLEEDS ROTA PROVISION IN A LARGE DISTRICT GENERAL HOSPITAL
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10.1136/gutjnl-2018-BSGAbstracts.477

Introduction
Acute upper gastrointestinal bleeding (UGIB) is a common medical emergency with an incidence of 103–172 per 100,000 in the UK. Doncaster and Bassetlaw Hospitals (DBHFT) receives 700–900 admissions with UGIBs annually. Due to an acute shortage of gastroenterologists, DBHFT offers a unique weekend-only service (WOS) operating out-of-hours (OOH) from Friday PM until Monday AM, but no official service delivery on weekdays OOH. This rota was implemented following an initial audit in 2014, when there was no weekend or weekday formalised service provision. The aim of this audit is to identify whether this method is adequate and if it confers a better prognostic outcome for patients.

Methods
198 patients were identified by the audit department by using computer code-based search criteria for random retrospective analysis. Out of 198, the first 100 patients were audited in 2014 (admitted Jan 2012-Jan 2013) and the remaining 98 patients were included in the re-audit in 2017 (admitted Jan-Dec 2016) following initiation of WOS. The end-points of each patient encounter were of those defined in the NICE guidelines.

Results
Demographic information revealed that the male to female ratio in 2014 and 2017 audits was 58:42 and 54:46, respectively. The mean ages in 2014 and 2017 were 66 and 64 years respectively. In 2014, 58% (n=58) of patients had access to OGD within 24 hours of presentation, of which 55% (n=32) had OGD during normal office hours (NOH) on a weekday and 45% (n=26) had OGD within 24 hours if presenting OOH on ad-hoc weekend lists. In 2017, 69% of the patient received OGD within 24 hours of presentation during NOH and 74% of the patients received OGD within 24 hours if presenting OOH. The length of stay (LOS) in 2017 was reduced with 63% of patients discharged within 0–5 days of presentation, with a median LOS of 2 days. Comparatively, in 2014 the median LOS was 5 days. Endoscopic dual therapy was delivered to 12% and single therapy to 7.2% of patients in 2017 audit. On the other hand in 2014, dual and single therapy was administered in 9% and 15% cases, respectively. Finally in 2017, we found that 28% of patients needed a repeat endoscopy due to further bleeding or on-going haemodynamic instability, and a further 4% had an interventional radiology procedure done. There were 3 deaths in this cohort, but this was attributable to other co-morbidity rather than as a direct consequence of UGIB.

Conclusions
This re-audit concludes that in a busy district general hospital with insufficient number of endoscopists to provide a full 24/7 bleeds rota, this novel method of service delivery infers significant improvement in access to endoscopy, reduction in LOS and an improvement in morbidity.

Abstract PTU-104
LOWER GASTROINTESTINAL TWO WEEK WAIT REFERRALS: ARE THEY BEST MANAGED BY THE GASTROENTEROLOGIST?
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10.1136/gutjnl-2018-BSGAbstracts.478

Introduction
National Institute of Clinical Excellence guidelines recommend considering a cancer pathway referral for suspected lower gastrointestinal cancers via Lower Gastrointestinal two week wait pathway (LGI 2WW). Unexplained weight loss, abdominal pain, rectal bleeding, unexplained iron deficiency anaemia and a change in bowel habit are but a few indications. A third of bowel cancer cases in England are diagnosed via this referral route. In the majority, referred on the LGI 2WW, cancer is not final diagnosis. In the United Kingdom this is a pathway led by colorectal surgeons.

We hypothesise the LGI 2WW pathway would be best led by the gastroenterologist in view of the non-cancer diagnosis made through the pathway.

Method
This was a retrospective, single centre case review series. One hundred consecutive patients referred via the LGI 2WW to our institution in the year 2016 were reviewed. Demographic data, investigations performed, endoscopy, final diagnosis made and follow up plan for patients were reviewed from Electronic Patient Records (EPR).

Results
Ninety-eight consecutive patients referred via the LGI 2WW pathway in the year 2016 were identified (n=98, M=47 and F=51; Mean age=66.5 years).

Indication for referral and final diagnosis made has been summarised in the table below.

Abstract PTU-104 Table 1

<table>
<thead>
<tr>
<th>Indication for LGI 2WW (number of patients)</th>
<th>Final diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron deficiency anaemia (14)</td>
<td>No cause (10) DNA (3) Referral to OP Gastroenterology (1)</td>
</tr>
<tr>
<td>Change in bowel habit (43) of which also with rectal bleeding (13/43)</td>
<td>No cause (20) Diverticular disease (14) colonic polyps (6) Rectal varices (1) Declined investigations (2)</td>
</tr>
<tr>
<td>Retinal bleeding (32)</td>
<td>Haemorrhoids (12) Colonic polyps (3) Diverticular disease (6) Colitis (3) No cause (4) DNA (4)</td>
</tr>
<tr>
<td>Weight loss with diarrhoea (5)</td>
<td>Diverticular disease (1) No cause (3) Referral to Gastroenterology OP (1)</td>
</tr>
<tr>
<td>Abdominal pain (3)</td>
<td>Diverticular disease (1) No cause (2)</td>
</tr>
<tr>
<td>Ano-retal mass (1)</td>
<td>Declined further investigation</td>
</tr>
</tbody>
</table>

Conclusion
Our audit demonstrates improved compliance with NCEPOD and NICE guidance. Following changes to the endoscopy requesting process, the% of patients undergoing endoscopy within 24 hours has improved (26% vs 80.4% in this re-audit). However, the incorporation of LGIB into the pathway revealed poor rates of compliance with proctoscopy and PR examination. Better communication is necessary between the surgical and medical teams for patients presenting with LGIB. Rapid Consultant Gastroenterologist input to patients with a major GIB happens frequently but needs further improvement. The introduction of an on call Gastroenterology baton telephone, and junior doctor education have been used to support the on call medical registrar with this.
Overall, no cause was identified in 39.8% (39/98) of individuals who were then discharged to their General Practitioner with no further investigations.

**CONCLUSION** In this study, out of 98 patients investigated via the LGI 2WW pathway, only one patient had evidence of a malignancy. A large proportion of patients referred to the service are discharge to the GP without a clear diagnosis. The majority of diagnosis found are non-surgical and managed usually within the UK by gastroenterologists. 3 patients in this study had a diagnosis of colitis and were not referred to GI physicians as per usual practice. Whilst urgent investigation to exclude colorectal cancer in suspected patients are imperative, we conclude that the referral pathway should be led by gastroenterologists rather than colorectal surgeons as the majority of diagnosis are managed by GI physicians.

**Conclusion** Over 12 years, the 1317 patients underwent 1227 endoscopic procedures (700 upper GI, 527 lower GI) and cost the CCG £509,588. The hospital would have reimbursed (relating to latest tariff figures) £570,874 from the CCG. Whilst it is clear that not all the endoscopies were directly related to coeliac disease (for example, 52 lower GI procedures were part of the Bowel Cancer Screening Programme), there is still a strong demand placed on the endoscopy unit from this cohort of patients. This burden is only likely to increase, given the suspicion that ½ million people in the UK remaining undiagnosed.

**PTU-105 THE COST BURDEN OF COELIAC DISEASE ON A DGH ENDOSCOPY UNIT: A 12 YEAR RETROSPECTIVE REVIEW**

| 1Matt W Johnson*, 1Meha Bhuva, 2Kamran Rostami, 1Jay Patel. | 2Luton and Dunstable University Hospital, Luton, UK | 1Milton Keynes Hospital, Milton Keynes, UK |
| 1Luton and Dunstable University Hospital, Luton, UK |
| 10.1136/gutjnl-2018-BSGAbstracts.479 |

**Introduction** Financial pressure within the NHS has recently led to many Clinical Commissioning Groups (CCG) deCommissioning gluten free prescriptions. However, little is known about the direct economic impact of coeliac disease (CD) in UK, thought to affect 1 in 100 people. This includes costs related to inpatient stay and towards the endoscopy unit. In order to attract appropriate, yet fair, future funding from our local CCG for treating coeliac patients, the existing expenditure needs to be acknowledged. Endoscopy with histopathological analysis of duodenal biopsies is still the gold standard for diagnosing coeliac disease. Furthermore, both upper and lower endoscopy allows the important investigation of symptoms encountered by CD patients. The objective of this study was to assess the demand and costs of GI endoscopic procedures in relation to the management of CD, over a 12 year period.

**Method** The Luton and Dunstable University Hospital has a database of 1317 patients with coeliac disease. [Male n=467, Female n=850; Age range: 1–102 years old; mean age 58]. Using the database for reference, the hospital coding system was used to analyse the total number of upper and lower GI endoscopy procedures performed for these patients during 2005–2016. The total cost for the Luton CCG was then calculated based on the latest Department of Health National Tariff, awarding £375 for an OGD with biopsy; £474 for colonoscopy with biopsy; £591 for flexible sigmoidoscopy with biopsy; £914 for Video Capsule Endoscopy (VCE) and £945 for ERCP. The Luton CCG reimburses (tariff cost x 1.120265) to the hospital.

**Results** Over the 12 year period, the 1317 known coeliac patients underwent a total 689 OGDs (cost £258,375), 413 colonoscopies (£195,762), 108 flexible sigmoidoscopies (£42,228), 6 poucheoscopies (£2,346), 8 VCE’s (£7312) and 3 ERCP’s (£2835). 353 patients were newly diagnosed with coeliac disease histopathologically, costing £132,375; (Marsh criteria (1) n=107; (2) n=61; (3a) n=120; (3b) n=100; (3 c) n=23). 156 OGD’s were performed to investigate gluten-free compliance, costing £58 500. Sedation for all procedures accounted to £729.92.
Introduction

In Newcastle Hospitals, we care for up to 3000 IBD patients including complex patients from around the North East (NE) of England although in the absence of a database the number is an estimate. We have designed an IBD database, based on the IBD Bioresource database so that we can audit and improve the management of our patients.

Methods

Together with the IT team at Newcastle upon Tyne Hospitals, we created a bespoke IBD database embedded in the Cerner e-record system used by the trust. Data are entered by clinicians and began in June 2016, results are shown to early Feb 2018. Data from this database have been uploaded onto the national Bioresource database.

Results

Total number of patients included on database is 1358; Crohn’s 756, Ulcerative Colitis 574, IBDU (Unclassified) 28. There are 723 Female patients. A positive family history was recorded for 328 patients (24.1%). Current drug usage

Biologics
Infliximab 188, Adalimumab 144 and Vedolizumab 22

Immunomodulators
Azathioprine 348, 6MP (Mercaptopurine) 73 and Methotrexate 73

Adverse drug side effects
A significant number of patients have experienced adverse drug side effects requiring dose reduction or cessation:

Azathioprine
Nausea 59, Deranged Liver Function Test (LFT’s) 50, Vomiting 41, Leucopaenia 28, Pancreatitis 18

6MP
Deranged LFT’s 16, Nausea 10, Leucopaenia 3, Pancreatitis 2

Methotrexate
Nausea 31, Deranged LFT’s 13, Vomiting 10, Neutropaenia 2

Infliximab
Rash 16, Arthralgia 6, Infection 6, Drug induced lupus 3, Anaphylaxis 2

Adalimumab
Rash 8, Demyelination 2, Deranged LFT’s 2, Drug induced lupus 1, Arthralgia 1

Conclusions

Newcastle Hospitals is a tertiary regional centre managing complex IBD cases covering the NE of England. This novel database is embedded within the Cerner e-record system. IBD clinicians have the opportunity of seeing all patient details in a snap shot instead of having to hunt through voluminous clinic notes. It creates a very convenient tool to monitor various aspects of patient care, e.g. keeping a close track of patients on biologics and Immunomodulators. This database will enable us to audit our performance against agreed national parameters. As with all databases keeping it up to date will be crucial for its usefulness.

PTU-107

NEWCASTLE IBD DATABASE – A BESPOKE DATABASE INTEGRATED IN THE CERNER E-RECORD SYSTEM

Robert Francis Kennedy*, Nick Paul Thompson, John Mansfield, Lee Woolcock, Trevor Liddle, Leslie McShane. Newcastle Upon Tyne NHS Foundation Trust, Newcastle, UK

Abstract PTU-106 Figure 1

Background

As part of the 2017 Commissioning for Quality and Innovation (CQUIN) scheme, NHS England commissioned St Mark’s Hospital to send its bowel-scope (flexible sigmoidoscopy) screening non-responders a self-referral reminder on the first anniversary of their initial invitation. The aim of this analysis was to examine uptake and clinical outcomes for the CQUIN during the first six months of implementation.

Methods

We used data from an on-going study monitoring self-referred appointments at St Mark’s Hospital in London. Uptake and clinical outcomes were assessed using descriptive statistics. Differences in uptake between men and women were examined using univariable logistic regression. The data were analysed in SPSS (v25.0).

Results

Between April and October 2017, 4281 men (n=2000, 46.7%) and women (n=2281, 53.3%) were sent a self-referral reminder on the first anniversary of their initial invitation. The overall uptake was 6.2% (n=267), and was higher among women than men (uptake was 7.1% and 5.5%, respectively; Odds Ratio: 1.32, 95% Confidence Intervals: 1.03–1.69). Thirty (12.5%) of those who self-referred for screening had adenomas detected. Fifteen were subsequently referred for colonoscopy.

Discussion

The implementation of a 12 month self-referral reminder at St Mark’s Hospital led to a substantial number of additional men and women being screened, as well as the detection of several high-risk adenomas. Future refinements to the process would include additional reminders at 24, 36 and 48 months, as well as four week follow-up reminders within each self-referral episode. Evidence from the present analysis suggests that the interventions could reduce existing inequalities in uptake between men and women.
Development of a gastroenterology-led patient-centred service for neuroendocrine tumours (NETs) in Wales: population-based national commissioning

Mohid Shakil Khan*, 1Mark Reynolds, 2Carole Bell, 3Rebecca Hoppis, 4Catherine Powell, 5Gary Morgan, 6Sarah Guest, 7Dafydd Alid Rees, 8Adam Christian. 9Gastroenterology, University Hospital of Wales, Cardiff, UK. 1Welsh Health Specialised Services Committee (WHSSC), Caerphilly, UK. 2Velindre Cancer Centre, Cardiff, UK. 3South West Wales Cancer Centre, Singleton Hospital, Swansea, UK. 4Endocrinology, University Hospital of Wales, Cardiff, UK. 5Cellular Pathology, University Hospital of Wales, Cardiff, UK.

Introduction. Requiring many specialities, NETs have complex pathways presenting a challenge to plan services in existing NHS structures. In Wales, we aimed to produce patient-centred services for Neuroendocrine Tumours (NETs) incorporating the addition of specialist gastroenterology services to endocrinology, oncology and surgery across Wales by government-assisted population-based commissioning.

Methods. WHSSC (Welsh Health Specialised Services Committee) coordinated a group of patient representatives, clinicians, nurses and planners to evaluate existing services in Wales and to make recommendations for a gastroenterology-led service. Options were appraised by the national cancer network, disease experts, 2 ENETS centres of excellence and patients/relatives.

Results. The existing service demonstrated inequalities across geographic boundaries. Patients surveys suggested little nurse specialist input, inconsistent feedback from multidisciplinary meetings (MDM), and lack of access to specialist expertise.

Recommendations included funding 2 specialist nurses, appropriate central MDM staffing, leadership and appropriate expertise with some diagnostics and treatments delivered appropriately. Centralised MDM staffing, leadership and appropriate expertise with some diagnostics and treatments delivered locally. Policies for Gallium68-PET imaging and peptide receptor radionuclide therapy (PRRT) were developed. Eight NHS health boards/trusts, 17 acute hospitals were involved. North Wales patients were served by the Liverpool NET service due to geography.

In a short space of time, the NET MDT has been transformed, with accurately coded real-time records and timely communication to referring clinicians across the region. The addition of expertise from a gastroenterologist trained in a centre of excellence improved quality of life (QoL). With the focus on QoL, an app to monitor wellbeing remotely has been developed. Two appointed specialist nurses are undergoing tailored training and are accessible to patients regardless of geography. Patients have access to a specialist clinic based in Cardiff with a smaller hub in Swansea. Using a nationwide digital health record (Welsh Clinical Portal), communication with referring teams has improved including use of imaging and pathology close to the patients home saving on travel for patients. Feedback from patients and clinicians, has been vigorously positive including positive patient stories.

Conclusions. In this complex cancer/chronic disease, care has been transformed across organisational boundaries on a national basis through listening to individuals and groups and an emphasis on quality of life. Ongoing development continues to ensure sustainability and excellence.

Endoscopy insourcing is a safe way to deliver additional capacity

Igbul Khan*, Lorraine Mahachi, Kaye Drew. Northampton General Hospital, Northampton, UK. Mednet Clinical Services Ltd, Birmingham, UK.

Introduction. There is an unprecedented burden on UK endoscopy units and the current demand for endoscopic procedures is disproportionate to the capacity to deliver endoscopy activity. Units are addressing this in various ways including insourcing of staff to carry out endoscopy work. This is especially useful at weekends when the Unit would often be inactive. Medinet is a well-established provider of endoscopy insourcing across the UK. Their endoscopists hold substantive posts within the NHS and nurses are highly experienced specialised endoscopy nurses.

Methods. Medinet’s database was interrogated for the total number of endoscopic procedures carried out over a 12 month period (1 Jan – Dec 2017). Over this 12 month period, total 17 complaints were received (0.07%). Most of these were related to patient perception and general operational issues. At governance meetings it was agreed that no or minimal harm was done. Over the same period there were a total of 28 adverse incidents (0.11%). These included one perforation, procedure related bleeds, a missed early malignant lesion, incorrect labelling of specimens, drug documentation errors and problems with the reporting system. There were no deaths related to the procedures but there was one reversal of sedation, which was deemed a never event.

Conclusion. Insourcing of endoscopy services has grown dramatically over the last few years and gives UK endoscopy units a viable alternative to ensure they keep up with the tremendous pressures to maintain capacity and timeliness in a time of growing demand, limited resources and increasing quality standards. This data confirms that with the correct personnel and governance in place, insourcing is extremely safe with low level of complaints and adverse incidents.

Setting up an integrated service for PSC/IBD patients: a quality improvement project

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Introduction. Primary sclerosing cholangitis (PSC) is a chronic inflammatory condition closely associated with inflammatory bowel disease (IBD), and characterised by progressive fibrosis of biliary tract leading to cirrhosis and its complications. There is an appreciable annual risk of cholangiocarcinoma (CCA),
gallbladder carcinoma, colorectal cancer (CRC) and hepatocellular cancer. Annual surveillance with magnetic resonance cholangiopancreatography (MRCP), colonoscopy, ultrasound (US) (6 monthly if cirrhotic) is advised.

We aimed to assess the quality of liver and bowel surveillance, and detection of complications, before and after the introduction of an integrated hepatology and IBD service. 

**Methods** Retrospective data on management of PSC/IBD patients at St Thomas’ hospital, a tertiary IBD and hepatology centre, prior the introduction of an integrated service (August 2016) and prospective following its introduction.

**Results** Retrospective data identified 29 patients with IBD-PSC. Annual MRCP was performed in 55.1% (16/29), colonoscopy in 55.1% (16/2, 48% having chromoendoscopy) and US in 7%. 51% (15/29) were not under joint IBD and hepatology service. This indicated significant variability in care and poor adherence to guidelines.

**Interventions:**
1. Reiteration to physicians at every IBD clinic to actively identify PSC–IBD patients.
2. Prospective database maintained.
3. PSC–IBD patients were discussed in hepatology and IBD multidisciplinary meetings (MDM) regularly and surveillance arranged.
4. A joint PSC/IBD clinic was established for this cohort.

Following these interventions, 47 PSC-IBD patients (64% male, mean age 47 years) were identified. To date, 38 have been seen in joint PSC/IBD clinic, 45 have been reviewed in MDM and annual surveillance has improved to 91% with MRCP (p<0.01), 86% with colonoscopy (p<0.01), 74% with chromoendoscopy (p=0.03), 91% with MRI liver (instead of US). 49% (22/45) had a change in management following MDM discussion.

Improvement in management and surveillance led to diagnosis and appropriate treatment of 1 CCA, 2 PSC with autoimmune overlap, 3 small duct PSC, 4 patients with dysplastic polyps as well as 2 new cases of CRC and 1 case of multifocal dysplasia which resulted in 3 colectomies. Four patients have been referred for consideration of liver transplantation.

**Conclusions** Robust surveillance in this group leads to timely diagnosis of malignancy and treatment. Establishment of integrated service for PSC-IBD patients results in early detection of complications, better compliance to guidelines and appropriate management of patients.

**PTU-112** **DIAGNOSTIC ENQUIRY INTO UPPER GI AND HPB PATIENTS REFERRED ON THE URGENT SUSPECTED CANCER PATHWAY**

Rabia Lalani*, Jonathan Blackwell, Claire Woods, Deanne Bell, Debbie Kidanu, Megan Kell, James May, Sanjay Gupta. Department Of Gastroenterology and Medicine, Croydon University Hospital, London, UK.

10.1136/gutjnl-2018-BSGAbstracts.486

**Introduction** Patients on the Urgent Suspected Cancer (USC) pathway for gastroenterology and hepatology are referred for a wide range of conditions and abnormal results. NHS England aim to reduce the time to diagnosis to 28 days from the current 31 days (31 days to treat) by 2020. Our aim was to determine the number and type of investigations performed on this pathway as a guide for services to plan for an increasing demand with lesser turnaround time.

**Methods** We performed a retrospective analysis of our USC database from April to December 2015. Patients were categorised into 3 groups based on the indication for referral - Group A was upper gastrointestinal (UGI) symptoms, Group B was hepatopancreato-biliary (HPB) indications and Group C was all other non-specific indications including abnormal tests and radiology.

**Results** A total of 911 patient records were reviewed. Of the 721 patients in Group A, 13 refused investigations (n=708), 436 (60%) males, age 20–95 years (mean 64). In total, 1701 tests were done (mean 2.35±1, median 2). Tests included 659 (93%) gastroscopy (OGD); 367 ultrasound (US); 210 CT scans (30%), 109 colonoscopies (15%), 17 MRIs (2%), 11 other radiology tests and 21 endoscopic tests. 102 patients (14%) required 4 or more tests. In Group B (n=95), age 26–85 years (mean 65), males 41 (43%), a total of 257 tests were done (mean 2.7±1.5, median 2) including 35 OGDs (37%), 65 US (68%), 59 CT scans (62%), 35 MRIs (37%), 10 ERCPs, 6 colonoscopies, 5 other radiology tests. 25 patients (26%) required 4 or more tests. In Group C (n=95), age 36–92 (mean 69), males 46 (48%), 267 tests were done (mean 2.8±1.2, median 3) including 77 OGDs (81%), 37 colonoscopies (39%), 29 US (31%), 64 CT scans (67%), 5 MRIs (5%), 7 other radiology and endoscopic tests. 28 patients (29%) required 4 or more tests. There were 29 cancers detected in Group A (4%), 23 (24%) in Group B and 5 (5%) in Group C.

**Conclusions** We have shown that a high proportion of patients with UGI symptoms and non-specific symptoms need endoscopy while patients with HPB and other systemic symptoms require more cross sectional imaging. Diagnostic yield was highest for the HPB group. Overall more tests were required for HPB as compared to the UGI group and even more for the non-specific group. Between 25%–30% patients in HPB and non specific symptom group required 4 or more investigations. To reduce the time to diagnosis to 28 days by 2020, both endoscopy and radiology will have to invest in infrastructure and manpower to avoid breeches especially for patients referred for HPB and non specific symptoms.

**PTU-113** IMPLEMENTING THE DECOMPENSATED CIRRHOSIS CARE BUNDLE IN A DISTRICT GENERAL HOSPITAL


10.1136/gutjnl-2018-BSGAbstracts.487

**Introduction** The Decompensated Cirrhosis Care Bundle was published by McPherson et al (BMJ 2014) in response to the 2013 National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report into deaths from alcoholic liver disease. We describe our experience in implementing this at a district general hospital.

**Methods** The care bundle checklist was used as basis for audit pre-implementation in September 2014, post-implementation in June 2015 and re-audit in September-October 2016. Patients were identified via ICD codes, with review of electronic records and case notes.
Implementation The care bundle was made available on our trust intranet. We launched it with education sessions for medical and nursing staff in the Emergency Care Centre.

The AUDIT-C tool was embedded into the VitalPAC electronic observations system to ensure all patients were assessed for alcohol use. A ‘Decompensated Cirrhosis’ blood test panel was added to our electronic requesting system. Magnesium was added to calcium and phosphate under ‘bone profile’.

Results Baseline results pre-implementation were comparable to regional data. Post-implementation results showed significant improvements which were sustained a year later (figures 1&2). 70%–80% of patients were reviewed by a gastroenterologist within 24 hours, improving from 44%.

We achieved the 100% target for sepsis management and investigating precipitants of hepatic encephalopathy. All patients with SBP received antibiotics and albumin.

GI bleeds were only identified in the third cycle; all variceal bleeds. They were all adequately resuscitated and underwent timely endoscopy. Only 40% received both terlipressin and antibiotics.

Venous thromboembolism (VTE) prophylaxis prescription showed no improvements in latter cycles compared to the first. Management of alcohol withdrawal showed a slight decline in both cycles.

Conclusions Introduction of the care bundle led to clear improvements in the initial assessment (blood tests, ascitic tap and abdominal ultrasound), management of encephalopathy and timely specialist input. These were sustained, albeit with room for improvement. We believe that using IT and involving nursing staff in assessment areas have helped to embed these improvements.

Sepsis was recognised and treated appropriately in 100% of audited patients. This may reflect concomitant sepsis awareness campaigns.

We were less successful with prescribing for VTE prophylaxis, alcohol withdrawal and variceal bleeds. This may reflect turnover of junior doctors and system factors, including patient flow and availability of specialty cover on ‘base wards’ (not 7 days). Our education programme needs to be ongoing. We propose incorporating the care bundle into our Junior Doctors’ Handbook.

Abstracts

PTU-114 SAFETY OF ACCELERATED INFlixIMAB INFUSION IN INFLAMMATORY BOWEL DISEASE IN A DISTRICT GENERAL HOSPITAL

Jeffrey Luk*, Pearl Avery, Rosetta Wilson, Annie Lock, Elizabeth Webb, James Iupp, Angel Castro-Silva, Stephen Bridger, James Shutt. Dorset County Hospital Foundation Trust, Dorchester, UK

PTU-115 INTRAVENOUS IRON IS EFFECTIVE IN REDUCING THE NEED FOR BLOOD TRANSFUSION IN ACUTE MEDICAL SETTINGS

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10.1136/gutjnl-2018-BSGAbstracts.489

Introduction Blood transfusions are necessary for patients with significant symptomatic anaemia in acute medical settings. However, the increasing use and availability of intravenous (IV) iron in these patients may reduce the frequency of blood transfusion and its attendant risks. Our aim was to evaluate this.

Methods The following IT systems were interrogated: Electronic Patient Record (EPR), Integrated Clinical Environment (ICE) (requests and results) and E-Prescribing and Medicines Administration (EPMA).

A list of inpatient episodes was generated for the years 2014–2016 whose discharge summaries included one of the following coded diagnoses: anaemia, menorrhagia or gastrointestinal bleeding (GIB) (using respective anatomical terms). These records were then reviewed to identify those who received packed red cell (PRC) transfusions or IV iron preparations and their respective doses.

Those who did not receive PRC transfusions or were transfused as outpatients or a semi-elective day case setting were excluded.

Results 321 of 770 episodes received PRC transfusion. The overall units transfused were: 468 in 2014, 334 in 2015 and 309 in 2016; equating to an equivalent of 93,600 mg,
66,800 mg and 61,800 mg of elemental iron (200 mg/unit). For those coded with anaemia (n=137), there was a significant reduction in the mean PRCs transfused in 2016 compared to 2014 (Graph 1).

With regards to IV iron preparations see table below.

### Abstract PTU-115 Table 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Elemental Iron (mg)</th>
<th>Mean Dose/Administration (mg)</th>
<th>Ferinject 500 mg Doses</th>
<th>Ferinject 1000 mg Doses</th>
<th>Cosmoferr 100–1600 mg (Variable Doses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1 68 400</td>
<td>923</td>
<td>10</td>
<td>87</td>
<td>86</td>
</tr>
<tr>
<td>2015</td>
<td>2 29 000</td>
<td>970</td>
<td>14</td>
<td>222</td>
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<tr>
<td>2016</td>
<td>3 87 500</td>
<td>969</td>
<td>25</td>
<td>375</td>
<td>0</td>
</tr>
</tbody>
</table>

Using the same sample population as Graph 1, a significant increase in the administration of IV iron preparations is evident in 2016 compared to 2014 (Graph 2).

### Conclusion

Over three consecutive years, this retrospective study demonstrates an overall reduction in the number of PRC transfusions given to inpatients with anaemia, GIB, or menorrhagia, and an increase in IV iron (mg) administered. Furthermore, for patients coded with anaemia in 2014 and 2016, the data indicates a significant change in administration of both PRCs and IV iron. This suggests that the increased utilisation of IV iron contributes to a reduction in PRC transfusions, thereby lowering the potential risks associated with delivering blood products. This is particularly evident in those patients with anaemia as opposed to bleeding. Other reasons for the decrease in PRC transfusions may include the promulgation of a lower haemoglobin level at which to transfuse and the increased availability of elective day-case management of patients requiring transfusion.

Abstract PTU-115 Figure 1

**Abstract PTU-116 INCREASED DIAGNOSIS AND TREATMENT OF HCV IN PRISON BY UNIVERSAL TESTING AND USE OF TELEMEDICINE**

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**Introduction**

Chronic hepatitis C virus infection (HCV) is a major cause of end stage liver disease. With advances in antiviral therapy there is an opportunity to ‘eliminate’ HCV from the UK. HCV is common in incarcerated individuals (~7% of UK inmates are anti-HCV Ab positive). Increasing diagnosis and treatment of HCV in prison is a priority in order to achieve ‘elimination’. However, HCV testing rates in UK prisons are low (4%). In order to increase diagnosis and treatment of HCV in the North East of England (NEE) prisons we implemented: 1. A universal offer of blood borne virus testing (UBBVT) using dry blood spot testing for prisoners at reception to increase diagnosis; 2. Prison Telemedicine clinics within NEE Prisons to increase HCV treatment rates.

**Aim**

To review results of the implementation of UBBVT in Durham Prison (DP) and the impact of the introduction of Telemedicine HCV treatment clinics in Northumberland Prison (NP).

**Results**

UBBVT was implemented at DP, the major remand prison in NEE, in Mar 2016. From Mar 2016 to Feb 2017 3309 BBVT offers were made in total with 2831 of the 4280 (66%) new receptions (NRs) were offered BBV testing, compared with 164 of 7,000 NRs (2.3%) in 2013–14. 1495 (53% of offered; 35% of all NRs) NRs accepted BBV testing, of whom 95 (6.4%) were anti HCV antibody positive. Of these 47 (49.5%) were HCV RNA positive confirming active infection (3.1% of all tested). Common reasons for non-acceptance of the test were ‘doesn’t want it’ (54%) and ‘already had test’ (37%). Consultant-led Telemedicine clinic (TC) with nurse in-reach was implemented in NP (a medium sentence prison) in Aug 2015. Between Aug 2015 & Oct 2017 80 individuals were seen in the TC. Of those seen in the TC, 57 (71%) commenced anti-HCV treatment. In 1 year prior to implementation of the TC, only 6 patients received HCV treatment. Overall, satisfaction with the TC among the prisoners was very high (80% good or excellent). Moreover, this is very cost effective with reduced cost of prisoner movement (Est £500/hospital visit). SVR and adherence data will be presented.

**Conclusions**

A universal offer of BBV testing to prisoners at reception to prison can substantially increase testing rates and lead to many new diagnoses of HCV. Prison telemedicine clinics with nurse-led in-reach offer a cost effective and efficient method of treating HCV in the prison environment.
THE IMPACT OF AN ACUTE JAUNDICE CLINIC AT A TERTIARY REFERRAL CENTRE

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10.1136/gutjnl-2018-BSGAbstracts.491

Introduction Jaundice is not a particularly common presentation in general practice (56 in 100,000). However it often indicates a serious underlying condition (33% malignancy) which requires urgent investigation via a 2 week wait referral. Various methods have been tried to expedite these referrals including a rapid access hotline and clinics. The experience and impact of an acute jaundice clinic providing prompt clinical, biochemical and radiological assessment is evaluated at a tertiary referral centre.

Methods The acute jaundice clinic provides open access bi-weekly clinics, following primary care referral, for clinical assessment, same day access to radiological investigations and prompt referral for hepato-pancreato-biliary (HPB) MDT discussion and, if required, biliary decompression. The primary goal is to ensure patients found to have HPB cancers are assessed quickly; the secondary aim is to avoid unnecessary admissions. This review will analyse appropriateness of referral, timing of investigations, diagnoses made and subsequent patient outcomes. Data was collected contemporaneously and supplemented with online patient records. This included patient age, bilirubin level, referral date and date of clinic appointment, timeliness of radiological investigations, final diagnosis, date of discussion at HPB MDT and malignant patient outcomes.

Results Data analysis was completed for all patients seen in the jaundice clinic over a 3 year period (2015–2017). In total, 291 patients were referred with a median age of 68 years (range 18–96 years). 245 (84.2%) of these were deemed appropriate to be seen with 172 (70%) clinically jaundiced at the time of review. Median time from GP referral to jaundice clinic review was 5 days (range 1–33 days). 209 (85.3%) of the patients were managed in the outpatient setting. The main diagnoses made following jaundice clinic are shown in Figure 1.

Figure 1. Diagnoses made from jaundice clinic (percentage of patients)

For suspected malignant diagnoses, 90.4% had a CT on the day of clinic and were discussed at MDT, on average, 10 days (range 1–50 days) later. Outcome data was only available for 2016 and 2017 but in patients diagnosed with malignant biliary obstruction, 17/19 (89.5%) had prompt biliary decompression with one of the remaining patients declining intervention. Only 4/19 (17.3%) were eligible for potentially curative surgery and 5/19 (26.3%) received palliative chemotherapy. One year survival was 50% (9/18).

Conclusions The introduction of a jaundice clinic in a tertiary centre has been successful in providing timely review of jaundiced patients with high patient satisfaction. It has also allowed for prompt radiological assessment of potential malignant cases within 24 hours in more than 90% of cases with patients on average discussed in the HPB MDT within 10 days of jaundice clinic. The service has also proved extremely beneficial in avoiding admission in over 85% of patients. The remaining number admitted denotes the acute requirement for biliary decompression in a group of patients who often have significant co-morbidities. Disappointingly, curative resection rates remain low in this cohort of patients, although this likely reflects the late stage of disease when jaundice is present and highlights the need for research into other predictors.

REFERENCES

PRESENTING PROBLEMS AND OUTCOMES OF WOMEN WITH GYNAECOLOGICAL CANCER ATTENDING A SPECIALIST GI SYMPTOM CLINIC


10.1136/gutjnl-2018-BSGAbstracts.492

Introduction Worldwide 1,470,900 women are diagnosed yearly with a gynaecological cancer. Some women develop long-term changes in bowel function following treatment severely impacting on quality of life.

Methods A service evaluation collecting prospective data was approved by the organisation’s R and D department. Intestinal symptoms were measured using a modified GSRS and impact on QoL assessed by VAS score (0=worst QoL, 10=best QoL). The McNemar Chi-square and Wilcoxon signed rank tests were used to analyse changes in symptom burden between initial assessment to discharge from the service.

Results From April 2013 to March 2016, 235 women treated for gynaecological cancers attended the clinic, representing a fifth of those using the service. Fifteen declined further intervention and were excluded, leaving 220 for analysis. Women had been treated for cancer of the cervix (50%), endometrium (28%), ovary (15%), vagina or vulva (7%) cancer. Most women received multi-modal therapies: chemotherapy (28%), surgery +radiotherapy (27%), surgery +chemoradiation (22%), surgery +chemotherapy (10%). Median age was 57 years (range: 24–83). The median time between cancer diagnosis and referral to service was 4 years and 10 months (range: 6 m–47.5 y). Most troublesome symptoms at assessment were bowel frequency of 4 or more times a day (88%), type 6 or 7 stool consistency (36%), urgency to defaecate (31%), faecal incontinence (21%) and fatigue (25%). Some women also reported urinary problems (17%) and sexual concerns (12%). Following a published algorithm, a median of 8 investigations were requested (range: 1–14): blood screen (97%), gastroscopy (75%), glucose hydrogen methane breath test (77%), SeHCAT scan (71%), faecal elastase (69%), flexible sigmoidoscopy (52%), colonoscopy (25%) and abdominal Xray (18%). A median of four factors contributing to symptoms were found (range: 1–9) and 68% of women had more than three. The most common diagnoses were vitamin D deficiency (60%), treated with replacement; SIBO (54%), treated with antibiotics and bile acid malabsorption (52%), treated with bile acid sequestrants and low fat diet. The median number of consultations was 4 (range: 1–17). Median quality of life improved from 4 at first assessment to 6 at discharge (p<0.001); the reduction in urgency, incontinence, tenesmus, frequency, diarrhoea and fatigue was statistically significant (p<0.05).
Conclusions Bowel symptoms after cancer treatment affect many women. They can be discharged with symptom improvement using a systematic investigational and treatment approach. Earlier referral to specialist services is recommended.

**PTU-119** UPPER GASTROINTESTINAL HAEMORRHAGE: IS THERE A WEEKEND EFFECT? A REVIEW OF TWO DISTRICT GENERAL HOSPITALS

1Duncan Napier*, 1Rebecca Anderson, 1Giovanna Sheiybani, 2,3Stephen Roberts, 2John Williams, 1Jonathan Brown, 2Gloucestershire Hospitals NHS Foundation Trust, Gloucester, UK 1Swansea University Medical School, Swansea, UK 2Farr Institute of Health Informatics Research, Swansea University, Swansea, UK

**Introduction** Upper gastrointestinal haemorrhage (UGIH) is a common emergency presentation with a mortality reaching 10%.1 A ‘weekend effect’ has been described for UGIH with increased mortality rates for those admitted over a weekend.2 These studies typically utilise information from national databases to describe this effect whereas this study sought to examine if there was a reproducible ‘weekend effect’ at two district general hospitals.

**Methods** Retrospective data was extracted from the endoscopy database for both hospitals in 2014, identifying all patients with an indication suggestive of UGIH. The Trust coding database was used to identify all patients with an ICD-10 code suggestive of UGIH. These datasets were amalgamated and electronic admission records subsequently analysed to exclude inpatient UGIH. Admission and discharge documentation, endoscopy reports, GP records and bereavements records were reviewed to confirm day and time of admission and endoscopy, and survival to 30 days. Chi-squared test was used to compare mortality between groups.

**Results** There were 552 admissions for acute UGIH in 2014, 518 patients underwent an emergency endoscopy, 23 either did not have an endoscopy or had an outpatient endoscopy, and 11 notes were unavailable or incomplete and thus excluded. There was no statistically significant difference in 30 day mortality for those admitted on a weekday (Mon 0000 – Fri 2359) vs a weekend (11.05% CI 7.98–14.79 vs 12.23% CI 7.92–17.79, p=0.68 X2). Neither was there a statistically significant difference in 30 day mortality for those admitted out of hours (1700–0839) compared to in hours (12.60% CI 8.83–17.23 vs 10.39% CI 7.07–14.59 p=0.43 X2). Although not statistically significant, there was an increase in 30 day mortality for those requiring an out of hours procedure (1800–0759) compared to day time (23.08% CI 14.89–33.09 vs 8.64% CI 6.16–11.72 p=0.19 X2).

**Conclusions** This study found no correlation between the day or time of admission for UGIH and 30 day mortality, suggesting that despite reduced levels of staffing and endoscopic activity over the weekend or out of hours this had no impact on 30 day mortality. This may be explained by appropriate patient selection for urgent endoscopy.
**PTU-122**

**ACUTE UPPER GASTROINTESTINAL BLEEDING MANAGEMENT: A MULTI-CENTRE, TRAINEE LED AUDIT IN NORTH-WEST ENGLAND**

Kirsty Nixon*, Katherine White. GastroTRINNoW Collaborators. Gastroenterology Trainee Research and Improvement Network North West, Manchester

10.1136/gutjnl-2018-BSGAbstracts.496

**Background** Despite advances in diagnostics and therapy, acute upper gastrointestinal bleeding (UGIB) is associated with 10% mortality. The National Institute for Health and Care Excellence clinical guideline (NICE) key priorities for implementation. Using the newly formed Gastroenterology Trainee Research and Improvement Network North West (GastroTRIN NoW), we aimed to obtain multi-centre data to audit the management of AUGIB.

**Method** A prospective multi-centre AUGIB audit was undertaken across 10 hospitals in North West England between 30/10/2017–26/11/2017. All patients admitted with suspected UGIB who underwent endoscopy (OGD), standards were 0% (100%) offered OGD within 24 hours of admission. Each centre registered the audit locally and anonymised data was pooled within excel for further analysis in R.

**Results** Patients were included across 10 hospitals 83% (n=101) were referred from A&E 17% via primary care. Median age was 65 years (IQR: 50–77) males were male. 50% (n=60) were admitted during weekdays between 07:00 and 19:00. At admission, 48% (n=56) had either a Glasgow Blatchford or pre-ock score, 32 patients were on anti-platelet, 21 on anticoagulants (warfarin, DOAC or LMWH) and 16 on NSAIDs (13%), 64% (n=70) received either oral or IV PPI prior to OGD.

Fifty-four percent of those with varices required banding or glue therapy (n=7/13) while 12% (n=13/108) required therapy for non-variceal bleeding. Haemostasis was achieved in 90% (n=56). Length of stay in these patients were longer compared to those not requiring therapy (median 6 days (IQR: 5–7) vs. 4 days (IQR: 2–7); p=0.04). There were 7 deaths at 30 day follow up only 1 directly attributable to AUGIB.

**Conclusion** NICE standards comparable to data presented by The GARnet Improvements are needed to deliver NICE standards.

![Image](PTU-122.png)
of their gut symptoms following dietary restriction (Fig 2). Direct-access patients who did not respond to treatment were discussed within a consultant-led MDT, with further advice, clinician review or investigation arranged as appropriate. No known cases of IBD or cancer have been missed to date using this pathway of care.

Conclusions Treatment within a dietetic-led, direct-access service with an appropriate, policed care pathway and MDT support is a safe and clinically effective management strategy for patients over the age of 45 with diagnosed IBS symptoms. The pathway provides an important adjunct to ‘straight to test’ referral protocols for GP’s in those over 45 with stable symptoms and previously negative colonoscopy, diverting these patients from unnecessary specialist review and costly further investigation.

Figure 1: Pre (appt 1) and post (appt 2) treatment symptom scores

Results 28 patients (16 ulcerative colitis, 12 Crohn’s) were prescribed Feraccru during the study. 17/28 had taken other ferrous products had failed. We assessed the tolerability and efficacy of Feraccru in the real world.

Methods Patients over 18 with IBD who were prescribed Feraccru between 1 February and 31 October 2017 at the London Northwest Healthcare NHS Trust were identified prospectively from prescribing clinicians and dispensary records. Data was collected from medical records and patients were contacted at least 1 month after prescription of Feraccru to assess tolerability.

Results 28 patients (16 ulcerative colitis, 12 Crohn’s) were prescribed Feraccru during the study. 17/28 had taken other oral iron supplements in the past 2 years of whom 12/17 had adverse effects, the commonest being abdominal pain. 14/21 patients tolerated Feraccru (7 not contactable). 3/14 that tolerated Feraccru stopped it early due to ongoing IBD symptoms. Of the 7/21 that did not tolerate it, no serious adverse events were noted; the most common side effect was abdominal pain. 5/10 patients who did not tolerate conventional oral iron tolerated Feraccru (2 not contactable).

Median baseline Hb was 110 g/dL (IQR 105–127) and ferritin 14mcg/L (IQR 12–21). 20/28 had post Feraccru bloods with a median of 114 days (IQR 92–144) between blood tests. Median post Feraccru Hb was 122 g/dL (IQR 116–134) and ferritin 28mcg/L (IQR 13–43). Hb incremented in 16/20; median increment 14 g/dL (IQR 8–19). Hb fell in 4/20; median fall 17.5 g/dL (IQR 7.8–27.3). 6/22 had IV iron up to 4 months after their last Feraccru dose.

Conclusions Feraccru was prescribed for IBD patients with mild iron deficiency anaemia. It was tolerated in 67% of all patients and in 50% of patients who were intolerant of conventional oral iron preparations. Hb incremented in most. Feraccru may be considered as a safe and cost effective alternative to IV iron in patients with mild IDA. Larger real life patient cohorts need to be studied, and disease activity should also be a consideration.

References
from organisations not traditionally included in acute hospital care planning. This included those working in homeless shelters, probation services, voluntary agencies, families and patients. We believe our success could provide the confidence for other acute care teams across the NHS to replicate our model.

**PTU-126 IS THERE ANY ROLE FOR FLEXIBLE SIGMOIDOSCOPY FOR INPATIENTS WITH OVERT LOWER GASTROINTESTINAL BLEEDING?**

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10.1136/gutjnl-2018-BSGAbstracts.500

**Introduction** Inpatient flexible sigmoidoscopy (FS) is frequently requested to investigate overt lower gastrointestinal bleeding (LGIB), a condition where evidence based guidelines lack clarity. We sought to evaluate the benefit of FS in this setting, specifically: diagnostic yield, requirement for endoscopic therapy and comparison to diagnostic CT. Ultimately, to determine if FS is being over utilised.

**Methods** We retrospectively reviewed electronic healthcare records for all inpatients that underwent FS for LGIB (January 2016 – January 2018) at Barnet General Hospital. Recording the diagnosis on discharge; endoscopic findings; radiological findings and the interval between admission, endoscopy and discharge.

**Results** 87 inpatients underwent FS for LGIB (44 male and 43 female patients, mean age of 69 years (range=70)). Median length of stay was 6 days (range=126). The median duration from admission to FS and FS to discharge was 2 days (range=123) and 3 days (range=49), respectively. Accounting for multiple pathologies in a single patient, documented discharge diagnoses included: diverticular disease (35.8%), haemorrhoids (15.8%) inflammatory bowel disease (7.4%) malignancy (5.3%) and infective colitis (5.3%), no cause was found in 10.5%. 46 (52.9%) patients underwent a CT scan. Findings included: diverticular disease (31.3%), colitis (19.7%) and malignancy (4.9%). FS findings included diverticular disease (44.4%), colitis (17.8%), haemorrhoids (15.6%), polyps (2.2%) and malignancy (1.1%). 41.3% of CT scans were unremarkable. FS did not identify a cause in 66.7% of cases. 54.3% of findings on CT matched endoscopic findings. 2 (2.0%) patients required surgery. 2 (2.0%) patients required interventional radiology. 5 patients (5.7%) required endoscopic therapy (2 APC for radiation proctitis, 1 haemorrhoid banding, 1 post-polypectomy bleed, 1 rectal packing), 4 (80.0%) had active bleeding during FS; with no association with comorbidities or antiocoagulation. 24 (27.6%) of patients required blood transfusion. 23 (26.0%) patients underwent outpatient colonoscopy.

**Conclusions** FS has limited diagnostic and therapeutic yield, identifying a cause for LGIB in the majority is not recommended. Further studies and clear national guidance is required.

**PTU-127 DOES A DIRECT-TO-SCOPE PATHWAY SIGNIFICANTLY REDUCE TIME TO DIAGNOSIS FOR PATIENTS WITH POSITIVE COELIAC SEROLOGY?**

Douglas Penman*, Rachel Trotter, Adrian Thuraisingam. Wirral University Hospital, Upton, UK

10.1136/gutjnl-2018-BSGAbstracts.501

**Introduction** NICE Coeliac Disease Quality Standard 134 (QS134) states that: Patients with suspected coeliac disease (CD) should undergo endoscopic (OGD) intestinal biopsy within 42 days of referral and, if confirmed, should receive specialist dietary advice. Given that UK incidence of CD is 19:100,000, our trust would expect 60 new cases of CD per year. In October 2017, a direct-to-scope referral was introduced to streamline the diagnostic pathway. We sought to evaluate the impact of this pathway on the time to histological diagnosis and dietitian review.

**Methods** All adults referred with positive coeliac serology initiated in primary care from April-September 2017 were compared to those referred following the introduction of the new pathway. Data for the two cohorts was collected from e-case notes using a standard audit tool. This included time from referral to: OGD; confirmation of diagnosis; clinic review; dietitian review and vaccination advice.

**Results** 27 patients (cohort A) were identified in the 6 months prior to October and 17 patients (cohort B) in the following 4 months. In cohort A 2 patients did not attend their appointment and 5 patients underwent OGD prior to referral. From April-September we also identified 10 patients with positive coeliac serology that, to date, have not been referred. The results are shown in table 1.

**Abstract PTU127 Table 1**

<table>
<thead>
<tr>
<th></th>
<th>mean (days)</th>
<th>range</th>
<th>mean (days)</th>
<th>range</th>
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<td>29</td>
<td>9–140</td>
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<tr>
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</tr>
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</table>

**Conclusions** The use of a direct-to-scope pathway significantly reduces time to diagnosis. This change in the pathway allows clinic and dietitian review to occur simultaneously, resulting in referral to treatment time within 18 weeks. The only patient in cohort B outside the 6 week target to endoscopy did not tolerate their index OGD and required a repeat endoscopy. Written confirmation of diagnosis now occurs prior to the initial clinic review, helping reduce unnecessary follow-up for
patients with uncomplicated CD. We hope continued use of this pathway may also reduce the number of patients with positive serology not referred from primary care.

**PTU-128** COMPLEX COLORECTAL POLYP SERVICE IN THE SOUTHEAST REGION: FIRST ANNUAL RESULTS OF A NEW SERVICE


**Introduction** Recently published Guidelines of the British Society of Gastroenterology (BSG) establish the standards of a Complex Colorectal Polyp (CCP) Service. We assessed the provision of a new CCP Service at East Kent University Hospitals Foundation Trust.

**Methods** We prospectively recorded our performance for resections of CCPs (low risk >2 cm–4 cm; high risk >4 cm) from November 2016 to December 2017 and measured it against BSG standards: 1) interval time from referral to resection within 8 weeks, 2) resection types employed, 3) short term outcomes (follow up within 3–6 months) and complications.

**Results** 105 patients underwent 121 resection procedures (56 males, mean age 70.5 years, median 61 years). The interval time from referral to resection procedure was delayed >8 weeks in 36/105 patients (34%). Polyp resection was completed in one session in 116/121 cases (96%), >1 session in 2 cases and on 3 occasions the procedure was abandoned (suspected invasion).

We performed 77 piecemeal-Endoscopic-Mucosal-Resection (pEMR), 8 hybrid pEMR/Endoscopic-Mucosal-Ablation (EMA), 8 hybrid pEMR/Endoscopic-Submucosal-Dissection (ESD), 8 Trans-Anal-Submucosal Endoscopic Resection (TASER), 7 Free-hand ESD, 2 Laparoscopic-Assisted-Colonoscopy-Polypectomy (LACE) and 11 Serrated Cold Piecemeal Em (SCOPE). Median overall polyp size was 3 cm (range 2/12). For 13/38 polyps with high-risk features (median size of 5 cm, range 4–12), otherwise destined for tertiary referral or surgery, we selected more endo-surgical and/or en-bloc resections: (TASER=7/ESD=4/LACE=2).

12 Polyps proved to have malignant features (11 within the high-risk group), all discussed at Colorectal MDM: 6/12 underwent colectomy, 2/12 local radiotherapy (T1 >1 mm + adverse histological features/patient preferre) and 4/12 endoscopic surveillance (T1 <1 mm, no adverse histological features). In total, 7/105 (6.6%) patients had surgery (6 malignant/1 benign polyps).

Of 98/105 patients treated: 41 (42%) did not have follow-up within 6 months, 31 (30%) are scheduled for follow-up and 27 (28%) had timely follow-up with a low (range 3–10 mm) recurrence rate (4/27, 13.8%), easily treated. No perforations or mortality were recorded. Four cases of delayed bleeding (3.8%) were documented: endoscopy was required in 2 for clipping.

**Conclusion** Our results demonstrated a safe and effective provision of a CCP service (96% complete excision in a single visit), as a result of a synergy between gastroenterologists and surgeons. However, we noticed an inadequate booking process, currently addressed by implementing new CCP pathways and setting up a CCP MDM.

**PTU-129** SPECIALIST COMPLEX POLYP CLINIC: A TERTIARY REFERRAL CENTRE EXPERIENCE


**Introduction** Specialist pre-operative clinics are an established part of cancer care. Limited or no data is available on the impact of specialist clinic for complex colo rectal polyps. Our tertiary referral centre is experiencing increasing numbers of elderly, co-morbid patients with benign complex polyps. Optimising a successful, appropriate and safe management strategy is fundamental to offering a quality service.

**Objective** The purpose of this pilot prospective study was to assess the impact of a specialist complex polyp clinic on the resulting management strategies and and outcomes for patients.

**Methodology** A monthly specialist complex polyp clinic was established in January 2016. If indicated, endoscopic polyp assessment was performed on the same day. Inclusion criteria was defined as complex, large polyps in a patient with multiple co-morbidities. Patient demographics, polyp data and outcome were retrieved from the complex polyp clinic database.

**Results** A total of 64 patients attended the complex polyp clinic between January 2016 and December 2017. Most cases discussed were tertiary referrals (88%). Median age of our cohort was 74 years. Median size of the polyp was 20 mm (mean 31, SD 30 mm). Most of the polyps were in colorectum (92.2%), and the remainder were in the upper GI tract. Main reasons for a review in the clinic were: discussion of therapeutic options (surgery vs endo therapy) and the risks/benefits of therapy 80%, discussion of surveillance 25%, discussion of previous endoscopic results 16%. A quarter of the patients who attended the clinic had a polyp assessment on the same day. 58% of patients underwent nurse led pre-assessment during the clinic visit.

Following the clinic discussion and polyp assessment 47% (30/64) of patients had a successful endoscopic resection of polyps, 12.5% (8/64) had laparoscopic surgical resection, 30% (19/64) were recommended for surveillance colonoscopy or CT colonography, 6% (4/64) declined to have proposed therapy, 1.5% (1/64) of cases no therapy was recommended, 1.5% (1/64) awaiting to have a combined laparo endoscopic therapy and 1/64 (1.5%) patient passed away due to ischaemic heart disease before their proposed treatment.

**Conclusions** The complex polyp clinic provides an opportunity to discuss the therapeutic options in the management of complex benign polyps and to assess the fitness of the individual for proposed therapy. Furthermore, a comprehensive endoscopic polyp assessment could be carried out during the clinic visit to plan appropriate therapy.
PTU-130 Efficacy of serology-based diagnosis for coeliac disease in children in a tertiary UK centre

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10.1136/gutjnl-2018-BSGAbstracts.S04

Introduction ESPGHAN published guidelines in 2012 allowing for non-tissue diagnosis of coeliac disease (CD) in symptomatic children with high levels of circulating tissue transglutaminase antibodies (TTG), anti-endomysial antibodies (EMA) and positivity of HLA-DQ2 or DQ8. This is contrary to adult guidelines, where histological diagnosis is recommended. This study assessed the use and effectiveness of non-tissue diagnosis in a tertiary centre.

Methods A retrospective review of all children (age <18 years) in a single centre newly diagnosed with CD between 1/2/12 to 31/12/16 with 1 year follow up. If endoscopy was performed, 2 biopsies were taken from the duodenal cap and 4 from D2 or lower, as per protocol. Histology was analysed using the modified Marsh grading system. Data were collected using electronic patient records. Analysis was performed using SPSS version 21 (Chicago, USA). Significance was defined as p<0.05.

Results Of 82 newly diagnosed patients, 12 were asymptomatic children identified via screening and therefore excluded, leaving a cohort of 70. 61% (n=43) were female. Median age at diagnosis was 7.58 years (range 0.86–17.66). The commonest presenting symptom was abdominal pain, with over 50% of patients affected. All had TTG measured at baseline, with a mean [SD] of 88.0 [46.6] U/ml, 7 being the upper limit of normal (ULN) and 128 the maximum recorded with our assay. 35.7% (n=25) had a TTG <10 times ULN. These children all had endoscopy, as per ESPGHAN guidelines. Overall, 76% (n=53) were diagnosed by endoscopy and biopsy. No patients had concomitant pathology diagnosed and there were no operative complications.

47% (n=33) had complete serological testing; 34% (n=24) fulfilled ESPGHAN serological diagnostic criteria. 24% (n=17) were given a diagnosis of CD without small bowel biopsies (Figure 1). 75% of patients (n=8) who met the criteria were offered non-biopsy diagnosis and all, but one preferred this option. At maximum follow up, none of the patients diagnosed serologically had required endoscopy.

There was a significant fall in TTG from baseline (mean 87.3, SD 46.5) at 6 months (mean 23.5, SD 29.7; p=0.003) and at 12 months (mean 12.5, SD 22.1; p=0.017). This decrease was significantly greater in children diagnosed serologically both at 6 months (mean [SD] 82.8 [42.0] vs 57.6 [43.6]; p=0.04), and at 12 months (mean [SD] 93.0 [41.2] vs 67.4 [45.6]; p=0.049).

Conclusions Serology based confirmation of CD proved to be both effective and appealing to our patient population. The results should encourage greater uptake of this diagnostic strategy. Small bowel biopsies remain important in children with suggestive symptoms but whose TTG titres are <10 times the ULN, or in whom there is concern about dual pathology.

PTU-131 Remote tracking of symptoms, QoL and wellbeing within the new Wales NET service

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10.1136/gutjnl-2018-BSGAbstracts.S05

Abstract PTU-130 Figure 1

Conclusions Serology based confirmation of CD proved to be both effective and appealing to our patient population. The results should encourage greater uptake of this diagnostic strategy. Small bowel biopsies remain important in children with suggestive symptoms but whose TTG titres are <10 times the ULN, or in whom there is concern about dual pathology.
Introduction

Patients with neuroendocrine tumours (NETs) have significantly worse health-related quality of life (HRQoL) than the general population. Technological advances have significantly increased electronic patient-reported outcome (ePRO) data collection capabilities. Currently, there is little longitudinal PRO/ePRO data and limited data on gastrointestinal symptoms, particularly ‘diarrhoea’, in NET patients.

Methods

12 patients with NETs were given a tablet installed with the CABARET application (app). Using the app patients recorded bowel movements according to Bristol Stool Chart (BSC), completed a weekly gastrointestinal (GI) symptom survey and an EORTC QLQ-GINET21 survey (for QoL) every 2 weeks. Data inputted to the app was accessible to clinicians via a secure method linked to hospital records. 5 months of user input was analysed to assess trends. App usability was evaluated via a patient questionnaire.

Results

There was a significant (p<0.01) correlation between GI symptom burden and QoL. Symptoms varied over time: the coefficient of variation in individual patients for urgency was 86% overall and up to 40% for BSC. Type 6–7 stool made up 57% of all reported with only 1.1% of stool being type 1–2. Lethargy, flatulence and bowel urgency were found to most affect patient’s lives, whilst worries about future health and effects on family members were the most frequent concerns reported. 91% of patients found the app easy to use.

Conclusions

The app appears to be a patient-friendly method of acquiring real-time, detailed longitudinal data on NET symptoms and QoL, potentially allowing earlier recognition of symptom change and intervention. GI symptoms can vary over time suggesting a ‘snapshot’ view may not be truly reflective. Further work is required to assess the impact on patient management on a wider scale.

PTU-132

NORMAL ALT – MISSED OPPORTUNITIES TO FIND FIBROSIS. LESSONS FROM IILFT

PTU-133

BIOPSYING THE NORMAL COLON: ARE WE WASTING TIME AND MONEY?

Introduction

Endoscopic mucosal sampling remains an important aspect of diagnosing colonic pathology. There remains a wide variety of practice in biopsying the macroscopically normal colon in chronic diarrhoea. We combined recommendations from the BSG and ASGE guidelines and expert opinions from two review articles to set a local standard. Our standard was 2–4 biopsies from the right colon (caecum-transverse colon) and 2–4 from the left colon with compulsory rectal biopsy. Terminal ileum (TI) biopsies were deemed unnecessary if macroscopically normal. The aim was to audit the current practice and identify methods to reduce histopathology workload and financial implications.

Methods

We retrospectively audited all normal colonoscopies in a 6 month period across two sites. Bowel Cancer Screening Programme, Inflammatory Bowel Disease assessment and surveillance procedures were excluded. Endoscopy reports were scrutinised to compare the indication, findings and biopsy series performed. We recorded the number of biopsies taken from each colonic segment: TI to rectum. In our Trust, each colonic segment biopsy was sent in separate formalin-based pots. The processing cost of each pot is £62 as well as a lifetime increase in quality adjusted life years.

Conclusion

Using a reduced ALT cut off in iLFT increases the rate of liver diagnosis enabling earlier intervention. It also remains cost effective compared to standard practice.
biopsies were taken; 22.3% were excess colonic biopsies and 6.4% were unnecessary TI biopsies. 84 procedures had inadequate biopsies; 20.2% (n=82) missed rectal biopsies and 0.5% (n=2) had insufficient biopsies taken to diagnose microscopic colitis. The incidence of microscopic colitis was 4.2% (n=17) with no change in pickup rate if our standards were applied. The total cost incurred was £1 10 670 and if our standard had been followed, the cost would be £1 00 440 in 6 months. This suggests an annual cost saving of over £20 000 in addition to saving the equivalent of 5 weeks of a pathologist’s time.

Conclusions By adopting the new standards, our endoscopy and pathology units would make significant savings in cost and workload without reducing our diagnostic pick-up rate of microscopic colitis. In addition to re-educating endoscopists, we are exploring the use of multiwell cassettes or grouping all biopsies in one pot for analysis.

REFERENCES

PTU-134 ALGORITHM FOR MANAGEMENT OF IATROGENIC PERFORATION – A QUALITY IMPROVEMENT PROJECT
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10.1136/gutjnl-2018-BSGAbstracts.508

Introduction Iatrogen perforation of the gastrointestinal tract related to diagnostic or therapeutic endoscopy is a rare but severe adverse event, associated with significant morbidity and mortality. Because of the lack of high quality studies mainly due to the rarity of these adverse events, there is no universally accepted management strategy. The clinical management of perforation can be challenging as it warrants multiple specialist input i.e surgical/radiology/medical team and need to co-ordinate and accomplish a number of tasks within a short time.

Aim Why do this project?
Although perforations are uncommon, a predetermined plan of action can streamline patient management particularly in that stressful environment. To develop a management algorithm for our trust following two recent incidents of iatrogen perforation in our endoscopy unit at Llandough hospital.

Methods The need for a perforation algorithm was discussed in our gastroenterology departmental meeting.

Input from gastroenterology A preliminary algorithm was reviewed and amended by our consultants. It included step-wise initial general measure like securing iv access, bloods, iv fluids, analgesia as well as endoscopic closure guidance if expert help available. The algorithm instructs SpRs or nurse endoscopist to contact consultant immediately in the event of a perforation.

Input from radiology The radiological investigations that is required following endoscopic perforation was discussed and agreed with the GI radiologists and department in our health board. This was included in the algorithm as per site specific perforation management. For eg: CT Thorax arterial phase with oral omnipaque was advised for oesophageal perforation and to specifically scan from skull base down if suspected high oesophageal perforation.

Input from microbiologists We discussed with our microbiologists and agreed on a ‘regime’ of antibiotics to be used in these circumstances thereby avoiding any delay in administering the medications. For eg: amoxicillin+gentamicin+ metronidazole+fluconazole in colorectal perforation.

Input from surgeons The algorithm was reviewed and agreed with the surgeons in trust endoscopy users group meeting. The surgeons preferred to be contacted and made aware of all patients including those who had endoscopic closure for perforation.

Main algorithm Owing to site specific differences, four flow charts were created specifically for oesophageal, gastric, duodenal and colorectal perforations. The final algorithm was implemented and posted in our endoscopy unit.

Outcome High degree of satisfaction was expressed among endoscopy staffs and endoscopists for having clear pathway to guide in a step wise fashion.

Conclusion We provide an algorithm of perforation management to coordinate patient management and increase the environment of safety and communication among health-care providers.

All the 4 algorithms with general measures algorithm are detailed below:

PTU-135 HOW EFFICACIOUS IS A TRAINEE-LED GASTROENTEROLOGY RETRIEVAL SERVICE IN A DISTRICT GENERAL HOSPITAL?
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10.1136/gutjnl-2018-BSGAbstracts.509

Introduction Early involvement and management by specialists has been shown to have a favourable impact on outcomes in a number of acute medical conditions. Delivery of high quality acute medical care by specialists has been highlighted as an aim by the Darzi review in 2008. We aimed to provide a high quality, trainee-led, daily reach-in gastroenterology service during weekdays for acute gastroenterology patients admitted to the medical assessment unit(MAU) at a busy district general hospital. The role of these reviews is to expedite specialist input to patients with the aim of improving clinical outcomes and time of discharge.

Methods We introduced a daily gastroenterology retrieval service for patients admitted to the Medical Assessment Unit (MAU) for 4 weeks in January 2018. The retrieval team reviewed acute gastroenterology patients admitted from the take and advised on investigations, management plan and if appropriate took over the care. A mathematical model was created of non-retrieved patients (n=27) to simulate outcomes without gastroenterology intervention for comparison.

Results 27 patients were referred in the 4 week period. Common reasons for referral included GI bleed (51.9%), diarrhoea (14.8%), liver related problems (22.2%) and upper GI symptoms i.e dysphagia, persistent vomiting, etc. (11.1%). Following retrieval, 19 patients were moved to the gastro ward (70.4%) and there was no bias towards any one diagnosis being repatriated (p=0.309). The median time for arrival to the GI ward was 2 days. The median length of time the
retrieval group patients were deemed medically fit was 4 days. Liver patients stayed longer (median 6.5 days, range 3–10), whilst IBD patients stayed the shortest (median 2.5 days, range 1–5). Across the retrieved patients, an estimated median value of £400 was saved per patient and total of £16 700 was saved over a 1 month period based on bed stays and early discharges. A median of 1 day was saved per patient, with a total of 32 hospital days saved across the 27 patients retrieved. Compared to our modelled non-retrieved patients, the number of days saved by the retrieval service was statistically significant, (1.19 days +/- 0.233 in the retrieved group compared to 0.05 days +/- 0.048 in the modelled group), p<0.001. Similarly, there was no cost save associated with the non-retrieved group, p<0.001. The retrieval service was found to be of additional benefit to the patient outcome on 21 occasions but didn’t add significantly to the MAU decision on 6 occasions. Compared to the model of non-retrieved patients, this improved outcome was statistically significant, p<0.001.

Conclusion We present a model of acute gastroenterology service delivery which is cost effective, facilitates early discharge and is associated with improved outcomes irrespective of the underlying diagnosis of these complex patients. This would thereby pave way for excellent learning and leadership opportunity for specialist trainees.

**PTU-136** IMPROVING CARE FOR PATIENTS WITH CHRONIC HEPATITIS B (HBV)

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10.1136/gutjnl-2018-BSGAbstracts.510
Introduction  The 2017 European Association of the Study of Liver (EASL) Guidelines on management of Chronic Hepatitis B provided an update on monitoring of HBV patients. In E-Antigen negative patients, there is now clear guidance on the frequency of testing of Hepatitis B DNA, ALT, and non-invasive markers of liver fibrosis i.e. Fibroscan. Introduction of Quantitative Hepatitis B Surface Antigen(qHBsAg), can significantly reduce frequency of testing and follow-up.

By introducing quantative Hepatitis B surface antigen we aim to reduce unnecessary laborotory tests, and clinic visits thereby improving the patient experience and reducing costs. In addition, by introducing a local guideline we aim to follow best clinical practice.

Methods  At the Whittington Hospital, we have 336 Chronic Hepatitis B patients in our service, of which 311 are E-Antigen negative. 250 of these patients are under the age of 50. Two components of this audit/QIP. 1. A retrospective audit, of 10 patients, comparing current practice against the new EASL guidelines, to determine how many ALT and HBV DNA tests have been historically performed 2. Modelling of our cohort of patients over the next 6 years to predict future cost savings following introduction of 2017 EASL guideline recommendations. Costs of the relevant tests(HBV DNA, ALT, quantitative HBsAg and Fibroscan) were obtained from microbiology, biochemistry and finance department respectively.

Results  Our audit revealed we were performing too many HBV DNA tests. We performed 35 HBV DNA tests, as opposed to 5–11 HBV DNA tests, as per latest EASL guidelines. An ALT costs £1. A Fibroscan costs £44. A HBV DNA costs £65 and a Quantitative Surface Antigen costs £14.
Using the EASL guidelines will significantly reduce the number of HBV DNA tests performed. This is beneficial for both the patient and will reduce costs to the trusts from unnecessary laboratory tests. In addition, by following the algorithm below, for patients with a qHBsAg <1000, this will lead to a further saving of £100/patient over a 6 year period, equivalent to £31 100 for our cohort.

Conclusions Implementation of the EASL guidelines would reduce the frequency of blood tests needed as well as the frequency of clinic follow ups. This is therefore much more beneficial to the patient. In addition, this would produce a cost saving to the trust estimated to be £100 per patient over a 6 year period for this cohort of patients.
THE NEED FOR ANAESTHESIA SUPPORTED ERCP IN A DISTRICT GENERAL HOSPITAL

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10.1136/gutjnl-2018-BSGAbstracts.511

Introduction Updated guidance on the management of common bile duct stones (CBDS) published by the BSG at the start of 2017 highlighted the need for ready and prompt access to anaesthesia supported ERCP. Furthermore, it is commented that likelihood of therapeutic success is higher with anaesthetic support. Our unit has no formal provision for anaesthesia supported ERCP and as such this is currently performed on an ad hoc basis. Through analysis of our ERCP database since 2014 we demonstrate the benefits of anaesthesia supported ERCP and the need for a dedicated service.

Methods We performed a retrospective analysis of all patients who underwent ERCP in our unit from January 2014 to December 2017. The data was obtained from an excel database employed in our unit specifically for ERCP. We identified all procedures done under GA and recorded the indication for GA. We also identified procedures performed under conscious sedation where there was intention to repeat under GA. For all procedures in the study period we recorded whether the procedure was successful by intention. This permitted comparison of procedure success between conscious sedation and GA support. We were then able to further analyse the conscious sedation cases brought back for a repeat procedure under GA.

Results Over the study period 776 ERCPs were performed. 115 of these were done under GA (15%). The overall success by intention for all ERCPs was 80.5%. For those done under conscious sedation this was 79.6% whereas for those done under GA the overall success by intention was 83.5%. The indications for GA were: Intolerance of sedation (46%), complex procedure (17%), acutely unwell (11%), not documented (12%), patient decision (8%), other (6%).
In our sub analysis there were 77 cases (10% of total) that required at least one further procedure under GA having had the initial procedure under conscious sedation. 33 of these had failed by intention under conscious sedation. Under GA 73% of these cases were then successful.

Conclusions The analysis of our unit’s database is consistent with BSG guidance in that we demonstrated higher success rates with ERCPs done under GA. This effect is particularly highlighted in cases where ERCP failed under conscious sedation. We conclude that having ready access to anaesthetic support would undoubtedly reduce the need for repeat procedures. In addition we believe that provision of this service would generate significant financial savings to our trust in terms of day case tariffs as well as staff and equipment costs. Going forward, we are confident that this data will form the basis of a successful business case for anaesthesia supported ERCP in our hospital.

**PTU-138 IMPACT OF NEW PRIMARY CARE FAECAL CALPROTECTIN (FCP) GUIDELINES ON SECONDARY CARE WORKLOAD AND FINANCE**

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10.1136/gutjnl-2018-BSGAbstracts.512

Introduction Faecal calprotectin (FCP) testing is a useful tool in the diagnostic work-up for differentiating Inflammatory Bowel Disease (IBD) from non-inflammatory bowel diseases. However, despite current support for its use, current guidelines lack clear
THE NEED TO WORK

DOES A DEDICATED INFLAMMATORY BOWEL DISEASE

2018; Gut

ing; doctors, pharmacists, and nurses, were given access to
during October 2017. Multidisciplinary team members includ-
enterology ward), were selected for a two-week pilot trial of
clinical practice is unclear. Here, we report the experience of
innovation to optimise efficiency on acute medical and gastroen-
study. Under the current guidelines there were 936 referrals to
workload. European studies have shown large financial benefit
to FCP testing (Mindemark and Larsson). Locally 41% of refer-
with an elevated FCP undergo colonoscopy.

Method All FCP tests requested from primary care that are
served by a single pathology laboratory in South West London
between 01/01/16 and 31/12/16 were collated. The data was
then separated into categories according to both the cut-offs
for existing guidelines and the potential new guidelines. Costs
were calculated (£29 for a faecal calprotectin test and £680
for an adult colonoscopy(Mindemark and Larsson)) under
both guidelines.

Results 6,962 FCP tests were requested, 1375 were excluded
due to an insufficient sample. 5577 were included in the
study. Under the current guidelines there were 936 referrals to
secondary care, with 384 colonoscopies (£261 k). Under
the new proposals there would be 321 initial referrals, a
65.7% reduction. If all of these underwent colonoscopy calcu-
lated cost would be £218 k. 279 patients fell into the repeat
testing category (costing £8 k). Introducing new guidelines
would predict a saving of £43K on colonoscopy at a labora-
tory expense of £8 k.

Conclusions Implementation of the potential new primary care
guidelines could result in markedly fewer referrals to sec-
ondary, with a small increase in laboratory workload, and could
thus reduce the strain for secondary care services. In SW Lon-
don this could save £35 k, and lead to a reduction in sec-
ondary care referrals but lead to an increase in primary care
reviews.

PTU-139 THE NEED TO WORK ‘SMART’ ON ACUTE WARDS:
COULD MOBILE PHONE APPLICATIONS BE THE
ANSWER?

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10.1136/gutjnl-2018-BSGAbstracts.513

Introduction Due to rising service pressures there is a need for
innovation to optimise efficiency on acute medical and gastroen-
terology wards. Using smartphone applications to achieve this is
an attractive proposition, but the utility of such technologies in
clinical practice is unclear. Here, we report the experience of
multidisciplinary staff after a pilot of a smartphone application
at our hospital.

Methods Two acute medical wards (including a 24 bed gastro-
enterology ward), were selected for a two-week pilot trial of a
smartphone application, Listrunner (Desma Health, Canada),
during October 2017. Multidisciplinary team members includ-
ing; doctors, pharmacists, and nurses, were given access to
Listrunner via dedicated secure mobile devices. During daily
consultant ward rounds and throughout the working day, all
tasks were uploaded onto Listrunner. A Control Centre lead
reviewed all uploaded tasks, identified non-medical tasks and
either completed these or reassigned them to more appropri-
ate team members. At the end of the pilot, staff provided
feedback on their experience via a structured questionnaire.

Results During the pilot, whilst a total of 1080 tasks were
uploaded onto Listrunner, 20% of these were non-medical
tasks managed by the Control Centre. The most common
tasks managed by Control Centre were chasing specialty
reviews (42%) and chasing investigations (33%). At the end of
the pilot, staff from both wards (n=19; Junior Doctors n=9,
Nurses n=4, Consultants n=2, Pharmacists n=2 and Occupa-
tional Therapists n=2), completed questionnaires. Most doc-
tors (73%) found Listrunner easy to use and 56% of juniors
felt that it improved the relevance of their work by reassigning
non-medical tasks. Overall, 42% rated Listrunner as ‘use-
ful’, whereas 21% did not find it useful and 56% felt it
IBD pharmacist communication between team members. When asked
how Listrunner affected the conduct of ward work, the most
popular responses selected were; ‘it improved patient flow/dis-
charges’ (n=8), ‘it speeded up allocation of tasks’ (n=7) and
‘it prolonged the ward round’ (n=6). Whilst 12/19 (63%) felt
it would be worth adopting Listrunner, 8/19 (42%) expressed
some reservations about using smartphones in front of
patients. The main barrier to adopting this technology more
widely (according to 58%) would be the staffing levels and
related costs required to replicate the pilot experience.

Conclusions Our data suggest that a large number of tasks
currently performed by doctors on acute wards are non-medi-
cal tasks. Smartphone technology appears to have potential to
improve efficiency and streamline clinical activities, and our
early experience may help inform future adoption and further
development of this technology.

PTU-140 DOES A DEDICATED INFLAMMATORY BOWEL
(DID) PHARMACIST CLINIC IMPROVE PATIENT SAFETY ?

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10.1136/gutjnl-2018-BSGAbstracts.514

Introduction Immunosuppressors (IMM) drugs are widely used in
the treatment of IBD. These drugs are very effective but also
have well recognised, potentially serious, side effects including
bone marrow suppression, liver toxicity and pancreatitis. There
is a developing role in the UK for pharmacists utilising their spe-
cialist knowledge and skills in direct patient facing activities. We
aimed to review the impact of the introduction of a specialist
IBD pharmacist clinic in the management of IBD patients.

Methods IBD patients seen by the IBD pharmacist were identi-
cated from our database. Clinical history, demographics, side
effects, blood monitoring including TGN levels were recorded.
The total number of actual and virtual clinic visits managed
by the pharmacist was determined and the outcome of these
visits was categorised.

The pharmacist responsibilities included initiation of IMM
therapy for patients, medication counselling, prescribing, blood
tests and follow up appointments allowing assessment of both
clinical response and safety monitoring.

Results Between Nov 2015 and Feb 2017, 367 pharmacist
out-patient appointments and 83 pharmacist virtual clinic
reviews for 176 IBD patients (Crohn’s disease 101, ulcerative colitis 69, IBDU 6) were undertaken. Of the 176 IBD patients, 164 (93%) were on thiopurines, 9 (5%) on methotrexate and 3 (2%) on ciclosporin.

Patients visits with the IBD pharmacist were for the following reasons: initiation of IMM treatment (including counseling, dose titration, 2 weekly blood monitoring for the first 2 months), 92 appointments (appts); post initiation, 95 appts; routine 3 monthly monitoring, 145 appts; intensive monitoring (e.g. dose escalation), 45 appts; and dose optimisation (combination therapy with allopurinol) 63 appts. 89% of clinic appts were managed independently by the pharmacist.

196 appointments resulted in 230 actions in patient management to be undertaken. These were: side effects assessed and pt reassured (37 actions); symptoms assessed and pt reassured (27); adherence support (15); dosing advice (8); dose increased (low thioguanine nucleotide (TGN)) (27), dose decreased (high TGN, abnormal blood tests) (32); allopurinol combination therapy (11); azathioprine switch to 6MP (5); other medication (12); physician review (15); other (34).

As a result of the IBD pharmacist in the clinic, a pharmacy helpline was developed with patients calling or emailing the pharmacist for advice in between clinic visits (122 calls/emails over 37 weeks).

Conclusion The IBD pharmacist has a key role in the management of IBD patients contributing not only to medication monitoring, prescribing, and safety but also allowing greater capacity in the physician’s, often highly stretched IBD clinics.

Abstracts

PTU-141 A STUDY OF VARICEAL BLEEDING ACROSS CONTINENTS
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Introduction The underlying aetiology and subsequent management of variceal haemorrhages is well documented in developed countries however, there is significantly less data from developing countries. The aim of this study was to compare the aetiology and management of patients presenting with variceal haemorrhage to Aberdeen Royal Infirmary (ARI) and its allied Felege Hiwot Referral Hospital (FHRH), Ethiopia.

Methods Two medical students spent their electives performing retrospective case note reviews of all patients presenting with variceal haemorrhage to FHRH between September 2013 and September 2015 and ARI in a similar time period between January 2013 and December 2015. Patients were identified from the Ward Register. Case notes were examined for patient demographics, symptoms, investigations, management and mortality data.

Results There were 66 patients presenting to FHRH and 129 patients presenting to ARI during the study period. Mean age at presentation was 37.7 (FHRH) and 57.4 (ARI). Aetiology of liver disease was significantly different between the 2 sites. At FHRH Schistosomiasis accounted for (33.3%), Hepatitis C (24.6%) and Hepatitis B (22.8%). At ARI, the most common aetiology was alcohol related liver disease (58.9%) followed by non-alcoholic fatty liver disease (14.7%).

Conclusions The underlying aetiology of liver disease resulting in portal hypertension and variceal haemorrhage is very different in the 2 hospitals studied. The management is also significantly different due in part to the resources available. Unfortunately admission haemodynamic data and Haemoglobin measurements were not reliably recorded for comparison. Clinical management of patients presenting with variceal haemorrhage at FHRH does not follow as stringent a protocol as ARI which is likely to explain the higher rates of blood transfusions required in FHRH. Although these data suggest that fewer patients at FHRH represent with variceal bleeding over a 2 year period, many patients in the area cannot afford to attend hospital repeatedly resulting in under-reporting of cases. There is an ongoing knowledge exchange between University of Aberdeen and Bahir Dar University which will hopefully improve the access to appropriate educational and training resources to reduce the variability between the 2 centres.

PTU-142 SCHEDULED DEEP SEDATION LIST IN ENDOscopy ARE MORE COST EFFECTIVE COMPARED TO TRADITIONAL EMERGENCY LIST
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Introduction Sedation and analgesia are considered an essential component and are commonly used by endoscopists in endoscopic. The primary goal of a procedure involving sedation is to reduce a patient’s anxiety and discomfort as well as improving their tolerability for the examination. Four stages of sedation have been classified ranging from minimal sedation (anxiolysis), moderate (conscious sedation), deep sedation to general anaesthesia. Deep sedation is defined as a stage where a patient can not be easily aroused but responds purposefully following repeated painful stimulus.2 Traditionally patients who fail conventional sedation for endoscopy have heavier sedation in operating theatres, which requires occupying the emergency theatre and use of valuable theatre resources. With the dedicated deep sedation endoscopy services we are able to provide such a service as scheduled, which minimise the resource and reduce the cost.

Methods Huddersfield Royal Infirmary has been running a deep sedation endoscopy service on every alternate Tuesday
since June 2014. The aim is to manage patients who tolerate endoscopic procedures poorly. From their database, 127 patients were included between August 2015 and August 2016. All patients were referred as either fast track, urgent or routine. Deep sedation endoscopy is conducted in the endoscopy department with anaesthetic set up and presence of endoscopist, endoscopy nurse, an operating department practitioner and anaesthetist. Induction agents include Propofol 1% and occasionally Alfentanil without intubation.

**Results**

127 patients were included from 140 procedures conducted. Each endoscopy conduct in the theatre day case cost £1280. Each endoscopy conduct in the endoscopy suite cost £817. The cost different per case cost £463. Average costs of saving for year 2015/2016 are £64 820.

**Conclusions**

The introduction of a deep sedation session in the endoscopy department has effectively minimised the resources, improve the quality of endoscopy and proven to be cost effective. Guidelines for referring a patient for endoscopy under deep sedation should be anticipated to ensure resources are being used appropriately. Additional sessions are indicated to provide more services to reduce waiting times for patients who need the service.

**REFERENCES**


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**PTU-143 COMPARISON OF CLINICAL EFFECTIVENESS AND COMPLIANCE WITH TRANSANAL IRRIGATION TREATMENT: NEUROGENIC V.S. FUNCTIONAL BOWEL DISORDERS**

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**Introduction**

Transanal irrigation (TAI) has emerged as one of the therapeutic strategies in managing constipation and faecal incontinence in neurogenic bowel disorders (NBD). It is unclear whether patients with functional bowel disorders (FBD), particularly irritable bowel syndrome with constipation (IBS-C), refractory to standard therapies might benefit from TAI. We aimed at retrospectively assessing and comparing the effectiveness and compliance with TAI in patients with NBD and FBD.

**Methods**

A retrospective review of selected NBD and FBD patients referred for TAI treatment at University College Hospital between 2013–2017 was carried out. Co-morbidities, medications and patients experience with TAI were evaluated. Clinical impact was assessed using the neurogenic bowel dysfunction score (NBDS). Intra-group comparison pre-TAI and post-TAI were performed.

**Results**

63 patients (mean age 50 years, 45 females) were reviewed. 39 patients had neurogenic bowel dysfunction, mostly multiple sclerosis and spinal cord injury, whereas 24 patients had IBS-C based on Rome III criteria. Depression was the most frequently reported comorbidity (8% and 29% of NBD and IBS-C, respectively). At baseline 82.5% of patients were taking conventional laxatives and chronic use of opioids was comparable between the groups (26% and 21% for NBD and IBS-C, respectively). Overall 37 patients (14 IBS-C and 23 NBD) were compliant to TAI at follow up. The mean NBDS scores significantly improved in the whole cohort (10.8 vs 8.3 post-treatment; p=0.01). NBD scores significantly improved for IBS-C patients (12.9 vs 8.9; p=0.02) but not for the neurogenic ones (9.5 vs 8; p=0.09). Patients with IBS-C reported more infrequent bowel movements/week compared to NBD patients (2±1 vs 4±2, respectively). Post-TAI treatment, the average number of bowel movements/week increased in both groups (3 vs 2 and 5 vs 4 for IBS-C and NBD, respectively). Of the initial cohort, 17 patients (7 IBS-C and 10 NBD) were lost at follow up; whilst 9 patients (3 IBS-C and 6 NBD) abandoned the treatment. The main reasons for withdrawal were inefficacy of the treatment (66.7%) followed by TAI-related side effects in a third of patients. NBD patients reported a greater improvement in QoL whilst better bowel function control and more frequent bowel movements were the main reasons for continuing TAI therapy in IBS-C patients.

**Conclusion**

TAI is an effective treatment for bowel dysfunction in patients with FBD showing a similar efficacy to that of the NBD group. Although larger prospective data are needed to validate these results, TAI should be considered as an effective strategy in managing patients with FBD, for whom traditional treatments have failed.

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**PTU-144**

**REMOVAL OF NORMAL AND NEGATIVE PHRASES FROM ENDOSCOPIC SEMI-STRUCTURED TEXT FOR ACCURATE AUTOMATED ENDOSCOPIC AUDIT**

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**Introduction**

Most electronically stored endoscopic reports consist of semi-structured free text, containing a significant amount of auditable information. However, the unstandardised text requires cleaning prior to audit so that the data is standardised across patients. One major obstruction to the automated auditing of free text is phrases that mention an absence of a pathology such as ‘No hiatus hernia is seen.’ or ‘There is no malignancy.’

**Methods**

The current study aims to determine the complexity of semi-structured free text endoscopy reports and determine the simplest function in the globally most popular data analytics language ‘R’, to remove negative phrases from endoscopic text and to validate the performance of this algorithm against manual extraction.

Five hundred endoscopic reports were randomly selected for any procedure between Jan 1 2007 to Jan 1 2017. The low average text complexity (measured using the package ‘readability’ in R based on sentence structure rather than terminology) was equivalent to age 14–15 years (Readability scores: Flesch KinCaid=9.8, Gunning Fog Index=13.3, Coleman_Liau=10.0) meaning that the text could be analysed using less processor intensive pattern recognition defined as ‘regular expressions’ rather than using machine learning.

Negative phrases were extracted from the first 100 reports as a training set, using the ‘lexicon’ package in R by cross referencing each sentence in an endoscopy report with a list
of known negators to create generic regular expressions that could detect all negative phrases and incorporated into a script in R.

A endoscopist blinded to the automated results was required to remove all negative phrases whether in mixed or non-mixed sentences for the same 400 endoscopy reports. Automated and manually extracted phrases were then statistically compared to generate a sensitivity, specificity and accuracy measurement of automated extraction. The difference in audit outcome was also estimated when a comparison was made between simple keyword searches to populate the audit versus the use of negative removal as implemented using our technique.

**Results** The training set resulted in 12 regular expressions, compiled into a single runnable function, thought capable of detecting most negative phrases. This resulted in a sensitivity for the detection of negative phrases of 97.2%, specificity 74.61%, positive prediction value of 65.4% and a negative prediction value of 98.01%. When the regular expression function was run against a simple keyword search for certain phrases, certain terms demonstrated a significant difference in their detection when keyword searches were used before and after the negator removal function was used. The term CLO for example was detected 12.25% without negator removal and 7.25% with the function.

**Conclusions** Given the simple sentence structure of the endoscopy reports across multiple endoscopists, a simple processor-nonintensive approach to the removal of negative or normal findings is feasible. Although there is room to improve the specificity further, it is preferable to have false positives in the output result which may require minimal work to remove in the final data cleaning stage. The removal of negators is likely to have more or less of an impact based on the phrase being searched for.

**PTU-145 LOW FODMAP DIET FOR FUNCTIONAL BOWEL DISORDERS. AUDIT OF A NEW SERVICE**

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**Introduction** Functional bowel disorders are a common reason for referral to gastrointestinal services. A low FODMAP diet has been advocated as an adjunct to management for irritable bowel syndrome (IBS) especially when bloating and/or flatus are a major feature. In the last 12 months in our centre a new dietetic service was started dedicated to providing a low FODMAP diet and this audit was carried out to evaluate the service.

**Methods** All referrals to the dietitians are recorded on a Trust database and retrospective analysis of these referrals was performed. Patient demographics, source of referral, attendance at the clinic, dietary advice given, symptom response and reason for lack of response were recorded. Univariate analysis was performed to identify factors associated with poor attendance as well as lack of response.

**Results** 256 patients (mean age 41.5 years, 204 females) were referred to the service of which 188 (73.4%) attended the clinic. 230/256 (89.8%) of referrals were from gastroenterology clinics and 26 from other sources (mainly colorectal surgery). Non-attendance at clinic was not associated with sex (13/39 (25.0%) males vs. 46/195 (23.6%) females, p=0.86) or mean age (attenders 41.9 years vs. non-attenders 40.1 years, p=0.32). There was a trend to non-attendance in those not referred from gastroenterology (10/25 (40.0%) non-GI patients vs. 49/211 (23.2%) GI patients, p=0.08). 134 patients had been given dietary advice of which 83 (61.9%) was a low FODMAP diet and 51 (38.1%) was general IBS advice. To date, 69 patients have completed follow of which 55/69 (79.7%) reported overall symptomatic improvement. There was no significant difference in improvement rates between the 2 dietary regimes (38/48 FODMAP (79.2%) vs. 17/21 IBS (80.9%), p=1.0). Improvement was not associated with sex (13/17 males vs. 42/52 females, p=0.73) or source of referral (2/4 Non-GI vs 53/65 GI, p=0.18). There was a trend to non-improvement in younger patients (improved 44.7 years vs. not improved 37.9 years, p=0.08). 18 patients described barriers to the diet with 8/18 (44.4%) not following instructions, 5/18 (27.8%) describing low mood and 5/18 (27%) describing poor motivation.

**Conclusion** Dietary advice in functional gut disorders can lead to significant symptom improvement with well selected patients and this new service has been crucial in delivering this. There are few predictors of outcome based on basic clinical features but age may play a role. Further research looking at the interplay of other factors such as quality of life would be useful.

**PTU-146 BREATH TESTING FOR GI CANCERS- SCALING UP FOR CLINICAL PRACTICE**

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**Introduction** Gastrointestinal (GI) cancers are a major cause of morbidity and mortality, yet symptoms are common and non-specific. A non-invasive breath test may be a useful tool for triaging for endoscopy/CT those without red-flag symptoms, or possibly for screening. Prior studies have shown promising results of a breath test for oesophagogastric (80% sensitivity/81% specificity) and colorectal (96% sensitivity/76% specificity) cancers.

The Breath MAGIC (Models for Assessment of GI Cancer) study investigates feasibility and acceptability of breath testing in Primary Care. We also developed a quality control (QC) system for breath sampling.

**Methods** This is an prospective cohort study of patients attending their GP for current/recent GI symptoms, from November 2016-May 2017, recruitment target 500. Exhaled breath (250mL) was collected by GP practice/NIHR research nurses using the ReCIVA breath sampling device, onto thermal desorption tubes. Breath volatile organic compounds (VOCs) were analysed using Gas Chromatography (GC) and Proton Transfer Reaction (PTR) Mass Spectrometry, at St Mary’s Hospital VOC laboratory. This platform allows analysis of 100 samples per day of continuous, unattended operation. Patients were recruited from 16 London GP practices on the day or were prebooked via phone/text. Feasibility and acceptability were measured using field notes, a telephone conference then focus group of research nurses (thematically analysed), and GP questionnaires. To develop a QC system, 76 ‘good quality’ samples taken by one experienced operator were used as a standard.
**Results** Plan-Do-Study-Act cycles from field notes identified barriers and drove regular improvements e.g. phone/text recruitment, a GP poster, grouping of nearby practices, and training healthcare assistants to breathe-test. In total 636 patients were enrolled, suggesting breath testing is feasible in Primary Care. Sampling was feasible, with some equipment-related but few patient-related limiting factors reported. Analysis was also feasible, with 34% and 55% of samples analysed within <48 and 72 hours respectively. Two abundant breath compounds, almost universally present, were accurate predictors of adequate sample quality, using acetone >50 ppb (H2O +ionisation, PTR) and isoprene >2.5 ppb (NO +ionisation, PTR). This was validated on 284 separate patients’ samples. A process was also developed to interrogate ReCIVA software sampling data.

**Conclusions** Breath testing is feasible in Primary Care, from a human factors and process perspective. This finding, and the development of a QC process, opens up the possibility of large-scale breath testing, pending results of diagnostic accuracy studies. A revised recruitment target of 1000 with new patient acceptability questionnaires will likely provide further evidence for this.

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**Introduction** The outpatient services are under increasing pressure across the NHS. A novel approach to virtual outpatients was trialled in this study. The aim was to provide virtual triage and virtual co-ordination of investigations and care of gastroenterology GP referrals, avoiding a physical outpatient visit when deemed clinically safe and appropriate.

**Methods** All gastroenterology referral, excluding urgent or two-week wait referrals, from Barking, Redbridge and Havering CCG’s were included. To support local consultant capacity, we adopted an unique approach by recruiting NHS gastroenterology consultants from around the country to boost local capacity virtually. They were able to review gastroenterology referrals via the bespoke IT platform and work in their own time to meet the demand of the area.

All referrals were initially triaged by a gastroenterology consultant. The consultant could triage the patient to: GP advice only (discharge), outpatient clinic if patients were deemed too complex, and Virtual Hospital pathway. The Virtual Hospital pathway involved a combination of investigations or telephone consultations by junior doctors. All the results were reviewed by the consultant. The outcomes included discharge to GP, further investigations, or outpatient clinic review, for example, for chronic disease management.

**Results** A total of 1189 of patients were referred to the service from March 2017-January 2018. Of these, 21.19% were discharged to GP with simple advice, 14.97% were deemed too complex and reviewed in outpatient clinics, and 63.84% entered the virtual hospital pathway. The average time taken for the initial consultant triage was 5 hours and 2 min compared to several weeks for an initial outpatient appointment. 99% of referrals were triaged within 48 hours. 2.3% of routine referrals were upgraded to urgent and 1% were upgraded to cancer pathway. Of the 189 patients discharged from the Virtual Hospital, the average time for patients to complete the pathway was 10.11 weeks. No clinically adverse incidents have been reported. The service has been well received by patients, and ~1% of patients requested an outpatient visit.

**Conclusions** The Virtual hospital has created a safe and efficient healthcare pathway, utilising technology that significantly reduces hospital footfall, reducing patient waiting times and delivers system-based cost savings. We have identified a sustainable solution to improve and meet increasing demand despite limited capacity within the NHS. The Virtual Hospital demonstrates that majority of patients under virtual specialist care can be managed within the community setting or virtually. Early triage also helps reduce clinical risk for patients who would have otherwise waited several weeks for a clinic appointment.

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**Introduction** The Cytosponge™ device offers a less invasive way to test for Barrett’s oesophagus and early oesophageal cancer in patients with acid reflux symptoms. Due to the low cost compared with endoscopy, the device could have a direct impact on NHS spend. The procedure is safe, less time consuming, and should be straightforward for nurses to administer in a primary care setting. The BEST3 trial is a UK-wide randomised trial of Cytosponge™ compared with usual care, which provides an ideal opportunity to determine the feasibility and roll out of the device for administration by Practice Nurses and Clinical Research Network Nurses.

**Methods** A training module has been designed to ensure that nurses have background knowledge of Barrett’s and the clinical follow-up plan if a patient is given a positive diagnosis. Risks and benefits of having the procedure are explained and Standard Operating Procedures (SOP) are discussed to deal with any adverse events.

Training is delivered in two stages: i) Centralised training where nurses attend in groups of between 2–10 individuals using a combination of videos, PowerPoint presentations and live clinical procedures. ii) Nurses observe at least one procedure and are then supervised until they feel confident.

All nurses are then assessed by a trainer in their technique of safe delivery and withdrawal of the device. Once signed off they are able to carry out clinics independently with ongoing monitoring by the Trials Unit.

**Results** 15 CRN Nurses and 8 GP Practice Nurses from 30 surgeries have been trained during the BEST3 trial. Following