to all those tested. All HCV RNA positive were offered a clinic review 10 days after testing to commence treatment with a pangenotypic antiviral.

Results Of the 307 residents in the prison at the time of the event, 305 (99%) accepted BBV testing. A total of 98 (32%) were HCV antibody positive, of these 23 were HCV RNA detected (23% of HCV Ab pos and 8% of all tested) in keeping with active HCV. One resident was HIV positive (known) and 4 had positive syphilis serology. None were HBsAg positive. Of the 23 HCV RNA positive residents, 3 were already on antiviral treatment, 17 commenced antivirals and 3 were released before treatment could be initiated (contact planned in the community). One patient was suspected of having cirrhosis. Of the 75 HCV antibody positive but RNA negative residents 40 (53%) were known to have received antiviral treatment already and achieved sustained virological response and 10 (13%) were currently on treatment. Feedback from residents and staff on the way the HITT was conducted was good. A point of care HCV RNA testing machine is now being used to identify HCV infection among new residents to try and maintain 'elimination'.

Conclusions A high intensity test and treat weekend coupled with quick access to antiviral treatment for HCV is a highly effective way to 'eliminate' HCV within a prison. However, these sessions require meticulous planning in order to be successful.

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066 OUTCOME OF INVESTIGATION FOR SUSPECTED MALIGNANCY IN PATIENTS WITH IRON DEFICIENCY ANAEMIA WITHOUT GASTROINTESTINAL SYMPTOMS

[1]Gwilym Webb*, [1]Thomas Chapman, [2]Brian Shine, [1]Jack Satsangi, [1]Antony Ellis. *[1]Translational Gastroenterology Unit, NIHR Oxford Biomedical Research Centre, Oxford, UK; [2]Nuffield Department of Clinical Sciences, University of Oxford, Oxford, UK*

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Introduction Iron deficiency anaemia (IDA) without additional gastrointestinal (GI) symptoms is common. Due to the association with GI malignancy, investigation of the upper and lower GI tract is recommended in older adults with IDA. However, rates of specific diagnoses are incompletely defined, and criteria to permit rationalisation of investigation are unclear. The yields of repeated investigation and of testing for coeliac disease (CD) are also uncertain.

Methods Cohort study derived from a prospectively collected referrals database of patients with IDA and suspected cancer from two UK hospitals in a single NHS Trust over a 52-month period.

Results 5702 consecutive referrals were assessed and, after exclusions, 2035 patient referrals for IDA without additional GI symptoms were assessed. 1118 (54.9%) were women; median age was 74 years (IQR 66–81).

Cancer was diagnosed in 147 (7.2%) and luminal GI cancer in 120 (5.9%). For luminal cancers, the site was colorectal in 103 (5.0% of all patients), gastric in 11 (0.5%) and oesophageal in 6 (0.3%). Other diagnoses made in $\geq$1% were benign upper GI ulceration in 77 (3.8%), ulcerative colitis in 35 (1.7%), and CD in 21 (1.0%). No major diagnosis was found in 1706 (83.8%).

Those with luminal cancer were older (78 vs 74 years; p<0.001), more anaemic (Hb 89 vs 101 g/L; p<0.001), had higher CRP (38 vs 5.8 mg/L; p<0.001), lower ferritin (14 vs 15 µg/L; p=0.012), lower transferrin saturation (7 vs 9%; p<0.001), lower MCV (79.8 vs 83.2 fL; p<0.001) and lower MCHC (296 vs 302 g/L; p<0.001), and were more likely to be male (53.7% vs 44.5%; p=0.048). The single most discriminatory variable for predicting luminal cancer was haemoglobin deficit (AUROC 0.64).

After multivariable analysis, age (RR 1.56/10 years, 95%CI 1.23–1.99, p<0.001); elevated CRP (RR 1.10/10 mg/L, 1.07–1.14, p<0.001); lower MCV (RR 0.47/10 fL, 0.31–0.71, p<0.001; and male sex (RR 1.92, 1.16–3.18, p=0.011) were significant for risk of malignancy.

Of 142 patients (7.0%) referred more than once within the study period, just two had luminal gastrointestinal cancer (1.4%; p=0.027 vs first referrals).

Only 21 (1.4%) of 1485 patients who underwent duodenal biopsy had histology compatible with CD; for serology, 7 of 557 patients (1.3%) were positive.

Conclusions This study, to our knowledge the largest such cohort yet reported, provides data that will aid both patient counselling and the development of referral and investigation pathways for IDA. Repeated investigation of IDA and duodenal biopsy for CD in IDA without GI symptoms have limited yields.

067 THE DEVELOPMENT OF A WEB-BASED APPLICATION TO PREDICT THE RISK OF GI CANCER IN IDA

[1,2]Orouba Almilaji*, [3]Vegard Engen, [1]Peter Thomas, [2]Jonathon Snook. *[1]Clinical Research Unit, Bournemouth University, Bournemouth, UK; [2]Gastroenterology Unit, Poole Hospital NHS Foundation Trust, Poole, UK; [3]Department of Computing and Informatics, Bournemouth University, Bournemouth, UK*

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Introduction Gastrointestinal (GI) malignancy is a common finding in iron deficiency anaemia (IDA), with a prevalence of about 8%. We have previously reported and validated an algorithm for predicting the risk of GI malignancy in IDA – the IDIOM score. This was derived by logistic regression analysis based on four independent and objective clinical parameters - age, sex, mean corpuscular volume (MCV), and haemoglobin concentration (Hb). To facilitate the clinical use of this algorithm, a software application has been developed, with a view to providing free and simple access to healthcare professionals in the UK.

Methods A detailed requirements analysis for intended users of the application revealed the need for an automated tool in which anonymised, individual, patient data is entered and GI cancer risk is calculated and displayed. The solution needed to be user-friendly and platform independent, and needed to facilitate future communication with the development team. Human-centred design (HCD) was employed to develop the solution, focusing on the users and their needs, whilst ensuring that they are provided with sufficient details to appropriately interpret the risk score. To evaluate usability, standard usability questionnaire applied. Participants include healthcare professionals such as IDA nurse specialists, gastroenterologists, etc.

Results *Predict GI Cancer in IDA* has been developed using R Shiny as a web-based application enabling access from

different platforms with central updating. The application has been evaluated and tested through literature search, internal validation exercises, code testing, risk analysis, and usability assessments. Usability assessments (n=7) has shown mean user subjective satisfaction of 8.5 out of 10. A screenshot from the application. Plans for post-production maintenance and surveillance have been established. A technical file for the application has been written according to Medical Devices Directive (MDD) and all other relevant harmonised standards. The process of registering the application with the MHRA and for CE marking is underway.

Conclusions The application *Predict GI Cancer in IDA* generates an estimate of GI cancer risk (with 95% confidence interval), following the insertion of data for the four key variables. The whole process takes just a few seconds, which lends itself to use in busy clinical settings. Legal notices, contact system and all the supportive information for the application such as description of the population, intended users, safety information have been embedded within the application interface.

068 IMPLEMENTATION OF SYSTEMATIC LYNCH SYNDROME TESTING IN COLORECTAL CANCER: OUTCOMES FROM A PILOT PATHWAY

[1]Paul Collins*, [1]Tim Andrews, [1]Emma Atkinson, [1]Kerrie Davis, [2]Lynn Greenhalgh, [2]Emma Howard, [1]Anna Lavelle, [1]Matt Lofthouse, [1]Fran McNicol, [1]Joanne O'Connor, [1]Rachel Quinn, [1]Alistair Reid, [1]Paul Skaife, [1]Fiona Campbell. *[1]Liverpool University Hospitals NHS Foundation Trust, Liverpool, UK; [2]Liverpool Womens Hospital, Liverpool, UK*

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Introduction Lynch syndrome (LS) is an inherited genetic condition that accounts for 3.3% of colorectal tumours. Patients with LS are at risk of developing other cancers including cancer of the endometrium and urinary tract. The diagnosis of LS provides an opportunity to enrol affected patients into preventative surveillance programmes and also the opportunity to offer screening to relatives. Historically, targeted testing of patients with colorectal cancer (CRC) based on age (< 50 years) and family history has been widely adopted into common practice.

In 2017, NICE issued a recommendation for systematic testing for LS in all patients. Implementation of the guidelines poses some organisational challenges. Consent for genetic testing must be incorporated into patient pathways for those diagnosed with CRC. Co-ordinated communication between CRC MDTs and genetics laboratories is also required.

Methods A pilot pathway for LS testing was rolled out across two UK tertiary centres. Five CRC specialist nurses underwent training to consent patients for LS testing by members of the regional Clinical Genetics team. Consent was incorporated into their standard clinic review following the initial diagnosis of CRC.

LS testing was undertaken using an immunohistochemistry 4-panel test for MLH1, MSH2, MSH6 and PMS2, with sequential *BRAF* V600E and *MLH1* promotor hypermethylation testing in MLH1 IHC negative patients.

Results 189/196 (97%) patients consented to LS testing. 29/189 (15%) had abnormal IHC (potential LS patients). 6 cases of LS were confirmed on IHC alone (MSH2, n=1; MSH2 & MSH6, n=3; MSH6, n=1; PMS2, n=1). A further 6 cases were identified from the remaining patients.

Overall, 12 patients (6.3% of the tested cohort) had LS. 3 patients were <50 years old.

No adjustment to clinic numbers was required to accommodate consent for testing.

Conclusion Systematic LS testing can be incorporated into standard CRC pathways with minimal training required for existing teams to obtain consent for LS testing. There was a high uptake of LS testing among patients. Targeted testing for LS would have missed three quarters of cases, and by inference is a lost opportunity to discuss strategies to prevent cancer or detect cancer at an early stage with patients and their families.

069 OUTCOME OF DIRECT ACCESS IBD PHYSICIAN DELIVERED ENDOSCOPY FOR GENERAL PRACTICE REFERRALS WITH SUSPECTED IBD

Sohail Rahmany*, Matt Stammers, Louise Downey, Trevor Smith, Richard Felwick, Fraser Cummings, Markus Gwiggner. *University Hospital Southampton NHS Foundation Trust, Southampton, UK*

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Introduction Patients with suspected IBD referred by primary care (GP) are traditionally seen in gastroenterology outpatient clinics followed by endoscopic investigations. This 2 phase model leads to delay in diagnosis and treatment, increasing pressure on gastroenterology outpatient services while still requiring endoscopic intervention. Our novel pilot project compared outcomes between direct-access IBD physician-delivered endoscopy versus the traditional clinic model for patients with suspected IBD.

Method A prospective cohort of consecutive patients referred by GP with suspected IBD were triaged either direct to IBD endoscopy (n=50) or to outpatient IBD clinic followed by IBD endoscopy (n=50) at the discretion of 10 gastroenterology consultants grading GP referrals. Data on demographics, faecal calprotectin, C-reactive protein, endoscopy outcomes, treatment, and follow up was collected. (Group A = direct to IBD endoscopy and Group B = IBD endoscopy via IBD clinic).

Results Both groups were age and gender-matched. Group A had a higher mean calprotectin (1363 ug/g vs 302 ug/g) and a higher C-reactive protein (10.6 mg/l vs 4.5 mg/l). In Group A only 38% had a full colonoscopy versus 86% in Group B. Definitive diagnosis and treatment at time of IBD endoscopy took 27 days in Group A versus 212 days in Group B. Treatment with immunomodulators and biologics was similar in both groups but mesalazine and steroid use was higher in

Abstract O69 Table 1 Diagnostic breakdown

	Direct to endoscopy (Group A)	IBD endoscopy via IBD clinic (Group B)
Ulcerative colitis	44%	10%
Crohn's disease	18%	28%
IBDU	8%	4%
Diverticulosis/associated segmental colitis	6%	4%
IBS	24%	50%
Bile sale malabsorption	0%	4%