patients at West Middlesex University Hospital (WMUH) in London. CRCs were universally screened for tumour features suggestive of LS (Defective MMR, or dMMR) with immuno-histochemistry. We also collected clinicopathological data including age at diagnosis, stage, tumour site, histological findings and MMR tumour-status. Statistical analysis was performed using chi-square test and 2 tailed T test for binary and continuous variables respectively.

Results A cohort of 123 consecutive CRC patients were universally tested for dMMR. Twelve patients (9.8%) were MMR-deficient of which only 6 (50%) were predicated by the Bethesda Criteria. 11/12 dMMR CRCs were early stage tumours (Dukes' A or B, $p=0.002$), and in 20 Dukes' B CRCs in patient under 70 years of age, the result was directly relevant to personalised treatment with 5-FU based chemotherapy. The median age in patients with normal or abnormal MMR IHC was 64.6 years and 68.3 years respectively ($p=0.41$). With regard to histological features: mucinous tumours were more frequently manifested dMMR ($p=0.0052$), with the presence of this, signet ring cells or a lymphocytic response predictive of dMMR CRC ($p=0.023$). In all 12 patients with dMMR the cancer was located in the right colon ($p=0.00001$). MMR germline mutations were found in a total of 4 patients of which 2 (50%) had mutation of *MLH1*, in 1 case (25%) of *MSH2* and in 1 case (25%) of *MSH6*.

Conclusions Our results demonstrate that universal testing is feasible and effective in the UK. There were significant differences with regard to dMMR CRC site, stage and histological features compared to proficient MMR CRCs. Our data also indicates the importance of genetic testing and personalised oncological care as we were able to identify patients that may have not been selected for MMR testing by the Bethesda criteria.

PTU-034 GETTING THE BEST OUT OF FAECAL IMMUNOCHEMICAL TESTS AND FAECAL CALPROTECTIN

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Introduction NICE DG30 recommends the use of quantitative faecal immunochemical tests (FIT) in patients at 'low risk' for colorectal cancer (CRC). No lower age limit is advised. Colorectal cancer (CRC) is rare under the age of 50 years representing 6% of all cases, whilst inflammatory bowel disease (IBD), is much more prevalent. In support of NICE DG11 we have successfully introduced a pathway for the use of faecal calprotectin (FC) to support the diagnosis of IBD. It is not known what the relative roles of FIT and FC are in this 'low risk' for CRC population.

Methods We analysed pre-existing clinical outcome data on FC from diagnostic accuracy studies and pathway evaluations performed at York Hospital. We identified those that did not fulfil criteria for the 'two week wait' referral (NICE NG12: recommendations 1.3.1 to 1.3.3) and stratified them based on age and symptomatology. We calculated sensitivity and specificity of FC in each cohort and compared it with a published FIT comparator (Mowat et al 2015).

Results 2917 patient outcomes were reviewed. 1229 presented with a change in bowel habit under the age of 60 years, so fulfilling DG30 criteria. The prevalence of CRC was 0.5%.

The sensitivity and specificity of FC as used in the York Faecal Calprotectin Care Pathway (≤ 100 mcg/g) is presented below both for CRC and for CRC, high risk adenomatous polyps and IBD combined, aged stratified. This is compared with FIT ≥ 10 mcg/g outcomes.

Abstract PTU-034 Table 1

	Age range (yrs)	Sensitivity (CI)	Specificity (CI)	NPV (CI)	PPV (CI)
CRC					
FIT ≥ 10 mcg/g*		89.3	79.1	99.5	14.2
FC ≤ 100 mcg/g	50–59	50 (14–86)	83 (78–86)	99 (97–100)	5 (1–14)
	40–49	N/A	N/A	N/A	N/A
	30–39	100 (5–100)	89 (84–92)	100 (98–100)	3 (1–20)
	18–29	N/A	N/A	N/A	N/A
CRC, polyps and IBD					
FIT ≥ 10 mcg/g*		68.6	83.6	94.4	39.8
FC ≤ 100 mcg/g	50–59	65 (41–84)	85 (81–89)	98 (95–99)	21 (12–34)
	40–49	89 (64–98)	90 (86–93)	99 (97–100)	33 (20–48)
	30–39	100 (63–100)	92 (87–95)	100 (98–100)	31 (16–51)
	18–29	100 (83–100)	89 (85–93)	100 (98–100)	47 (34–61)

* Mowat C, et al. Gut 2015;0:1–7. doi:10.1136/gutjnl-2015-3 09 579

Similar outcomes were obtained when combining all patients fulfilling DG30 criteria (that is including those with unexplained weight loss, abdominal pain and iron deficiency anaemia).

Conclusion Despite the large numbers evaluated, the small numbers of patients with CRC make it difficult to draw any conclusions for a lower age limit upon which to apply DG30 and use FIT instead of FC. However when looking at combined CRC, high risk adenomatous polyps and IBD in this 'low risk' cohort, FC behaves similarly or better than FIT in those <50 years. As FIT is introduced in support of DG30 its performance should be benchmarked against existing FC pathways

PTU-035 THE BSG POSITION STATEMENT ON SESSILE SERRATED LESIONS WILL HAVE LIMITED IMPACT ON SURVEILLANCE WORKLOAD

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Introduction There is a lack of evidence to inform guidelines for the management of pre-malignant colorectal sessile serrated lesions (SSL). Northern Ireland (NI) is the only UK region where pathologists have diagnosed SSL (or synonyms) during reporting of Bowel Cancer Screening (BCS) specimens since inception of the programme. The aim of this study is to profile SSL diagnoses, and their risk stratification for surveillance, within BCS in NI.

Methods The NI BCS programme was initiated in April 2010, targeting 60–74 year olds through faecal occult blood testing (FOBT). Characteristics of SSL diagnoses were evaluated within the enhanced pathology database completed by all histopathologists reporting BCS specimens in NI. Data up to end March 2017 were considered for analysis, incorporating data on over 17 000 histopathological BCS specimens reviewed at one of four pathology laboratories. Individuals who received a colorectal cancer diagnosis were excluded from analysis.

Results SSL were reported in 337 individuals, representing 6.7% of all 5041 individuals who had a non-malignant histopathological BCS specimen reviewed. One male met criteria for serrated polyposis syndrome, and was excluded from further analysis. Of the remaining 336 SSL cases, 208 (61.9%) were male and 81% had only right-sided SSL detected. Large (≥ 10 mm) SSL or SSL with dysplasia accounted for 82 cases (24.4%), of which only 22 (6.5% of SSL and 0.4% of total 5041 individuals) did not have concurrent conventional adenomas that would already warrant more frequent surveillance.

Conclusions SSL cases within this FOBT screening population were predominantly male and right-sided. Of all cases of large or dysplastic SSL, 93.5% also had high or intermediate risk adenomas, which would already require follow-up colonoscopy surveillance at one or three years according to adenoma surveillance guidelines. Therefore, the 2017 British Society of Gastroenterology position statement on serrated polyps will have limited impact in this clinical setting. The clinical significance of concurrent adenomas and SSLs remains to be established.

PTU-036 THE IMPACT OF THE WELSH BOWEL SCREENING PROGRAMME ON EMERGENCY PRESENTATION FOR COLORECTAL CANCER

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Introduction Colorectal cancer (CRC) screening using faecal occult blood testing (FOBT) is effective in reducing mortality. However, more than 20% of all CRC cases present as an emergency due to bowel obstruction which is associated with poorer outcomes. The Welsh bowel screening programme, using biennial FOBT, has been running since October 2008 for people aged 60–69 years, since extended to 74 years. Previous data from an English site showed a decrease in mortality and emergency presentations of CRC. The impact of the Welsh bowel screening programme on emergency presentations for CRC is not known.

Methods Welsh participants diagnosed with CRC aged 60–74 years between 1999 and 2015 were identified from the Welsh Cancer Intelligence and Surveillance Unit register. Data was extracted from the Patient Episode Database for Wales and Bowel Screening Wales to determine route to presentation and screening uptake. Other individual, geographical and cancer-related variables were also examined for their association with emergency presentation. The primary analysis compared emergency presentation for CRC prior to and after the implementation of screening.

Results Preliminary analyses showed that 15 059 people were diagnosed with CRC, with data available for route to diagnosis on 13 022 (62% male, 38% female; mean age at diagnosis 67.7 years). The proportion of those presenting with CRC as an emergency prior to the screening programme implementation was greater than those presenting as emergencies after implementation. However, this needs to be interpreted in the context of 1) screening uptake differences over time, 2) stage differences at diagnosis over time, and 3) overall absolute numbers of cancers detected.

Conclusions Preliminary analyses suggest that the implementation of screening has reduced the proportion of emergency presentations for CRC, but further interrogation of the data is needed to aid interpretation. The impact of demographic and clinical factors on emergency presentation will be discussed.

PTU-037 OUTCOMES IN PATIENTS WHO DECLINE BOWEL CANCER SCREENING COLONOSCOPY AFTER POSITIVE FAECAL OCCULT BLOOD TESTING

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Introduction The Bowel Cancer Screening Programme (BCSP) uses the faecal occult blood test (FOBT) to identify patients who may benefit from colonoscopy to rule out potentially serious usually asymptomatic pathology. Screening of asymptomatic FOBT positive patients enables early identification and removal of premalignant adenomatous polyps thereby significantly reducing risk of progression to colon cancer.

Methods A retrospective cohort study design was employed in order to ascertain the final outcome in patients with a positive FOBT that had subsequently declined colonoscopy within the East Kent Hospitals screening programme. The records of all patients with screening appointments from January 2010 to December 2016 were reviewed in order to identify which further investigations had taken place up to 27 July 2017. Data were obtained from electronic patient records (endoscopy reports, patient letters, pathology viewer and PACS system) and included: results of subsequent colonoscopy or gastroscopy, CT, ultrasound and MRI scans, as well as histology obtained by any means. Data were collated using Microsoft Excel 2016 and analysed with SPSS v15.0.

Results The present study included 376 patients that had declined colonoscopy. The median age was 66.6 y (range 59.8–91.4). Subsequent investigations were performed in 215 (57.2%) patients and identified possible explanatory abnormalities (table 1). The follow-up period for subsequent investigations ranged from 6 months to 7 years depending on whether patients were identified at the end or the beginning of the study period, respectively. Two of four upper gastrointestinal (UGI) cancers and 8 of 24 lower gastrointestinal (LGI) cancers were diagnosed in those with the longest follow-up (i.e. the 2010/11 cohort). Of the 161 patients (42.8%) without follow-up data, 21 (13.0%) had prior diagnoses that may have accounted for a positive FOBT (e.g. gastritis, polyps, telangiectasia etc.).