Subsequently increased numbers of referrals are being made to secondary care, escalating the demand of colonoscopies and other current investigation methods.

Methods Data was collected from a prospectively maintained database between January 2011 and December 2017. 1950 patients who were assessed via our telephone triage service were included in the study. Patients were followed up until either diagnosis or discharge. The specific investigation(s) each patient underwent was recorded. And costed as per NHS tariff (2018). Using current sensitivity/specificity data related to FIT all true positive/negatives, false positives/negatives, positive predictive value and negative predictive value was calculated as if FIT was used as the diagnostic test used for each patient. This was then compared to the costing as per the current methods.

Results Median age was 65 (IQ 47–82) with 43.37% male and 56.3% female. 2898 investigations were carried out with a diagnostic yield of 26 cancers (18 colon, 8 rectal), 138 polyps and 29 high risk polyps (HGD ± >10 mm). £713,948 was spent in total for the investigations. The commonest investigation was colonoscopy and totalled £533,169. The total cost for each cancer was £28,500 per diagnosis. Sensitivity (92.1% CI 86.9–95.3) and specificity (85.8% CI 78.3–90.1) for FIT in colorectal cancer was taken from NICE and was costed via the manufacturer(s). The total cost for the same population using a ≥10 µg haemoglobin cut off would be £168,780 equating to £6492 per cancer. The total cost of high-risk polyps using ≥10 µg cut off was £233,909 (sensitivity 68.9% CI 53.2–81.4, specificity 80.2%CI 76.1–83.7) or £10,169 per polyp.

Conclusions FIT is a cheap alternative diagnostic test to replace current methods with similar effectiveness.

P304 USING FAECAL IMMUNOCHEMICAL TESTS (FIT) FOR LARGE-SCALE GUT MICROBIOTA ANALYSIS

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Introduction Accumulating evidence suggests that the gut microbiome is important in GI disease. There is an urgent need for large-scale population-based studies to better understand intestinal microbiota as a disease risk factor. However stool sampling is complex, unacceptable to some and is influenced by confounders such as bowel preparation.

We aimed to test if accurate microbiome data can be obtained from Faecal Immunochemical Test (FIT) kits (OC Sensor, Mast diagnostics) when compared to DNAGenotek tubes (OMNIgene®•GUT; OG) (current accepted standard) and fresh faeces. We considered microbiome profile stability over time, mimicking real world scenarios and explored if speed vacuum (SV) or freeze-dry (FD) concentration of samples is necessary.

Methods A faecal sample was provided by 10 healthy volunteers and immediately sampled for DNA extraction after varying periods of storage and conditions 1) Fresh 2) FIT Day 0 3) FIT Day 0 SV 4) FIT Day 0 FD 5) OG Day 10 6) FIT Day 10 7) FIT Day 10 -80°C 8) FIT Day 10 -80°C SV 9) FIT Day 10 -80°C FD 10) Fresh -80°C 11) FIT day 20.

125 samples including negative and positive controls underwent V4 16S rRNA gene sequencing. All samples were rarefied to 10,000 reads.

Results Alpha-diversity was consistent within individuals regardless of test condition with richness (P=0.9) and Shannon diversity (P=0.44) comparable across conditions. Beta-diversity based on Bray-Curtis dissimilarity showed samples grouped by patient (P<0.001) and not test condition (P=0.28), which was consistent with presence/absence Jaccard index (patient P<0.001; condition P=0.84). While overall microbiota profiles were consistent within individuals, eight genera were significantly different between fresh, OG day 10, and FIT day 10 conditions. *Blutia*, *Anaerostipes*, *Bifidobacterium*, and *Lachnospiracea* were higher in FIT samples stored for 10 days at room temperature, with *Parabacteroides*, *Bacteroides*, and *Sutterella* lower (all P>0.05). Storage of FIT samples over 20 days resulted in no significant difference in alpha- or beta-diversity, but *Parabacteroides* reduced significantly between day 0 (mean 0.9% relative abundance) and 20 (mean 0.2% relative abundance; P=0.006). Storage at **-80°C and concentrating samples by SV or FD** had no effect on alpha-diversity, beta-diversity or taxonomic profiles.

Conclusions Faecal microbiome diversity and overall taxonomic profiles were relatively consistent across test conditions. FIT kits may provide an accurate, convenient, and cost-effective means of studying the faecal microbiome in large, representative, populations.

P305 THE OPTIMAL INVESTIGATION FOR LOW RISK BRIGHT RED RECTAL BLEEDING IN PATIENTS UNDER 50 YEARS

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Introduction This study used Irish data to determine the yield of significant pathology from full vs limited endoscopy in patients under 50 years of age presenting with low-risk bright red rectal bleeding as discrepancy in practice exists between first world countries regarding the most appropriate investigation. The invasiveness, potential procedural risks and hospital resources that colonoscopy involves must be balanced with yield of pathology.

Methods This retrospective study collated data entered prospectively into the Unisoft database from the South Infirmary-Victoria University Hospital, Cork, of patients who had endoscopic evaluation for rectal bleeding between September 2017–2019. Rectal bleeding was a symptom for endoscopy in 1159 patients. Patients with other bowel symptoms (excluding rectal outlet pain & constipation), personal or family history of colorectal cancer or inflammatory bowel disease, weight loss or anaemia were excluded. The histological reports of the remaining 'low-risk' patients (n=709) were reviewed. Adenomatous polyps and cancers were considered significant pathology. The data was grouped by age into 0–29 yrs (n=68), 30–39 yrs (n=182), 40–49 yrs (n=177) for evaluation and compared with ≥50 yrs (n=282). Full vs limited colonoscopy procedures were compared.

Results Significant pathology (adenomatous polyps/tumours) was found in 105 individuals, with 8.7% of <50 year olds having significant pathology compared with 24% of ≥50 year olds. No patients <30 had 'significant pathology' with either