Abstract P123 Figure 1

Methods The database from Clinicaltrials.gov and European Union Clinical Trials Register was used to generate a list of all clinical studies set up in the UK involving adult patients with IBD. Trials posted on 09/08/2016 (publication date of the top 10 research questions) up to 16/11/2019 were included. The register was completed by trials found to be relevant based on author consensus.

Results Twenty-one non-pharmaceutical-funded clinical studies in the UK were found of which eight were randomised clinical trials, 6 were non-randomised (open label) and 7 were observational studies. As shown in figure 1, 24% of the non-pharmaceutical-driven IBD studies investigated the optimal treatment strategy considering efficacy, safety and cost-effectiveness (immunomodulators, biologics, surgery) in IBD (Priority 1). Four studies evaluated the role of diet in IBD management (Priorities 3 and 7). Development or assessment of biomarkers for stratification of patients (Priority 2) was subject of 3 studies. Fatigue, IBD-related pain, control of diarrhoea and incontinence were each subject of 2 studies (respectively Priorities 4, 8 and 6). Measuring the effect of altered gut microbiota (Priority 10) and determining the optimal treatment strategy for perianal Crohn's disease (Priority 5) was the target of 2 studies each. One study assessed surgical treatment for terminal ileal Crohn's disease (Priority 9).

Conclusions Optimal treatment strategy and the role of dietary interventions in IBD have been the most commonly studied domains in UK-led trials not sponsored by industry over a three year-period, accounting respectively for 24% and 19% of all studies. However, only 7 studies focused on patient-reported outcomes such as IBD-related pain, fatigue, and diarrhoea/incontinence. As a consequence, it remains debatable to what extent the current landscape of clinical trials adequately represents the patients' viewpoint on needs for expanded knowledge in IBD.

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P124

IN-PATIENT BURDEN OF IBD: ANALYSIS OF 16,000 ADMISSIONS IN THE LOTHIAN IBD REGISTRY (LIBDR)

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Introduction The Lothian IBD Registry (LIBDR) is a comprehensive record of all cases of IBD in Lothian, a geographical area in South East Scotland with a population of approximately 900,000. The current IBD prevalence in Lothian is 0.79% and predicted to reach 1% by 2028. We aim to describe all-cause admission characteristics for IBD patients over the last 10 years and predict the consequences to health-care provision as IBD prevalence continues to grow.

Methods The LIBDR was compiled through a capture-recapture derived prevalence estimation of IBD in Lothian¹. Hospital admission rates for this cohort were derived using pre-existing registries and electronic health record linkage by community health index (CHI) number, a unique identifier covering 100% of the population, between 01/01/2010 (start of electronic recording of data) and 30/09/2019. All admissions <24 hour duration were excluded. All diagnosis codes were recorded using the ICD-10 system. Primary care prescription data was recorded using British National Formulary (BNF) codes. Clinic attendance data was available from 01/01/2015.

Results There were 17,836 hospital admissions for 3,400 of the 8,255 patients in the LIBDR prevalent cohort in the study period. Overall the number of admissions per prevalent case is decreasing over time (figure 1(a)). IBD was the primary reason for admission in 3,715 of those admissions for 1,775 patients. Median length of stay for all admissions was 4 nights (IQR 2–9). Admissions for the cohort accounted for 202,857 bed-days, an average of 23,000 per year. The commonest reason for admissions was infection (4,639 admissions for 2,064 patients, 15% of admissions), followed by Crohn's disease (K50, 11.3% of admissions) and ulcerative colitis (K51, 9.5%). Of the patients admitted for infection, 88 patients required 197 ICU admissions. A primary care prescription for an antimicrobial, steroid, opioid or cytotoxic drug was given before 116 of these ICU admissions.

Less than half of patients admitted after 01/01/2015 were seen in clinic within 180 days prior to admission (400/870 patients). Despite this, the number of appointments per

Abstract P124 Figure 1 Change in (a) admissions and (b) appointments per prevalent case over time

prevalent case is increasing over time with a marked difference between age groups (figure 1(b)).

Hospital re-admission analysis showed 3,715 index admissions for IBD with 177 (5%) readmissions within 7 days of discharge, 313 (8%) within 14 days and 498 (13%) within 30 days. In most cases, the reason for readmission was also IBD. However, infection and abdominal pain accounted for 10% of readmissions.

Conclusions The current burden of on hospital resources from the IBD population is high. With prevalence continuing to rise, service planning will be essential to provide care for these patients.

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P125 FAECAL IMMUNOCHEMICAL TEST (FIT) IN PRIMARY CARE AS A RULE OUT TEST FOR IBD

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Introduction NICE recommends faecal calprotectin (FCP) testing as an option to support clinicians with the differential diagnosis of inflammatory bowel disease (IBD) or irritable bowel syndrome (IBS) in adults with recent onset lower gastrointestinal symptoms for whom specialist assessment is being considered, if cancer is not suspected.¹ Our local IBS pathway advocates use of FCP to support the above and is requested in secondary care. More recently faecal immunochemical test (FIT) for faecal haemoglobin concentration has been shown to safely and objectively determine a patient's risk of significant bowel disease (SBD) (colorectal cancer (CRC), higher risk adenoma (HRA) and IBD² and has been available to primary care in our area since July 2018. We examined all patients having both FCP and FIT testing in our centre to determine whether a negative FIT could be used as a rule out test for IBD in our population.

Methods All patients over the age of 16 who had both a FIT and FCP between July 2018 and November 2019 in NHS Grampian were included in this retrospective study. Data on demographics, endoscopy and imaging results and diagnosis were collected.

Results 191 (124 F, 67 M) patients from 17–90 yrs (median 47 yrs) had both a FIT and FCP. In 155/191 patients (81.2%) the FIT was performed in primary care first (median age of patient 47) before subsequent FCP in secondary care. FIT was negative (<10) in 113/155 (72.9%) of these patients. FCP was subsequently positive (>50) in 24/113 (21.2%) of these FIT negative patients. The final diagnosis in these FIT negative/FCP positive patients was: 7 diagnosis unclear (all had normal colonoscopy), 4 diverticular disease, 3 known/pre-existing IBD, 3 IBS, 3 bile acid malabsorption, 2 microscopic colitis, 1 Crohn's, 1 haemorrhoids.

22/191 patients (11.5%) were diagnosed with IBD. 21/22 (95.5%) of these had a positive FIT. (n=5 10–100, n=4 201–400, n=10 > 400). This is compared to 20/22 (90.9%) who had a positive FCP.

Conclusions In our population, a negative FIT is a good 'rule-out' test for IBD and has a similar sensitivity to FCP. An advantage of FIT is that it can also be used to rule out other SBD including CRC and HRA. FIT could therefore be substituted for

FCP in our IBS pathway avoiding the need for secondary care FCP requests. Consideration should be given as to whether the NICE guidance¹ should be reviewed/amended to include FIT.

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P126 PHENOTYPIC CHARACTERISATION OF SUSPECTED SMALL BOWEL CROHN'S DISEASE WITH NATURAL LANGUAGE PROCESSING OF MRE REPORTS

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Introduction Location and Behaviour are important considerations in the phenotypic characterisation of Crohn's disease. Although enteroscopy and video capsule endoscopy allow direct visualisation of the small bowel mucosa, radiographic examinations (CT and MRI) are less invasive and provide additional information in stricturing and penetrating disease. Such studies tend to be reported in semi-structured free-text which presents a challenge for automated classification of large cohorts. We set out to write a natural language processing (NLP) algorithm to extract phenotypic characteristics from the magnetic resonance enterography (MRE) reports of patients with suspected Crohn's disease to help define our local IBD population.

Methods Reports from 904 consecutive MRE scans in our hospital trust were anonymised and imported into a Microsoft Excel datasheet. A senior gastroenterology trainee encoded phenotypic characteristics of Crohn's disease into new attribute columns to provide a 'ground truth' reference. The anonymised raw dataset was also imported into a Python pandas dataframe for NLP. The NLP algorithm:

1. Separated all words by a single space, converted to lower case and removed superfluous punctuation
1. Corrected spelling of key words using a Levenshtein threshold
2. Identified disease phenotypes by matching regular expressions
3. Excluded negating phrases with pre- and post-concept regular expressions
4. Excluded positive diagnoses documented within a family history

Abstract P126 Table 1

	Sensitivity (%)	Specificity (%)	Positive predictive value (%)	Negative predictive value (%)
Family history of CD	97	100	100	100
MRE interpretation: CD	98	94	95	97
CD phenotype: stricturing	90	98	87	98
CD phenotype: penetrating	88	99	88	99