



Report of the results for the national clinical audit of adult inflammatory bowel disease inpatient care in Scotland

Round 3

February 2012

Scotland report

Prepared by the UK IBD Audit Steering Group on behalf of:



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Report authors and acknowledgements

Dedication

We wish to dedicate this report to the memory of Dr Keith Leiper MD, FRCP who sadly passed away on 21 October 2011. Dr Leiper worked to develop and deliver the inaugural 2006 round of the UK IBD audit and subsequently saw his vision turned into reality with the successful development and pilot of the IBD Quality Improvement Project (IBDQIP). On behalf of the UK IBD Audit Steering Group, we wish to acknowledge the hard work, commitment, enthusiasm and humour that Keith brought to the UK IBD audit.

Report prepared on behalf of the UK IBD Audit Steering Group

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The Royal College of Physicians of London and the UK IBD Audit Steering Group (Appendix 2) would like to thank and acknowledge all who have participated in the piloting and development of the audit. We would also like to acknowledge the input from participating NHS hospitals for their helpful suggestions and comments on ways to improve the audit following the 2006 and 2008 rounds of data collection.

The web based data collection tool was developed by Netsolving Ltd.

The UK IBD Audit Steering Group recognises that participation in the audit has involved many individuals spending time over and above an already heavy workload with no financial recompense.

The members of the UK IBD Audit Steering Group represent the following bodies:

- Crohn's and Colitis UK
- Royal College of Physicians, London
- Royal Pharmaceutical Society of Great Britain
- The Association of Coloproctology of Great Britain and Ireland
- The British Dietetic Association
- The British Society of Gastroenterology
- The British Society of Paediatric Gastroenterology, Hepatology and Nutrition
- The Primary Care Society for Gastroenterology
- The Royal College of Nursing Crohn's and Colitis Special Interest Group

The UK IBD audit 3rd round is commissioned by:

- Healthcare Improvement Scotland
- The Healthcare Quality Improvement Partnership

Section 1: Executive summary

Background

The incidence of the inflammatory bowel diseases, ulcerative colitis and Crohn's disease continues to rise and is now estimated to affect 1 in 200 people in developed countries with men and women equally affected. These conditions are common in Scotland which has a high incidence and prevalence and a north to south gradient (Armitage EL, Gastroenterology 2004; 127(4):1051-7). These incurable diseases have profound life changing effects often beginning in childhood and persisting throughout life. The total cost of IBD to the NHS was estimated at £720 million in 2006, based on an average cost of £3,000 per patient per year with up to half of total costs for relapsing patients¹. The cost may now be considerably more due the rapid expansion in the use of biological drugs in recent years.

The first round of the UK IBD audit in 2006 demonstrated unacceptable variation in the resource and quality of care for IBD patients in the UK. The second round demonstrated that considerable progress had been made, for example in the provision of IBD nurse specialists, but it was clear at this stage that further improvement was still required.

The UK IBD audit has been widely supported by clinicians. 212 hospitals across the UK, including 11 Scottish sites contributed data towards the 1st Round with 227 hospitals providing clinical admission data for this round. Following each round change implementation has been supported with regional meetings, including a Scotland wide meeting held in Glasgow in 2010 and a web based document repository.

Although IBD was not part of the National Service Framework program, results from the first round of the audit were a catalyst for the development of the National Service Standards for the healthcare of people who have Inflammatory Bowel Disease (<http://www.ibdstandards.org.uk>). The UK IBD audit has, together with the adoption of the IBD Standards, driven quality improvement in IBD care and has realised substantial improvements over a relatively short period of time. Data from the UK IBD audit has been recognised by the Care Quality Commission. Data from the UK IBD audit 2nd round was included in the 2009 annual health check and data from the 3rd round will also contribute towards Quality Accounts in England and Wales.

Overall summary

Data presented in this report demonstrates clear evidence of sustained improvements in the quality of care for IBD inpatients in Scotland over the 3 rounds of UK IBD Audit. Having the perspective of a 3rd round illustrates an ongoing audit process driven forward, and supported by, committed IBD Services across the Scotland.

Substantial continued improvements are seen for patients with both Ulcerative colitis and Crohn's disease. In patients with UC, readmission rates have lowered and the percentage of patients being seen by an IBD nurse specialist during their admission has increased sharply since the first round. The collection of stool samples for Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) has continued to improve with no positive CDT samples in Scotland. The prescription of prophylactic heparin has continued to rise. There has also been a substantial increase in laparoscopic surgery but this lags behind national results. Similarly, although the prescription of bone protection has increased this also lags behind national results. The use of rescue therapy for patients failing to respond to corticosteroids remains at a low in Scotland. The cause for this is unclear.

For patients admitted with Crohn's disease (CD) more are admitted under specialist teams and the number of patients seen by an IBD nurse specialist during their admission has more than doubled across rounds. The prescription of prophylactic heparin the collection of stool cultures and CDT samples has also increased greatly, with no positive CDT samples. Patients are being weighed more frequently although only 40% are seen by a dietician, a figure that has remained constant across rounds. The number of laparoscopic operations has reduced since the second round and as above although the use of bone protection has increased, this lags behind national results. Whilst nationally the use of anti-TNF

therapy for patients admitted with CD has doubled since the first round this has not taken place in Scotland with use being static.

In summary, the UK IBD audit continues to demonstrate significant changes in the delivery of IBD care over a relatively short time period but there remains more to be done. This is an on-going process and further rounds of audit will support the continued improvement in the quality of care for IBD patients. The key action points are as follows:

- The Scottish government must be encouraged to support future rounds of the UK IBD audit so that it can continue to drive quality improvement in IBD care.
- All NHS Health Boards should review their local audit results in relation to the 2010 BSG Guidelines for the Management of IBD along with the related Scottish Medicines Consortium and NICE MTA guidance and take any necessary action to further improve their IBD Services
- Clinical teams should review the results provided in their individualised site reports in line with the key findings and recommendations

Key results

Tables 1 and 2 show respectively the key combined Scotland results from the ulcerative colitis and Crohn's disease admissions data that were entered by the 11 adult sites that participated in the audit. This data is shown alongside UK results in order that a direct comparison can take place. Any statistically significant change is represented by an asterisk to the right of the 2010 Scotland results data column.

Table 1: Key results for adult IBD care – ulcerative colitis. UK results v Scotland results

Table 1: Key results for adult IBD care – ulcerative colitis. Scotland results v UK results			
	2010 UK results (3049 admissions in total of which 2554 elective)		2010 Scotland results (141 admissions in total of which 121 elective)
1. Did the patient die during the admission?	28/3049 (1%)		1/141 (0.7%)
2. Where the patient had a pre-admission diagnosis of UC had they been admitted for UC in the 2 years prior to the audited admission?	656/2002 (33%)		31/96 (32%)
3. Were non-elective patients seen by an IBD nurse during their admission?	1067/2554 (42%)		61/121 (50%)*
4. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples requested, in non-elective patients with diarrhoea (<i>recorded in the first full day following admission</i>)?	SSC 1537/1937 (79%)		SSC 71/93 (76%)
	CDT 1414/1937 (73%)		CDT 69/93 (74%)
5. Were the stool samples positive?	SSC 33/1537 (2%)		SSC 0/71 (0%)
	CDT 22/1414 (2%)		CDT 0/69 (0%)
6. Was prophylactic Heparin prescribed?	2668/3049 (88%)		121/141 (86%)
7. Was the patient prescribed Ciclosporin or Anti TNF during the admission? (non-electives who did not respond to corticosteroids)	Ciclosporin 225/763 (29%)		Ciclosporin 0/26 (0%)*
	Anti TNF 160/763 (21%)		Anti TNF 4/26 (15%)
8. Did the patient respond to treatment with Ciclosporin or Anti TNF	Ciclosporin 141/225 (63%)		Ciclosporin N/A
	Anti TNF 132/160 (83%)		Anti TNF 3/4 (75%)
9. In patients undergoing surgery, was this undertaken laparoscopically?	Elective	205/490 (42%)	Elective
	Non-Elective	98/317 (31%)	3/20 (15%)* Non-Elective 4/17 (24%)*
10. If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?	1443/2194 (66%)		38/100 (38%)*

Table 2: Key results for adult IBD care – Crohn’s disease. UK results v Scotland results

Table 2: Key results for adult IBD care – Crohn’s disease. UK results v Scotland results		
	2010 UK Results (3122 admissions in total of which 2571 elective)	2010 Scotland results (168 admissions in total of which 136 elective)
1. Did the patient die during the admission?	21/3122 (1%)	3/168 (2%)
2. Was the patient admitted under the care of a gastroenterology specialist?	983/2571 (38%)	67/136 (49%)*
3. Did the patient see an IBD nurse during their admission?	905/2571 (35%)	68/136 (50%)*
4. Was Anti-TNF therapy prescribed during the admission? (only includes non-elective patients indicated as not receiving Anti-TNF on admission)	186/2509 (7%)	5/127 (4%)
5. In patient started on Anti TNF during this admission, did they respond to the treatment?	163/186 (88%)	5/5 (100%)
6. Was prophylactic Heparin prescribed?	2708/3122 (87%)	145/168 (86%)
7. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples requested, in non-elective patients with diarrhoea (<i>recorded in the first full day following admission</i>)?	SSC 726/1309 (55%) CDT 657/1309 (50%)	SSC 43/65 (66%) CDT 42/65 (65%)
8. Were non-elective patients seen by a dietician during the admission?	980/2571 (38%)	60/136 (44%)
9. Were non-elective patients weighed during the admission?	1846/2571 (72%)	116/136 (85%)*
10. In patients undergoing surgery, was this undertaken laparoscopically?	326/1020 (32%)	10/68 (15%)*
11. Does the patient smoke?	931/3122 (30%)	51/168 (30%)
12. How many patients had been taking steroids (at any time) for longer than 3 months continuously prior to the admission?	664/3122 (21%)	42/168 (25%)
13. Was bone protection used in patients taking steroids for more than 3 months continuously?	404/600 (67%)	18/38 (47%)*
14. What treatment was the patient taking for Crohn’s disease on admission?		
5-ASA (both alone or in combination with any another medication)	1073/3122 (34%)	56/168 (33%)
5-ASA only	404/3122 (13%)	18/168 (11%)
5-ASA without any of Azathioprine, Mercaptopurine, Methotrexate or Anti-TNF	662/3122 (21%)	32/168 (19%)
Either Azathioprine, Mercaptopurine or Methotrexate alone	315/3122 (10%)	25/168 (15%)*
Either of Azathioprine, Mercaptopurine or Methotrexate <u>AND</u> Anti-TNF	121/3122 (4%)	9/168 (5%)

The key results detailed below in Tables 3 and 4 show corresponding results from the 2006, 2008 and 2010 rounds of the Scottish results from the IBD audit, wherever directly comparable. These data were compiled by comparing only the results from the 7 sites that took part in all three rounds (with the same site composition in each round). The figures shown in the tables indicate the number and percentage where the response was 'yes' to each question. Any statistically significant change is represented by an asterisk to the right of the 2010 data column.

Table 3: Key results for adult IBD care in Scotland – ulcerative colitis across all rounds

Table 3: Key results for adult IBD care in Scotland – ulcerative colitis across all rounds			
	2006 (73 comparable cases of which 58 non- elective)	2008 (82 comparable cases of which 65 non-elective)	2010 (64 comparable cases of which 59 non- elective)
1. Did the patient die during the admission?	0/73 (0%)	3/82 (4%)	0/64 (0%)
2. Where the patient had a pre-admission diagnosis of UC had they been admitted for UC in the 2 years prior to the audited admission?	40/59 (68%)	35/68 (51%)	20/50 (40%)*
3. Were non-elective patients seen by an IBD nurse during their admission?	14/58 (24%)	10/65 (15%)	20/59 (34%)
4. Were stool samples sent for Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) in non-elective patients with diarrhoea (recorded in the first full day following admission)?	SSC 19/34 (56%) CDT 14/34 (41%)	SSC 26/41 (63%) CDT 24/41 (59%)	SSC 35/42 (83%)* CDT 33/42 (79%)*
5. Were the stool samples positive?	NOT ASKED	SSC 1/26 (4%) CDT 1/24 (4%)	SSC 0/35 (0%) CDT 0/33 (0%)
6. Was prophylactic Heparin prescribed for non-elective admissions?	23/58 (40%)	46/65 (71%)	49/59 (83%)*
7. Non-elective patients prescribed, but not responding to, corticosteroids during the admission who received either Ciclosporin or Anti TNF therapy?	Ciclosporin 4/23 (17%) Anti TNF 2/23 (9%)	Ciclosporin 1/15 (7%) Anti TNF 0/15 (0%)	Ciclosporin 0/25 (0%) Anti TNF 3/25 (12%)
8. Did the patient respond to treatment with Ciclosporin or Anti TNF?	Ciclosporin 1/4 (25%) Anti TNF 0/2 (0%)	Ciclosporin 1/1 (100%) Anti TNF 0/0 (0%)	Ciclosporin 0/0 (0%) Anti TNF 2/3 (67%)
9. Was the surgery performed on elective patients undertaken laparoscopically?	1/15 (7%)	3/16 (19%)	3/5 (60%)*
10. Was the surgery performed on non-elective patients undertaken laparoscopically?	0/12 (0%)	1/9 (11%)	2/9 (22%)
11. If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?	9/42 (21%)	9/46 (20%)	24/39 (62%)*

Table 4: Key results for adult IBD care in Scotland – Crohn’s disease across all rounds

Table 4: Key results for adult IBD care in Scotland – Crohn’s disease across all rounds			
	2006 (102 comparable cases of which 89 non-elective)	2008 (106 comparable cases of which 92 non-elective)	2010 (90 comparable cases of which 75 non-elective)
1. Did the patient die during the admission?	5/102 (5%)	1/106 (1%)	2/90 (2%)
2. Were non-elective patients seen by an IBD nurse during their admission?	13/89 (15%)	15/92 (16%)	26/75 (35%)*
3. Was Anti-TNF therapy given during the admission? (only includes non-elective patients indicated as not already receiving Anti-TNF therapy on admission)	2/88 (2%)	4/90 (4%)	1/69 (1%)
4. Was prophylactic Heparin prescribed for non-elective admissions?	47/89 (53%)	65/91 (71%)	61/75 (81%)*
5. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples sent, in non-elective patients with diarrhoea (<i>recorded in the first full day following admission</i>)?	SSC 16/24 (67%) CDT 8/24 (33%)	SSC 21/31 (68%) CDT 19/31 (61%)	SSC 24/33 (73%) CDT 23/33 (70%)*
6. Were non-elective patients seen by a dietician during the admission?	35/89 (39%)	27/92 (29%)	33/75 (44%)
7. Were non-elective patients weighed during the admission?	37/89 (42%)	41/92 (45%)	62/75 (83%)*
8. Were non-elective patients both weighed and seen by the dietician during the admission?	24/89 (27%)	20/92 (22%)	33/75 (44%)*
9. Was the surgery performed on elective patients undertaken laparoscopically?	0/13 (0%)	5/13 (38%)	2/14 (14%)*
10. Was the surgery performed on non-elective patients undertaken laparoscopically?	1/24 (4%)	1/14 (7%)	3/22 (14%)
11. Was the patient a smoker at the time of admission?	35/102 (34%)	41/106 (39%)	30/90 (33%)

Key Findings

Ulcerative colitis key findings

(The key findings relate to the results indicated in tables 1 and 3 above)

1. There has been a statistically significant reduction (68% to 40%) in the number of patients who had been admitted to hospital for UC in the 2 years prior to the audited admission. It could be argued that this drop in readmission rates is due to more responsive outpatient services as demonstrated in the national organisational audit of adult IBD services in the UK published by the UK IBD Audit Steering Group in May 2011. This showed that over 90% of sites reported that they could see relapsing patients within 7 days of referral
2. The number of admitted non-elective patients being seen by an IBD nurse practitioner has increased. (24% to 34%)
3. Stool samples are now being sent significantly more frequently for both Standard Stool Cultures (SSC), (56% to 83%) and Clostridium Difficile Toxin (CDT), (41% to 79%) for UC patients admitted with diarrhoea recorded in the first full day following admission
4. No samples were positive for CDT in Scotland in round 3.
5. Prophylactic Heparin is being prescribed significantly more frequently (40% to 83%). 6.4% (9/141) of patients had a thrombotic episode during their admission in the third round
6. For patients failing to respond to intravenous steroids the use of rescue therapy remains low compared to national results (Round 3: Ciclosporin – UK = 29% and Scotland = 0% / Anti TNF - UK = 21% and Scotland = 15%). There has been a reduction in the use of ciclosporin and an increase in the use of Anti TNF over the 3 rounds in Scotland (Ciclosporin 17% to 0% and Anti TNF 9% to 12%)
7. Laparoscopic surgery has increased markedly (7% to 60%) across the rounds but is done less frequently than in other parts of the UK
8. The prescription of bone protection for patients discharged on steroids has increased (21% to 62%) as recommended in the BSG Guidelines but is prescribed less frequently when compared to national results.

Crohn's disease key findings

(The key findings relate to the results indicated in tables 2 and 4 above)

1. More patients are admitted under GI specialists in Scotland compared to national results (UK = 38%, Scotland = 49.3%)
2. There has been a sharp increase in the number of admitted non-elective patients being seen by an IBD nurse practitioner over the rounds of audit (15% to 35%)
3. The collection of stool cultures and CDT samples continues to rise and it is of note that there were no positive CDT samples in Scotland (SSC 67% to 73% / CDT 33% to 70%)
4. The use of prophylactic heparin has increased significantly across the rounds of audit (53% to 81%)
5. The number of patients being weighed has increased markedly over the audit but only 44% are seen by a dietician
6. 11% (18/168) of patients were taking 5-ASA drugs as the sole medication for their Crohn's disease on admission in 2010. A further 19% (32/168) were taking 5-ASA drugs on admission with other medication but not in conjunction with any of Azathioprine, Mercaptopurine, Methotrexate or Anti-TNF therapy
7. There has been a reduction in the number of operations performed laparoscopically since the last round (38% to 14%)
8. The use of Anti-TNF therapy for patients admitted with Crohn's disease has not increase over 3 rounds of audit and remains at a low level (R1 = 2% / R2 = 4% / R3 = 1%)
9. The use of bone protection has increase across the rounds but this lags behind levels of use seen nationally (UK = 58% and Scotland = 48.4%)

Key recommendations

- All IBD patients with diarrhoea should have stools sampled for both Standard Stool Cultures and Clostridium Difficile Toxin testing.
- All appropriate IBD patients should be given heparin to reduce the risk of thromboembolism.
- Clinicians should consider the use of rescue medical therapy for patients that do not respond to intravenous steroids.
- Where IBD Services have IBD clinical nurse specialist provision, the nurse should always be made aware of any IBD inpatient that is planned to commence Anti-TNF treatment to ensure appropriate counselling and screening is undertaken prior to the infusion.
- Bone protection should be prescribed to all patients who receive corticosteroids
- Further long term data is needed on the safety, efficacy and appropriateness of use of Anti-TNF drugs. IBD Services are encouraged to participate in the ongoing Biologics audit element of the UK IBD audit (www.ibdbiologics.org)
- IBD Services are strongly encouraged to review the maintenance strategies for Crohn's disease. Many patients with Crohn's disease were admitted on 5-ASA drugs and there is no evidence that 5-ASA is superior to placebo for the maintenance of medically induced remission in Crohn's disease.
- The use of immunomodulators and biological therapies, in keeping with the 2011 BSG Guidelines for the management of inflammatory bowel disease in adults, will help to reduce long-term steroid use and the need for admission
- Many IBD patients suffer from malnutrition. A dietician should see all Crohn's disease inpatients and a multidisciplinary nutrition support team must be available to IBD Services to offer advice on those patients who may require more complex enteral and/or parenteral nutritional support.
- Smoking cessation is an important factor in maintaining remission and reducing the risk of relapse in Crohn's disease. IBD Services should do more to encourage patients with Crohn's disease to engage with formal smoking cessation services

Section 2: Background information

The burden of inflammatory bowel disease

Although absent from the National Service Framework program, the inflammatory bowel diseases, ulcerative colitis (UC) and Crohn's disease (CD), are common causes of gastrointestinal morbidity in the UK. It is estimated that up to 0.5% of European and North American populations are affected. Scotland is a high prevalence area with a north to south gradient (Armitage EL, Gastroenterology 2004; 127(4):1051-7). IBD most commonly first presents in the second and third decade but much of the recent increase has been observed in childhood, notably with CD in children increasing 3 fold in 30 years. IBD is not curable, UC and CD are lifelong conditions following an unpredictable relapsing and remitting course. 25% of UC patients will require colectomy and approximately 80% of CD patients require surgery over their lifetime. The main symptoms are diarrhoea, abdominal pain and an overwhelming sense of fatigue. Associated features such as arthritis, anal disease, fistulae, abscess and skin problems can also contribute to a poor quality of life. In addition, there are wide ranging effects on growth and pubertal development, psychological health, education and employment, family life and pregnancy and fertility. Effective multidisciplinary care can attenuate relapse, prolong remission, treat complications and vastly improve quality of life.

UK IBD audit aims

The UK IBD audit seeks to improve the quality and safety of care for all IBD patients in hospitals throughout the UK by assessing individual patient care and the provision and organisation of IBD service resources.

As with the 1st (adult only) and 2nd round reports this 3rd round UK IBD audit report enables each participating site to compare or benchmark their performance against national statistics. Following the previous rounds of the audit the UK IBD Audit Steering Group looked to develop intervention strategies to ensure that the findings were acted upon. This comprised the widespread dissemination of results to participating sites through registered site clinical leads and hospital management. The results of all national reports were publicly available via the UK IBD audit section of the Royal College of Physicians website. The UK IBD audit hosted well-attended regional meetings throughout the UK to discuss the audit results following both rounds of the audit. Data from both rounds was also presented at key professional and patient meetings including those of the British Society of Gastroenterology, Association of Coloproctology of Great Britain & Ireland, British Dietetic Association, Royal College of Nursing (IBD Nurse Forum) and Crohn's and Colitis UK.

A number of participating sites collaborated with members of the UK IBD Audit Steering Group to develop a model 'Action Plan' for IBD Services that addressed the key messages from the 1st round report. The model action plan was accessible via the internet and contained freely adaptable reference documents such as care pathways, model business cases for IBD clinical nurse specialist posts and patient information leaflets that could be downloaded and edited to meet local requirements. Visits to 23 randomly-selected hospitals that participated in the 1st round of the IBD audit were carried out, during which a clinical member of the IBD Audit Steering Group worked alongside the health professional team responsible for IBD care to develop an action plan for their IBD Service that would address areas for improvement identified in their 1st round site specific report.

The full report is supported by the UK IBD Audit Steering Group.

Further information on the work of the UK IBD audit project can be accessed via the [Clinical Effectiveness & Evaluation Unit section](#) of the Royal College of Physicians website.

Availability of audit results in the public domain

Full and executive summary copies of this report will be available in the public domain via the Royal College of Physicians, London external [website](#). The national report of results will be made available to the Department of Health in England, Healthcare Improvement Scotland, NHS Wales Health & Social Care Department and the Department of Health, Social Services and Public Safety in Northern Ireland.

A limited number of key data results for each of the 11 individual sites that contributed clinical audit data in this round are published in the public domain in section 5 of this report, as agreed with audit participants. These data items were agreed by the Steering Group as giving an indication of how individual sites are performing in relation to key areas of IBD care of specific interest to IBD patients.

Section 3: Further highlighted results

National comparisons

Table 5 and Table 6 depict any national variations between the 2010 results for Scotland, England, Northern Ireland and Wales for ulcerative colitis and Crohn's disease respectively. Any statistically significant change between Scotland and all other countries combined is represented by an asterix to the right of the Wales data column.

Table 5: Ulcerative colitis key indicator results for Scotland, England, Northern Ireland and Wales in 2010

Table 5: Ulcerative colitis key indicator results for Scotland, England, Northern Ireland and Wales in 2010				
	Scotland	England	Northern Ireland	Wales
1. Did the patient die during the admission?	1/141 (0.7%)	24/2606 (0.9%)	0/130 (0%)	2/165 (1.2%)
2. Did the patient have any previous admissions during the last 2 years?	31/96 (32.3%)	570/1725 (33.0%)	27/83 (32.5%)	26/92 (28.3%)
3. Was the patient seen by an IBD nurse during their admission?	91/121 (50.4%)	944/2186 (43.2%)	11/114 (9.7%)	51/126 (40.5%)*
4. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples requested, in patients with diarrhoea?	SSC 71/92 (77.2%)	SSC 1325/1640 (80.8%)	SSC 66/84 (78.6%)	SSC 73/85 (85.9%)
	CDT 69/91 (75.8%)	CDT 1223/1612 (75.9%)	CDT 52/83 (62.7%)	CDT 68/85 (80.0%)*
5. Were the stool samples positive?	SSC 0/71 (0%)	SSC 32/1325 (2.4%)	SSC 0/66 (0%)	SSC 1/73 (1.4%)
	CDT 0/69 (0%)	CDT 20/1223 (1.6%)	CDT 0/52 (0%)	CDT 2/68 (2.9%)
6. Was prophylactic Heparin prescribed?	101/121 (83.5%)	1893/2186 (86.6%)	102/114 (89.5%)	102/126 (81.0%)
7. Percentage of patients receiving rescue therapy (Ciclosporin ± Anti TNF)	4/26 (15.4%)	340/659 (51.6%)	19/39 (48.7%)	13/34 (38.2%)*
8. Was the patient prescribed Ciclosporin or Anti TNF during the admission?	Ciclosporin 0/26 (0%)	Ciclosporin 207/659 (31.4%)	Ciclosporin 10/39 (25.6%)	Ciclosporin 8/34 (23.5%)*
	Anti TNF 4/26 (15.4%)	Anti TNF 141/659 (21.4%)	Anti TNF 9/39 (23.8%)	Anti TNF 5/34 (14.7%)
9. Did the patient respond to treatment with Ciclosporin or Anti TNF	Ciclosporin NA	Ciclosporin 132/207 (63.8%)	Ciclosporin 4/110 (40.0%)	Ciclosporin 5/8 (62.5%)
	Anti TNF 3/4 (75.0%)	Anti TNF 118/141 (83.7%)	Anti TNF 8/9 (88.9%)	Anti TNF 3/5 (60.0%)
10. What was the median (IQR) time between admission and surgery in non-elective patients?	6 (3, 8)	9 (5, 14)	10 (4, 14)	7 (6, 20)
11. In patients undergoing surgery, was this undertaken laparoscopically?	7/37 (18.9%)	271/685 (39.6%)	5/32 (15.6%)	19/51 (37.3%)
12. If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?	38/100 (38.0%)	1267/1896 (66.8%)	60/91 (65.9%)	77/102 (75.5%)

Table 6: Crohn's disease key indicator results for Scotland, England, Northern Ireland and Wales in 2010

Table 6: Crohn's disease key indicator results for Scotland, England, Northern Ireland and Wales in 2010				
	Scotland	England	Northern Ireland	Wales
1. Did the patient die during the admission?	3/168 (1.8%)	17/2619 (0.7%)	0/139 (0%)	1/85 (0.5%)
2. Was the patient admitted under the care of a gastroenterologist?	67/136 (49.3%)	842/2160 (39.0%)	32/123 (26.0%)	40/141 (28.4%)*
3. Was the patient seen by an IBD nurse during their admission?	68/136 (50.0%)	786/2160 (36.4%)	5/123 (4.1%)	46/141 (32.6%)*
4. Was Anti TNF prescribed during the admission?	3/127 (3.9%)	168/1936 (8.7%)	7/112 (6.3%)	5/134 (3.7%)
5. In patients started on Anti TNF during this admission, did they respond to this treatment?	5/5 (100%)	148/168 (88.1%)	7/7 (100%)	2/5 (100%)*
6. Was prophylactic Heparin prescribed?	145/168 (86.3%)	2285/2619 (87.3%)	124/139 (89.2%)	151/185 (81.6%)
7. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples requested, in patients with diarrhoea?	SSC 43/61 (70.5%)	SSC 625/1028 (60.8%)	SSC 26/53 (49.1%)	SSC 31/54 (57.4%)
	CDT 42/61 (69.9%)	CDT 560/1017 (55.1%)	CDT 23/54 (42.6%)	CDT 30/54 (55.6%)*
8. Was the patient seen by a dietician during the admission?	60/136 (44.1%)	831/2160 (38.5%)	38/123 (30.9%)	49/141 (34.8%)
9. Was the patient weighed during the admission?	116/136 (85.3%)	1574/2160 (72.9%)	70/123 (56.9%)	79/141 (56.0%)*
10. What was the median (IQR) number of days between admission and surgery in non-elective patients?	2 (1, 5)	3 (1, 9)	8 (6, 9)	2 (1, 5)
11. In patients undergoing surgery, was this undertaken laparoscopically?	20/68 (29.4%)	301/846 (35.6%)	14/30 (46.7%)	26/76 (34.2%)
12. Does the patient smoke?	51/168 (30.4%)	780/2619 (29.8%)	37/139 (26.6%)	59/185 (31.9%)

IBD clinical nurse specialist involvement with IBD inpatients

Traditionally the resource of an IBD nurse has been mainly utilised in outpatient settings. More recently the work of the IBD nurse has begun to involve more interaction with IBD inpatients. The first national prospective IBD nurse audit was conducted by the Royal College of Nursing IBD Network Group in May 2011. The executive report will be launched by the group in early 2012 and will contain a detailed breakdown of IBD nurse specialist roles and skills. Readers are directed toward this document for further information pertaining to the detailed activities of the IBD nurse specialist.

Table 7 below combines results from the clinical audit and organisational audit elements of the UK IBD audit 3rd round looking at clinical audit data from sites that indicated in the organisational audit that they had some (> 0) IBD nurse provision.

The data suggests that at sites where there is an IBD nurse specialist, the nurse is more likely to see the patient if they are being started on anti-TNF therapy during an admission.

Table 7 – IBD nurse specialist involvement in inpatient care

Table 7: At sites which indicated in the 2010 organisational audit element of the UK IBD audit 3rd round that they had > 0 IBD nurse provision: Was any patient (who was not receiving anti-TNF therapy on admission) given anti-TNF therapy during the admission and seen by an IBD nurse?

Did the IBD nurse see the patient during the admission?	Was the patient given anti-TNF therapy during the admission?		p value
	No	Yes	
No	893 (57.9%)	34 (22.8%)	<0.001
Yes	649 (42.1%)	115 (77.2%)	

Invitation to join a writing group to conduct further analysis on the audit data

The UK IBD Audit Steering Group would welcome approaches via ibd.audit@rcplondon.ac.uk to join a writing group that will be established to produce academic papers from the data collected from this 3rd round of the UK IBD audit.

Suggested topics for further investigation of the audit data could include:

1. An investigation into the trends in treatment of acute severe ulcerative colitis between 2006 and 2010
2. An investigation into the incidence of DVT in IBD inpatients
3. An examination into the timeliness of surgical intervention in IBD patients: how are outcomes affected in cases with delayed surgical intervention?
4. Laparoscopic versus non-laparoscopic surgery in IBD
5. An investigation into the medications provided to IBD inpatients
6. Exploration of correlations between the provision of an IBD nurse specialist and treatment provided to inpatients

Audit methodology

The design of the audit was shaped to mainly investigate inpatient activity; it is worth noting however that the majority of care is known to be delivered in the outpatient setting.

Datasets and standards used in the UK IBD audit (2010) data collection process

The datasets for this round of the UK IBD audit are, with minor adjustments, similar to those used in the 2nd round. These were agreed by the UK IBD Audit Steering Group as being appropriate to measure the processes of IBD care in line with the BSG Guidelines for the management of IBD in adults.

Data collection tool

The web tool included context specific online help including definitions and clarifications, internal logical data checks and feedback to enable more complete and accurate data. Security and confidentiality were maintained through the use of site specific codes and no patient identifiers were included in the datasets. Sites accessed the datasets by using a unique login and password and data could be saved during, as well as at the end of an input session.

A telephone and email helpdesk was provided by the Clinical Effectiveness & Evaluation Unit at the Royal College of Physicians in order to answer any individual queries about the audit.

Recruitment

Three individuals from each hospital were approached: a lead Clinician, lead surgeon and a lead from within the Clinical Audit Department. An overall 'audit lead' (usually a consultant gastroenterologist) from each site was then identified following local discussion. This 'audit lead' was responsible for ensuring the quality of data collection and entry for their particular site. Trust/Health Board Chief Executives were alerted to the audit.

Hospitals were eligible to participate if they had a unified IBD Service within their hospital that routinely admitted IBD patients acutely. Audit data was entered onto the web tool between 1st September 2010 and 31st August 2011.

198 sites submitted clinical audit data. This encouraging level of participation was achieved through the hard work and time-commitment of local clinical teams involved in the management of patients with IBD and in most cases with considerable assistance from their colleagues in clinical audit departments.

In total, data were collected for 3049 ulcerative colitis patients (from 198 sites), and for 3122 Crohn's disease patients (from 198 sites).

Data required

To examine individual patient care, the case-notes were to be audited of 40 consecutive inpatients (20 Crohn's disease and 20 ulcerative colitis) beginning with those patients discharged from 1st September 2010 and continuing until 31st August 2011, or until the full cohort of patients had been entered.

Case identification was based on patients being aged 17 years or over at the date of admission with a discharge diagnosis of IBD, as this defined the standards a clinical team expects to be assessed against. A list of relevant ICD10 and OPCS codes was provided to aid patient identification.

Inclusion and exclusion criteria

Patients were to be included in the audit if the primary reason for their admission was because of IBD or symptoms that were later diagnosed with IBD and excluded if IBD was not the main reason for admission e.g. an IBD patient admitted with a myocardial infarction. Patients with indeterminate colitis were excluded as were those aged less than 17 years of age at admission. A separate paediatric UK IBD audit report has been produced investigating the care of patients admitted to specialist paediatric IBD units. Only those patients with a length of stay of greater than 24hours were audited, excluding day

cases for endoscopy/infusion. Patients admitted more than once during the time period, were only audited once; the case for inclusion was that which occurred first chronologically.

New components for the 3rd Round

For each complete admission audited, an inpatient and GP questionnaire were generated by the UK IBD audit web tool. These questionnaires were distributed by participating sites to all relevant inpatients and General Practitioners. Use of a unique cross reference code on the questionnaires allowed for anonymised linkage of questionnaire data with clinical data. The results of these questionnaires will be reported upon separately in April 2012. For the first time the UK IBD audit includes a biologics audit aspect, data collection is currently ongoing and will be reported separately in June 2012.

Note on the term 'site' used throughout the report

Lead clinicians (in almost every instance a consultant gastroenterologist) that were initially contacted within each Trust/Health Board with a view to taking part in the UK IBD audit 3rd round, were asked to register to participate and collect data on the basis of a unified IBD Service which would be registered as a named 'site'. This was typically a single hospital within the Trust/Health Board. Where a Trust/Health Board had more than one hospital offering independent IBD Services they entered data for separate 'sites'. Some institutions running a coordinated IBD Service across two or more hospitals with the same staff completed the audit as one Trust/Health Board-wide site.

Audit governance

The UK IBD audit (2010) Report is a collaborative partnership between gastroenterologists (the British Society of Gastroenterology), colorectal surgeons (the Association of Coloproctology of Great Britain and Ireland), patients (Crohn's and Colitis UK), physicians (the Royal College of Physicians of London) together with paediatric gastroenterologists (The British Society of Paediatric Gastroenterology, Hepatology and Nutrition).

This clinical report follows the publication by the UK IBD Audit Steering Group, of the National Organisational Audit of Adult IBD Services in the UK, in May 2011. This enables sites to not only benchmark their provision of both service and care against national standards, but also to identify areas of improvement and monitor change from the previous round in 2008.

The audit is commissioned and funded by the Health Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) with additional funding from Health Improvement Scotland. The audit is co-ordinated by the Clinical Effectiveness and Evaluation unit (CEEu) of the Royal College of Physicians of London. Each hospital identified an overall clinical lead that was responsible for data collection and entry for their IBD Service. Data were collected by hospitals using a standardised method. The audit was guided by the multidisciplinary UK IBD Audit Steering Group which oversaw the preparation, conduct, analysis and reporting of the audit. Any enquiries in relation to the work of the UK IBD audit can be directed to: ibd.audit@rcplondon.ac.uk

Presentation of results in section 4

Wherever possible the 2010 audit question numbers have been added within tables of results in section 4 to facilitate reference to the actual questions in the audit datasets as seen in Appendix 3.

Section 4 provides a breakdown of the full 2010 national and Scottish results

Results are presented as percentages for categorical data and as median and inter-quartile range (IQR) for numerical data.

Section 4: Full 2010 audit results

Clinical audit ulcerative colitis 2010

In total UK data were collected for **3049** ulcerative colitis patients (from 198 sites) with a median of 18 per site, IQR (12-20)

In Scotland data were collected for **141** ulcerative colitis patients (from 11 sites) with a median of 13 per site, IQR (6, 20)

PRE-SECTION PATIENT DEMOGRAPHICS n=3049	National Results 2010		Combined Scottish sites results 2010	
Auditor discipline	N	%	N	%
Consultant	604/3049	20%	36/141	25.5%
Other medical staff	1033/3049	34%	65/141	46.1%
Nurse	1277/3049	42%	41/141	29.1%
Manager	4/3049	0.1%	0/141	0%
Clinical audit	253/3049	8%	10/141	7.1%
Other	159/3049	5%	0/141	0%
What was the patient's age at admission?	Median	IQR	Median	IQR
	42	29 - 58	41	29-53
Gender	N	%	N	%
Female	1421/3049	47%	65/141	46.1%
Male	1628/3049	54%	76/141	53.9%

SECTION 1: ADMISSION / MORTALITY

1.1	ADMISSION n=3049	National Results 2010		Combined Scottish sites results 2010	
1.1.2	What was the primary reason for admission?	N	%	N	%
	a) Emergency admission for active ulcerative colitis	1941/3049	64%	90/141	63.8%
	b) Planned admission for active ulcerative colitis	159/3049	5%	12/141	8.5%
	c) Elective admission for surgery	481/3049	16%	19/141	13.5%
	d) New diagnosis of ulcerative colitis	430/3049	14%	14/141	9.9%
	e) Transferred from another site for surgery	14/3049	0.5%	1/141	0.7%
	f) Transferred from another site for further medical management	24/3049	0.8%	5/141	3.5%
The rest of this table excludes elective admissions ie those where options c) or e) were chosen in Q1.1.2 n=2554					
1.1.3	Which specialty was responsible for the patient's care 24 hours after admission?	N	%	N	%
	a) Acute Medicine	773/2554	30%	22/121	18.2%
	b) Gastroenterology	1208/2554	47%	71/121	58.7%
	c) Colorectal Surgery	182/2554	7%	6/121	5.0%
	d) Geriatrics	20/2554	0.8%	0/121	0%
	e) General Medicine	139/2554	5%	6/121	5.0%
	f) General Surgery	196/2554	8%	13/121	10.7%
	g) Other	36/2554	1%	3/121	2.5%
1.1.4	What date was the patient first seen by a consultant gastroenterologist?	N	%	N	%
	Number of patients seen	2253/2554	88%	110/121	90.9%
		Median	IQR	Median	IQR
	Days from admission (if seen)	1	1 - 3	1	1-2
	Not seen	210/2554	8%	9/121	7.4
	Not required	91/2554	4%	2/121	1.6

1.1.5	What date was the patient first seen by a consultant colorectal surgeon?	N	%	N	%
	Number of patients seen	821/2554	32%	40/121	33.1%
		Median	IQR	Median	IQR
	Days from admission (if seen)	3	1-6	2	1-4
		N	%	N	%
	Not seen	702/2554	27%	54/121	44.6%
	Not required	1031/2554	40%	27/121	22.3%
	Not seen by either consultant gastroenterologist or consultant colorectal surgeon	152/2515	6%	4/121	3.3%
1.1.6	Was the patient seen by an IBD nurse specialist during the admission?	1067/2554	42%	61/121	50.4%
1.1.7	Was the patient transferred to a specialist gastroenterology ward?	1737/2554	68%	82/121	67.8%
1.1.7i	If yes, which type of ward?				
	a) Medical	1502/1737	86%	72/82	87.8%
	b) Joint Medical/Surgical	141/1737	8%	5/82	6.1%
	c) Surgical	94/1737	5%	5/82	6.1%

1.2	COMORBIDITY n=3049	National Results 2010		Combined Scottish sites results 2010	
1.2.1	Did the patient have any significant co-morbid diseases?	N	%	N	%
	a) Heart Disease	283/3049	9%	14/141	9.9%
	b) Peripheral Vascular Disease	19/3049	0.6%	2/141	1.4%
	c) Respiratory	209/3049	7%	6/141	4.3%
	d) Renal Failure	43/3049	1%	0/141	0%
	e) Diabetes	212/3049	7%	7/141	5.0%
	f) Stroke	46/3049	2%	1/141	0.7%
	g) Liver Disease	34/3049	1%	2/141	1.4%
	h) Active Cancer	19/3049	0.6%	0/141	0%
	i) None	2086/3049	68%	100/141	70.9%
	j) Other	459/3049	15%	22/141	15.6%

1.3	DISCHARGE / MORTALITY n=3049	National Results 2010		Combined Scottish sites results 2010	
1.3.1	Did the patient die during admission?	N	%	N	%
		28/3049	0.9%	1/141	0.7%
1.3.1i	Days from admission (if died)	Median	IQR	Median	IQR
		13	8 - 21	13	13-13
1.3.1ii	Primary cause of death	N	%	N	%
	a) Dementia	0/28	0%	0/1	0%
	b) Cerebrovascular disease	0/28	0%	0/1	0%
	c) Heart disease	3/28	10.7%	0/1	0%
	d) Respiratory disease	6/28	21.4%	0/1	0%
	e) Post operative complications	3/28	10.7%	0/1	0%
	f) Renal failure	0/28	0%	0/1	0%
	g) Pulmonary Embolism	0/28	0%	0/1	0%
	h) Liver Disease	0/28	0%	0/1	0%
	i) Gastrointestinal Bleeding	1/28	3.6%	0/1	0%
	j) Other	15/28	53.6%	1/1	100%

1.3.1iv	Length of stay (if discharged)	Median	IQR	Median	IQR
		8	5 - 13	7	4-11
		N	%	N	%
	0-1 days	95/3021	3%	5/140	3.6%
	2 days	151/3021	5%	10/140	7.1%
	3-6 days	952/3021	32%	52/140	37.1%
	7-13 days	1099/3021	36%	45/140	32.1%
	14-27 days	515/3021	17%	19/140	13.6%
	28 or more days	209/3021	7%	9/140	6.4%
1.3.1v	Discharge destination	N	%	N	%
	a) Discharged home	2982/3021	99%	134/140	95.7%
	b) Transferred to another site for surgery	4/3021	0.1%	1/140	0.7%
	c) Transferred to another site for further medical management	35/3021	1%	5/140	3.6%

SECTION 2: ASSESSING THE SEVERITY OF ULCERATIVE COLITIS

Elective cases [where in Q1.1.2 c) or e)] were chosen] are excluded from all of section 2

2.1	PATIENT HISTORY n=2554	National Results 2010		Combined Scottish sites results 2010	
2.1.1	Did the patient have a pre-admission diagnosis of ulcerative colitis?	N	%	N	%
		2002/2554	78%	96/121	79.3%
2.1.2	What was the extent of the colitis?				
	a) Proctitis (E1)	248/2002	12%	14/96	14.6%
	b) Left sided (E2)	795/2002	40%	38/96	39.6%
	c) Extensive (E3)	215/2002	11%	10/96	10.4%
	d) Pan Colitis (E4)	474/2002	24%	23/96	24.0%
	e) unknown	270/2002	13%	11/96	11.5%
2.1.3	Has the patient had previous admissions with ulcerative colitis in the two years prior to this admission?	656/2002	33%	31/96	32.3%
2.1.3i	Number of admissions in the two years prior to this admission?	Median	IQR	Median	IQR
		1	1 - 2	1	1-2

2.2	SEVERITY OF DISEASE n=2554	National Results 2010		Combined Scottish sites results 2010	
2.2.1	How many loose or bloody stools were passed in the first full day following admission?	N	%	N	%
	No loose or bloody stools	52/2554	2%	3/121	2.5%
	1 or more loose or bloody stools	1937/2554	76%	93/121	76.9%
	Number of loose or bloody stools	Median	IQR	Median	IQR
		6	4-10	6	4-10
	Not documented	N	%	N	%
	Not documented	37/2554	1%	0/121	0%
	Not required	528/2554	21%	25/121	20.7%
2.2.2	What was the highest recorded pulse rate during the first full day following admission? (BPM)	Median	IQR	Median	IQR
		90	80-101	93.5	82-102
	Not documented	N	%	N	%
	Not documented	100/2554	3%	1/121	0.8%
2.2.3	What was the highest temperature recorded during the first full day following admission? (°C)	Median	IQR	Median	IQR
		37	36.7-37.4	37.3	36.9-37.7
	Not documented	N	%	N	%
	Not documented	116/2554	4%	0/121	0%

In patients with 1 or more loose or bloody stools (Q2.2.1)		N	%	N	%
2.2.4	Was a stool sample sent for Standard Stool Culture? = Yes	1537/1937	79%	71/93	76.3%
	NA	32/1937	2%	1/93	1.1%
		Median	IQR	Median	IQR
2.2.4i	Days from admission until sample sent	1	0 - 1	1	0-1
		N	%	N	%
2.2.4ii	Was it positive?	33/1537	2%	0/71	0%
		Median	IQR	Median	IQR
2.2.4iii	Days between sample sent and reported positive	1	0 - 3	-	-
In patients with 1 or more loose or bloody stools (Q2.2.1)		N	%	N	%
2.2.5	Was a stool sample sent for CDT?	1414/1937	73%	69/93	74.2%
	NA	62/1937	3%	2/93	2.1%
		Median	IQR	Median	IQR
2.2.5i	Days from admission until sample sent	1	0 - 1	1	0-1
		N	%	N	%
2.2.5ii	Was it positive?	22/1414	2%	0/69	0%
		Median	IQR	Median	IQR
2.2.5iii	Days between sample sent and reported positive	1	0 - 4	-	-

2.3	MONITORING OF COLITIS n=2554	National Results 2010		Combined Scottish sites results 2010	
2.3.1	Was a plain abdominal X-Ray performed?	N	%	N	%
		2216/2554	87%	93/121	76.9%
		Median	IQR	Median	IQR
2.3.1i	Time from admission to request	0	0 - 0	0	0-0
2.3.1ii	Time from admission to x-ray	0	0 - 1	0	0-0
2.3.1iii	Time from admission to report by radiologist	2	1 - 6	1	1-3
2.3.2	Was toxic megacolon present in the x-ray?	N	%	N	%
	Yes	58/2216	3%	2/93	2.1%
2.3.2i	Was a repeat x-ray or CT Scan or MRI Scan performed?	52/58	90%	0/2	0%
		Median	IQR	Median	IQR
2.3.2ii	Time from admission to repeat x-ray	2	1 - 5	-	-

SECTION 3: MEDICAL INTERVENTIONS

3.1	USE OF ANTI-THROMBOTIC THERAPY n=3049	National Results 2010		Combined Scottish sites results 2010	
3.1.1	Did the patient have a thrombotic episode during this admission?	N	%	N	%
		66/3049	2%	9/141	6.4%
3.1.2	Was the patient given prophylactic heparin?	2668/3049	88%	121/141	85.8%

Section 3.2 excludes elective cases [Where in Q1.1.2 option c) or e) were chosen]

3.2	STEROID THERAPY n=2554	National Results 2010		Combined Scottish sites results 2010	
3.2.1	Were corticosteroids administered during this admission?	N	%	N	%
		2292/2554	90%	111/121	91.7%
	a) iv corticosteroids initially prescribed	1920/2292	84%	87/111	78.4%
	b) oral corticosteroids initially prescribed	372/2292	16%	24/111	21.6%
3.2.2	Which of the following steroids were prescribed?				
	a) Prednisolone	376/2292	16%	24/111	21.6%
	b) Methylprednisolone	107/2292	5%	50/111	45.0%
	c) Budesonide	3/2292	0.1%	0/111	0%
	d) Hydrocortisone	1806/2292	79%	37/111	33.3%

3.2.2i	Initial steroid dose (mg/day)	Median 400	IQR 100-400	Median 60	IQR 40-400
3.2.2ii	Time from admission to initiation	0	0 - 1	0	0-1
		N	%	N	%
3.2.2iii	Was therapy increased during this admission?	150/2292	7%	4/111	3.6%
		Median	IQR	Median	IQR
3.2.2iv	Time from admission to increase	2	1 - 5	4.5	1.5-7.5
3.2.3	Did the patient respond to corticosteroids and not require any other significant therapy for ulcerative colitis?	1529/2292	67%	85/111	76.6%

3.3 WHICH OTHER THERAPIES DID THE PATIENT RECEIVE?					
The denominator for the findings below (Q3.3.1-Q3.3.4) has been calculated to include the 763 cases where corticosteroids were prescribed but there was no response to this treatment (Q3.2.3) and the 262 cases where a patient was not recorded as receiving corticosteroids (Q3.2.1) n=1025					
		National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
3.3.1	Received Ciclosporin therapy	237/1025	23%	0/36	0%
3.3.1ii	Did the patient respond?	149/237	63%	-	-
		Median	IQR	Median	IQR
3.3.1i	Time between admission and starting treatment	6	4 - 9	-	-
3.3.2	Received Anti TNF therapy	168/1025	16%	4/36	11.1%
3.3.2ii	Did the patient respond?	140/168	83%	3/4	75%
		Median	IQR	Median	IQR
3.3.2i	Time between admission and starting treatment	7	4 - 9	3	1.5-9
3.3.3	Received therapy as part of a clinical trial	43/1025	4%	0/36	0%
3.3.3iii	Did the patient respond?	33/43	77%	-	-
		Median	IQR	Median	IQR
3.3.3ii	Time between admission and starting treatment	4	2 - 7	-	-
3.3.4	Received other significant therapy	265/1025	26%	2/36	5.6%
3.3.4ii	Did the patient respond?	224/265	85%	2/2	100%

Section 3.4 excludes elective cases [Where in Q1.1.2 option c) or e) were chosen]

3.4 RESPONSE TO TREATMENT n=2554		National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
3.4.1	DAY 1 – LOS = \geq0 (n=2554)				
	a) Frequency of loose or bloody stools on Day 1	1951/2554	76%	96/121	79.3%
		Median	IQR	Median	IQR
		6	4-10	6	3-9
	Not documented	556/2554	22%	25/121	20.7%
	Not applicable	47/2554	2%	0/121	0%
	b) Albumin on Day 1	2133/2554	83%	109/121	90.1%
		Median	IQR	Median	IQR
		36	31-41	39	33-43
	Not documented	421/2554	16%	12/121	9.9%
	c) CRP on Day 1	2060/2554	81%	101/121	83.5%
		Median	IQR	Median	IQR
		45	15-109	48	15-118
	Normal	174/2554	7%	11/121	9.1%
	Not documented	320/2554	13%	9/121	7.4%

3.4.2	DAY 2 – LOS = ≥ 1 (n=2539)	N	%	N	%
	a) Frequency of loose or bloody stools on Day 2	1710/2539	67%	82/121	67.8%
		Median	IQR	Median	IQR
		5	3-8	4	2-7
		N	%	N	%
	Not documented	775/2539	31%	37/121	30.6%
	Not applicable	54/2539	2%	2/121	1.6%
	b) Albumin on Day 2	N	%	N	%
		1012/2539	40%	73/121	60.3%
		Median	IQR	Median	IQR
	33	28-38	35	29-42	
	N	%	N	%	
Not documented	1527/2539	60%	48/121	39.7%	
c) CRP on Day 2	N	%	N	%	
	1126/2539	44%	68/121	56.2%	
	Median	IQR	Median	IQR	
	41	14-93	29.5	11-108	
	N	%	N	%	
Normal	138/2539	5%	6/121	5.0%	
Not documented	1275/2539	50%	47/121	38.8%	
3.4.3	DAY 3 – LOS = ≥ 2 (n=2464)	N	%	N	%
	a) Frequency of loose or bloody stools on Day 3	1619/2464	66%	62/117	53.0%
		Median	IQR	Median	IQR
		4	2-7	4	2-6
		N	%	N	%
	Not documented	786/2464	32%	51/117	43.6%
	Not applicable	59/2464	3%	4/117	3.4%
	b) Albumin on Day 3	N	%	N	%
		1158/2464	47%	67/117	57.3%
		Median	IQR	Median	IQR
	32	28-37	35	29-41	
	N	%	N	%	
Not documented	1306/2464	53%	50/117	42.7%	
c) CRP on Day 3	N	%	N	%	
	1264/2464	51%	65/117	55.5%	
	Median	IQR	Median	IQR	
	29	11-69	24	14-60	
	N	%	N	%	
Normal	160/2464	6%	8/117	6.8%	
Not documented	1040/2464	42%	44/117	37.6%	
3.4.4	DAY 4 – LOS = ≥ 3 (n=2321)	N	%	N	%
	a) Frequency of loose or bloody stools on Day 4	1494/2321	64%	54/107	50.5%
		Median	IQR	Median	IQR
		4	2-6	4	2-6
		N	%	N	%
	Not documented	759/2321	33%	47/107	43.9%
	Not applicable	68/2321	3%	6/107	5.6%
	b) Albumin on Day 4	N	%	N	%
	1156/2321	50%	68/107	63.5%	
	Median	IQR	Median	IQR	
	32	27-36	36.5	29.5-42	
	N	%	N	%	
Not documented	1165/2321	50%	39/107	36.4%	

	N	%	N	%
c) CRP on Day 4	1267/2321	55%	64/107	59.8%
	Median	IQR	Median	IQR
	20	7-49	18.5	6.5-34
	N	%	N	%
Normal	182/2321	8%	8/107	7.5%
Not documented	873/2321	38%	35/107	32.7%

SECTION 4: SURGICAL INTERVENTIONS

Site level results will be provided split by elective and emergency admissions based on admission reason provided in Q1.1.2. Cases noted as transferred to another site for surgery are excluded (Q1.3.1v) from all of the Section 4 tables

4.1	SURGICAL THERAPY n=3045	ELECTIVE ADMISSIONS		EMERGENCY ADMISSIONS	
4.1.1	Did the patient have surgery on this admission?	N	%	N	%
	National results 2010	490/495	99%	317/255	12%
	Combined Scottish sites results 2010	20/20	100%	17/120	14.2%
4.1.2	Time from admission to surgical decision	Median	IQR	Median	IQR
	National results 2010	-55	-98, -23	7	3-13
	Combined Scottish sites results 2010	-39	-100, -25	5	2-7
4.1.3	Time from admission to surgery	Median	IQR	Median	IQR
	National results 2010	0	0-1	8	5-14
	Combined Scottish sites results 2010	1	0-1	6	3-8
4.1.4	Was there a delay of more than 24 hours between decision to operate and surgery for non-elective patients?	N	%	N	%
	National results 2010	33/490	7%	70/317	22%
	Combined Scottish sites results 2010	0/20	0%	5/17	29.4%
4.1.4i	Reason for delay	N	%	N	%
	a) Improvement in severity of UC				
	National results 2010	0/33	0%	9/70	13%
	Combined Scottish sites results 2010	-	-	0/5	0%
	b) Cancelled due to lack of theatre time				
	National results 2010	2/33	6%	14/70	20%
	Combined Scottish sites results 2010	-	-	3/5	60%
	c) Cancelled for other clinical reasons				
	National results 2010	2/33	6%	8/70	11%
	Combined Scottish sites results 2010	-	-	0/5	0%
	d) Patient declined surgery or needed time to consider				
	National results 2010	6/33	18%	18/70	26%
	Combined Scottish sites results 2010	-	-	0/5	0%
	e) Other				
	National results 2010	23/33	70%	21/70	30%
	Combined Scottish sites results 2010	-	-	2/5	40%
4.1.5	Was the patient seen by a stoma nurse during this admission?	N	%	N	%
	National results 2010	338/490	69%	286/317	90%
	Combined Scottish sites results 2010	5/20	25%	16/17	94.1%
4.1.5i	Time from admission to seeing stoma nurse	Median	IQR	Median	IQR
	National results 2010	1	0-3	8	4-13
	Combined Scottish sites results 2010	0	0-0	5	2.5-6.5

4.1.6	What was the grade of the senior surgeon present?				
	a) Consultant colorectal surgeon	N	%	N	%
	National results 2010	471/490	96%	274/317	86%
	Combined Scottish sites results 2010	20/20	100%	14/17	82.3%
	b) Consultant GI surgeon (non-colorectal)				
	National results 2010	3/490	0.6%	8/317	3%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	c) Consultant General surgeon				
	National results 2010	7/490	1%	13/317	4%
	Combined Scottish sites results 2010	0/20	0%	2/17	11.8%
	d) Other consultant surgeon				
	National results 2010	0/490	0%	1/317	0.3%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	e) Specialist registrar				
	National results 2010	6/490	1%	17/317	5%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	f) Associate specialist				
	National results 2010	2/490	0.4%	3/317	1%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	g) Other				
	National results 2010	1/490	0.2%	1/317	0.3%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
4.1.7	What were the indications for surgery?				
	a) Failure of Medical Therapy	N	%	N	%
	National results 2010	252/490	51%	277/317	87%
	Combined Scottish sites results 2010	4/20	20%	15/17	88.2%
	b) Toxic megacolon				
	National results 2010	2/490	0.4%	34/317	11%
	Combined Scottish sites results 2010	0/20	0%	4/17	23.5%
	c) Bleeding				
	National results 2010	13/490	3%	25/317	8%
	Combined Scottish sites results 2010	0/20	0%	2/17	11.8%
	d) Obstruction				
	National results 2010	3/490	0.6%	3/317	1%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	e) Completion Proctectomy				
	National results 2010	123/490	25%	2/317	0.6%
	Combined Scottish sites results 2010	8/20	40%	0/17	0%
	f) High Grade Dysplasia				
	National results 2010	12/490	2%	1/317	0.3%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	g) Low Grade Dysplasia				
	National results 2010	10/490	2%	0/317	0%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	h) Ungraded Dysplasia				
	National results 2010	6/490	1%	1/317	0.3%
	Combined Scottish sites results 2010	1/20	5%	0/17	0%
	i) Cancer				
	National results 2010	6/490	1%	1/317	0.3%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	j) Perforation				
	National results 2010	0/490	0%	11/317	3%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	k) Abscess				
	National results 2010	3/490	0.6%	4/317	1%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%

l) Formation of Ileostomy				
National results 2010	41/490	8%	18/317	6%
Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
m) Closure of stoma				
National results 2010	39/490	8%	2/317	0.6%
Combined Scottish sites results 2010	3/20	15%	0/17	0%
n) Other indication				
National results 2010	70/490	14%	26/317	8%
Combined Scottish sites results 2010	8/20	40%	2/17	11.8%
4.1.8 Type of intervention				
a) Subtotal colectomy				
National results 2010	N 142/490	% 29%	N 252/317	% 80%
Combined Scottish sites results 2010	2/20	10%	17/17	100%
b) Proctocolectomy				
National results 2010	103/490	21%	25/317	8%
Combined Scottish sites results 2010	1/20	5%	0/17	0%
c) Proctectomy				
National results 2010	102/490	21%	4/317	1%
Combined Scottish sites results 2010	5/20	25%	0/17	0%
d) Ileoanal pouch with stoma				
National results 2010	106/490	22%	7/317	2%
Combined Scottish sites results 2010	6/20	30%	0/17	0%
e) Ileoanal pouch without stoma				
National results 2010	44/490	9%	3/317	1%
Combined Scottish sites results 2010	4/20	20%	0/17	0%
f) Formation of Ileostomy				
National results 2010	139/490	28%	157/317	50%
Combined Scottish sites results 2010	2/20	10%	10/17	58.8%
g) Other				
National results 2010	74/490	15%	34/317	11%
Combined Scottish sites results 2010	6/20	30%	0/17	0%
4.1.8i Was the surgery done laparoscopically / laparoscopically-assisted?				
National results 2010	205/490	42%	98/317	31%
Combined Scottish sites results 2010	3/20	15%	4/17	23.5%
4.1.9 Was the ASA status recorded pre-operatively?				
Yes				
National results 2010	N 338/490	% 69%	N 216/317	% 68%
Combined Scottish sites results 2010	7/20	35%	11/17	64.7%
Score of 1				
National results 2010	85/338	25%	21/216	10%
Combined Scottish sites results 2010	2/7	29%	1/11	9%
Score of 2				
National results 2010	203/338	60%	105/216	49%
Combined Scottish sites results 2010	2/7	28.6%	6/11	55%
Score of 3				
National results 2010	40/338	12%	80/216	37%
Combined Scottish sites results 2010	0/7	0%	3/11	27%
Score of 4				
National results 2010	6/338	2%	7/216	3%
Combined Scottish sites results 2010	0/7	0%	1/11	9%
Score of 5				
National results 2010	0/338	0%	1/216	0.5%
Combined Scottish sites results 2010	0/7	0%	0/11	0%
NA				
National results 2010	4/338	1%	2/216	1%
Combined Scottish sites results 2010	3/7	43%	0/11	0%

4.2	SURGICAL COMPLICATIONS	ELECTIVE ADMISSIONS		EMERGENCY ADMISSIONS	
4.2.1	Did the patient suffer from any of these complications following their surgery?				
	a) Wound Infection	N	%	N	%
	National results 2010	36/490	7%	32/317	10%
	Combined Scottish sites results 2010	2/20	10%	4/17	23.5%
	b) Rectal stump complications				
	National results 2010	7/490	1%	12/317	4%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	c) Intra-abdominal bleeding				
	National results 2010	8/490	2%	3/317	1%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	d) Intra-abdominal sepsis				
	National results 2010	23/490	5%	20/317	6%
	Combined Scottish sites results 2010	1/20	5%	2/17	11.8%
	e) Anastomotic leakage				
	National results 2010	6/490	1%	4/317	1%
	Combined Scottish sites results 2010	1/20	5%	0/17	0%
	f) Stoma complications				
	National results 2010	13/490	3%	14/317	4%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	g) Deep vein thrombosis				
	National results 2010	2/490	0.4%	1/317	0.3%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	h) Pulmonary embolus				
	National results 2010	0/490	0%	3/317	1%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	i) Ileus requiring TPN				
	National results 2010	13/490	3%	7/317	2%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	j) Small bowel obstruction				
	National results 2010	14/490	3%	17/317	5%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	k) Cardiac				
	National results 2010	6/490	1%	9/317	3%
	Combined Scottish sites results 2010	0/20	0%	1/17	5.9%
	l) Respiratory				
	National results 2010	13/490	3%	25/317	8%
	Combined Scottish sites results 2010	0/20	0%	2/17	11.8%
	m) Clostridium difficile-associated diarrhoea				
	National results 2010	0/490	0%	0/317	0%
	Combined Scottish sites results 2010	0/20	0%	0/17	0%
	n) No Complications				
	National results 2010	326/490	67%	180/317	57%
	Combined Scottish sites results 2010	16/20	80%	7/17	41.2%
	o) Other				
	National results 2010	81/490	17%	47/317	15%
	Combined Scottish sites results 2010	1/20	5%	6/17	35.3%

SECTION 5: DISCHARGE ARRANGEMENTS

Section 5 excludes any deceased patients and those recorded as transferred to another site for surgery or further medical management in Q1.3.1

5.1	DISCHARGE ARRANGEMENTS N=2982	National Results 2010		Combined Scottish sites results 2010	
5.1.1	Was the patient taking oral steroids on discharge?	N	%	N	%
		2194/2982	74%	100/134	74.6%
5.1.2	Was a steroid reduction programme stated on discharge for those patients receiving steroids?	2048/2194	93%	94/100	94.0%
5.1.3	Were bone protection agents prescribed in those taking steroids on discharge?	1443/2194	66%	38/100	38.0%
5.1.4	Was patient on immunosuppressives on discharge?	748/2982	25%	36/134	26.9%
5.1.5	Was there a plan for maintenance Anti TNF on discharge?	174/2980	6%	2/134	1.5%

Clinical audit Crohn's disease

2010 in the UK data were collected for **3122** Crohn's disease patients (from 196 sites) with a median of 20 per site, IQR (12-20)

In Scotland data were collected for **168** Crohn's disease patients (from 11 sites), with a median of 17 per site, IQR (9, 20)

PRE-SECTION PATIENT DEMOGRAPHICS	National Results 2010		Combined Scottish sites results 2010	
Auditor discipline	N	%	N	%
Consultant	631/3122	20%	48/168	28.6%
Other medical staff	1021/3122	33%	69/168	41.1%
Nurse	1325/3122	42%	52/168	30.9%
Manager	1/3122	0.03%	0/168	0%
Clinical audit	268/3122	9%	16/168	9.5%
Other	175/3122	6%	0/168	0%
What was the patient's age at admission?	Median	IQR	Median	IQR
	37	26 - 51	41	28-56
Gender	N	%	N	%
Female	1784/3122	57%	105/168	62.5%
Male	1338/3122	43%	63/168	37.5%

SECTION 1: ADMISSION / MORTALITY

1.1	ADMISSION N=3122	National Results 2010		Combined Scottish sites results 2010	
1.1.2	What was the primary reason for admission?	N	%	N	%
	a) Emergency admission for active Crohn's disease	2038/3122	65%	102/168	60.7%
	b) Planned admission for active Crohn's disease	180/3122	6%	16/168	9.5%
	c) Elective admission for surgery	543/3122	17%	31/168	18.4%
	d) New diagnosis of Crohn's disease	336/3122	11%	17/168	10.1%
	e) Transferred from another site for surgery	8/3122	0.3%	1/168	0.6%
	f) Transferred from another site for further medical management	17/3122	0.5%	1/168	0.6%
The rest of this table excludes elective admissions i.e. those where options c) or e) were chosen in Q1.1.2 n=2571					
1.1.3	Which specialty was responsible for the patient's care 24 hours after admission?	N	%	N	%
	a) Acute Medicine	585/2571	23%	18/136	13.2%
	b) Gastroenterology	983/2571	38%	67/136	49.3%
	c) Colorectal Surgery	421/2571	16%	15/136	11.0%
	d) Geriatrics	3/2571	0.1%	0/136	0%
	e) General Medicine	126/2571	5%	4/136	2.9%
	f) General Surgery	414/2571	16%	28/136	20.6%
	g) Other	39/2571	2%	4/136	2.9%
1.1.4	What date was the patient first seen by a consultant gastroenterologist?	N	%	N	%
	Number of patients seen	1994/2571	78%	112/136	82.3%
	Days from admission (if seen)	Median	IQR	Median	IQR
		1	0-3	1	0-2
	Not seen	N	%	N	%
		410/2571	16%	16/136	11.8%
	Not required	167/2571	7%	8/136	5.9%

1.1.5	What date was the patient first seen by a consultant colorectal surgeon?	N	%	N	%
	Number of patients seen	1098/2571	43%	51/136	37.5%
		Median	IQR	Median	IQR
	Days from admission (if seen)	1	0-3	1	0-2
		N	%	N	%
	Not seen	626/2571	24%	52/136	38.2
	Not required	847/2571	33%	33/136	24.3
	*Patients who were not seen by either consultant gastroenterologist or consultant colorectal surgeon	197/2571	8%	7/132	5.3%
1.1.6	Was the patient seen by an IBD nurse specialist during the admission?	905/2571	35%	68/136	50%
1.1.7	Was the patient transferred to a specialist gastroenterology ward?	1553/2571	60%	78/136	57.3%
1.1.7i	If yes, which type of ward?				
	a) Medical	1145/1553	74%	56/78	71.8
	b) Joint Medical/Surgical	143/1553	9%	7/78	9.0
	c) Surgical	265/1553	17%	15/78	19.2

1.2	COMORBIDITY N=3122	National Results 2010		Combined Scottish sites results 2010	
1.2.1	Did the patient have any significant co-morbid diseases?	N	%	N	%
	a) Heart Disease	154/3122	5%	11/168	6.5%
	b) Peripheral Vascular Disease	14/3122	0.5%	1/168	0.6%
	c) Respiratory	223/3122	7%	13/168	7.7%
	d) Renal Failure	37/3122	1%	5/168	3.0%
	e) Diabetes	105/3122	3%	2/168	1.2%
	f) Stroke	22/3122	0.7%	0/168	0%
	g) Liver Disease	23/3122	0.7%	1/168	0.6%
	h) Active Cancer	10/3122	0%	1/168	0.6%
	i) None	2328/3122	75%	125/168	74.4%
	j) Other	430/3122	14%	24/168	14.3%

1.3	DISCHARGE / MORTALITY N=3122	National Results 2010		Combined Scottish sites results 2010	
1.3.1	Did the patient die during admission?	N	%	N	%
		21/3122	0.7%	3/168	1.8%
1.3.1i	Days from admission (if died)	Median	IQR	Median	IQR
		14	8-34	18	13-63
1.3.1ii	Primary cause of death	N	%	N	%
	a) Dementia	0/21	0%	0/3	0%
	b) Cerebrovascular disease	0/21	0%	0/3	0%
	c) Heart disease	0/21	0%	0/3	0%
	d) Respiratory disease	3/21	14%	0/3	0%
	e) Post operative complications	7/21	33%	1/3	33.3%
	f) Renal failure	0/21	0%	0/3	0%
	g) Pulmonary Embolism	0/21	0%	0/3	0%
	h) Liver Disease	0/21	0%	0/3	0%
	i) Gastrointestinal Bleeding	0/21	0%	0/3	0%
	j) Other	11/21	52%	2/3	66.7%

1.3.1iv	Length of stay (if discharged) Number of days	Median 7 N	IQR 4-11 %	Median 7 N	IQR 4-12 %
	0-1 days	152/3101	5%	5/165	4.3%
	2 days	253/3101	8%	14/165	8.5%
	3-6 days	1110/3101	36%	52/165	31.5%
	7-13 days	955/3101	32%	60/165	36.4%
	14-27 days	383/3101	12%	21/165	12.7%
	28 or more days	215/3101	7%	13/165	7.9%
1.3.1v	Discharge destination				
	a Discharged home	3071/3101	99%	162/165	98.2%
	b) Transferred to another site for surgery	8/3101	0.3%	1/165	0.6%
	c) Transferred to another site for further medical management	22/3101	0.7%	2/165	1.2%

1.4	MEDICATION ON ADMISSION N=3122	National Results 2010		Combined Scottish sites results 2010	
1.4.1	What treatment was the patient taking for Crohn's disease on admission? (multiple options could be chosen)	N	%	N	%
	a) 5-ASA	1073/3122	34%	56/168	33.3%
	b) Azathioprine	749/3122	24%	52/168	30.9%
	c) Mercaptopurine	113/3122	4%	7/168	4.2%
	d) Methotrexate	100/3122	3%	11/168	6.5%
	e) Antibiotics	89/3122	3%	1/168	0.6%
	f) Corticosteroids	871/3122	28%	50/168	30.0%
	g) Dietary Therapy	2/3122	0.1%	0/168	0%
	h) anti-TNF- α	303/3122	10%	10/168	5.9%
	i) None	954/3122	31%	48/168	28.6%
	j) Other	135/3122	4%	4/168	2.4%
1.4.2	In the 12 months prior to admission was the patient taking steroids (at any time) for >3 months?	664/3122	21%	42/168	25%
1.4.2i	If yes, was an appropriate dose reduction planned?	600/664	90%	38/42	90.5%
1.4.2ii	If yes, was bone protection used?	404/664	61%	18/38	47.4%
1.4.2iii	Was a DEXA scan done?	132/664	20%	11/42	26.2%

1.5	SMOKING STATUS N=3122	National Results 2010		Combined Scottish sites results 2010	
1.5.1	What was the smoking status of the patient?	N	%	N	%
	a) Current smoker	931/3122	30%	51/168	30.4%
	b) Lifelong non-smoker/ ex-smoker	1783/3122	57%	100/168	59.5%
	c) Not documented	408/3122	13%	17/168	10.1%

1.6 PATIENT HISTORY N=3122		National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
1.6.1	Did the patient have a pre-admission diagnosis of Crohn's disease?	2671/3122	86%	141/168	83.9%
1.6.2	What was the extent of the disease?				
	a) Terminal ileum (L1)	953/2671	36%	53/141	37.6%
	b) Colonic (L2)	741/2671	28%	39/141	27.7%
	c) Ileo-colonic (L3)	902/2671	34%	53/141	37.6%
	d) Perianal	244/2671	9%	20/141	14.2%
	e) upper GI (L4)	81/2671	3%	3/141	2.1%
	f) Not known	202/2671	8%	7/141	5.0%
1.6.3	Has the patient had previous admissions to your hospital with Crohn's disease in the two years prior to this admission?	1198/2671	45%	68/141	48.2%
1.6.3i	Number of admissions in the two years prior to this admission?	Median 1	IQR 1-2	Median 2	IQR 1-3

SECTION 2: ASSESSING THE SEVERITY OF CROHN'S DISEASE

2.1 INITIAL ASSESSMENT DURING FIRST FULL DAY FOLLOWING ADMISSION N=2571		National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
2.1.1	Number of liquid stools during the first full day following admission				
	No liquid stools	264/2571	10%	17/136	12.5%
	1 or more liquid stools	1309/2571	51%	65/136	47.8%
	Not documented	578/2571	22%	26/136	19.1%
	Not required	420/2571	16%	28/136	20.6%
2.1.2	General well being				
	Well	104/2571	4%	1/136	0.7%
	Mild symptoms	367/2571	14%	14/136	10.3%
	Moderate symptoms	1268/2571	49%	74/136	54.4%
	Severe symptoms	708/2571	28%	46/136	33.8%
	Not documented	124/2571	5%	1/136	0.7%
2.1.3	Abdominal pain				
	None	268/2571	40%	21/136	15.4%
	Present	2272/2571	88%	115/136	84.6%
	Not documented	31/2571	1%	0/136	0%
2.1.4	Abdominal mass				
	None	2106/2571	82%	118/136	86.8%
	Present	242/2571	9%	8/136	5.9%
	Not documented	223/2571	9%	10/136	7.3%
2.1.5	Did the patient report any of the following complications?				
	Mouth ulcers	107/2571	4%	7/136	5.1%
	Arthralgia	200/2571	8%	6/136	4.4%
	Pyoderma Gangrenosum	7/2571	0.3%	1/136	0.7%
	Anal fissure	70/2571	3%	5/136	3.7%
	Fistula	174/2571	7%	13/136	9.6%
	Erythema Nodosum	35/2571	1%	2/136	1.5%
	Abscess	142/2571	6%	9/136	6.6%
	Iritis	17/2571	0.7%	1/136	0.7%
	Other	111/2571	4%	5/136	3.7%
2.1.6	Admission results for:	Median	IQR	Median	IQR
2.1.6i	CRP (mg/l)	47	12-115	31	8.5-74.5
	Not documented	136/2571	4%	8/136	5.9%

2.1.6ii	Hb (g/dL)	Median	IQR	Median	IQR
	Not documented	12.7	11.1-14	12.5	11.2-14.1
2.1.6iii	Albumin (g/L)	Median	IQR	Median	IQR
	Not documented	37	32.42	38	34-42
		63/2571	2%	2/136	1.5%
		221/2571	7%	5/136	3.7%

2.2	EXCLUSIVE OF INFECTION N=1309	National Results 2010		Combined Scottish sites results 2010	
	In patients with ≥ 1 liquid stool (Q 2.1.1) on first full day	N	%	N	%
2.2.1	Was a stool sample sent for Standard Stool Cultures - Yes	726/1309	55%	43/65	66.1%
	Not applicable	105/1309	8%	4/65	6.1%
		Median	IQR	Median	IQR
2.2.1i	Days from admission until sample sent	1	0-1	1	0-1
		N	%	N	%
2.2.1ii	Was it positive?	7/726	1%	0/43	0%
		Median	IQR	Median	IQR
2.2.1iii	Days from sample sent until reported positive	2	0-3	-	-
2.2.2	Was a stool sample sent for CDT?	657/1309	50%	42/65	64.6%
	Not applicable	115/1309	9%	4/65	6.1%
		Median	IQR	Median	IQR
2.2.2i	Days from admission until sample sent	1	0-2	1	0-1
		N	%	N	%
2.2.2ii	Was it positive?	7/657	1%	0/42	0%
		Median	IQR	Median	IQR
2.2.2iii	Days from sample sent until reported positive	1	0-1	-	-

2.3	WEIGHT ASSESSMENT AND DIETETIC SUPPORT DURING ADMISSION N=2571	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
2.3.1	Was the patient's weight measured during admission	1846/2571	72%	116/136	85.3%
2.3.1i	Was BMI measured	1215/1846	66%	89/116	76.7%
2.3.2	Did a dietician see the patient?	980/2571	38%	60/136	44.1%
2.3.3	Was dietary treatment initiated?	783/2571	30%	41/136	30.1%
2.3.3i	Was exclusive liquid enteral nutrition therapy prescribed?	165/783	21%	10/136	24.4%
2.3.3ii	Was supplemental liquid enteral nutrition therapy prescribed?	558/783	71%	28/41	68.3%
2.3.4	Was parenteral nutrition given?	138/2571	5%	11/136	8.1%

SECTION 3: MEDICAL INTERVENTIONS

3.1	USE OF ANTI-THROMBOTIC THERAPY N=3122	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
3.1.1	Did the patient have a thrombotic episode during this admission?	59/3122	2%	1/168	0.6%
3.1.2	Was the patient given prophylactic heparin?	2708/3122	87%	145/168	86.3%

3.2	STEROID THERAPY N=2571	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
3.2.1	Were corticosteroids administered during this admission?	1825/2571	71%	96/136	70.6%
	a) iv corticosteroids initially prescribed	1317/1825	72%	74/96	77.1%
	b) oral corticosteroids initially prescribed	508/1825	28%	22/96	22.9%

3.2.2	Which of the following steroids were prescribed?				
	a) Prednisolone	456/1825	25%	21/96	21.9%
	b) Budesonide	88/1825	5%	4/96	4.2%
	c) Hydrocortisone	1216/1825	67%	39/96	40.6%
	d) Methylprednisolone	65/1825	4%	32/96	33.3%
3.2.2i	Initial dose (mg/day)	Median	IQR	Median	IQR
		300	40-400	60	40-400
3.2.2ii	Time to initial dose from admission (days)	0	0-1	0	0-2
3.2.2iii	Was therapy increased during this admission?	112/1825	6%	5/96	5.2%
3.2.2iv	Time to increase in therapy from admission (days)	2	1-5	1	1-2

3.3	WHICH OTHER THERAPIES DID THE PATIENT RECEIVE N=2571	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
3.3.1	Received Anti TNF therapy	248/2571	10%	9/136	6.6%
3.3.1i	Time to admission to starting treatment	4	2 - 8	7	2-10
3.3.1ii	Did the patient respond?	219/248	88%	9/9	100%
3.3.2	Received therapy as part of a clinical trial	13/2571	0.5%	0/136	0%
3.3.2ii	Time to admission to starting treatment	2	1 - 4	-	-
3.3.2iii	Did the patient respond?	9/13	69%	-	-
3.3.3	Received other significant therapy	366/2571	14%	17/136	12.5%
3.3.3ii	Did the patient respond?	313/366	86%	14/17	82.3%

SECTION 4: SURGICAL INTERVENTIONS

Site level results will be provided split by elective and emergency admissions based on admission reason provided in Q1.1.2. Patients transferred to another site for surgery are excluded (Q1.3.1v) from all of the Section 4 tables

4.1	SURGICAL THERAPY	ELECTIVE ADMISSIONS		Non-ELECTIVE ADMISSIONS	
		N	%	N	%
4.1.1	Did the patient have surgery on this admission?				
	National results 2010	546/550	99%	474/2564	18%
	Combined Scottish sites results 2010	31/32	96.9%	37/135	27.4%
4.1.2	Time from admission to surgical decision	Median	IQR	Median	IQR
	National results 2010	-34	-61, -14	2	0-6
	Combined Scottish sites results 2010	-45	-56, -11	1	0.5-2
4.1.3	Time from admission to surgery				
	National results 2010	0	0-1	3	1-8
	Combined Scottish sites results 2010	1	0-1	2	1-5
4.1.4	Was there a delay of more than 24 hours between decision to operate and surgery for non-elective patients?				
	National results 2010	29/546	5%	78/474	16%
	Combined Scottish sites results 2010	3/31	9.7%	2/37	5.4%
4.1.4i	Reason for delay	N	%	N	%
	a) Improvement in severity of Crohn's				
	National results 2010	2/29	7%	8/78	10%
	Combined Scottish sites results 2010	0/3	0%	0/2	0%
	b) Cancelled due to lack of theatre time				
	National results 2010	3/29	10	23/78	29%
	Combined Scottish sites results 2010	0/3	0%	0/2	0%
	c) Cancelled for other clinical reasons				
	National results 2010	1/29	3	8/78	10%
	Combined Scottish sites results 2010	0/3	0%	0/2	0%
	d) Patient declined surgery or needed time to consider				
	National results 2010	5/29	17	7/78	9%
	Combined Scottish sites results 2010	1/3	33.3%	0/2	0%
	e) Other				
	National results 2010	18/29	62	32/78	41%
	Combined Scottish sites results 2010	2/3	66.7%	2/2	100%

4.1.5	Was the patient seen by a stoma nurse during this admission?				
	National results 2010	163/546	30%	203/474	43%
	Combined Scottish sites results 2010	9/31	29.0	11/37	29.7
4.1.5i	Time from admission to seeing stoma nurse (days)	Median	IQR	Median	IQR
	National results 2010	1	0-2	5	2-11
	Combined Scottish sites results 2010	1	0-3	2	2-13
4.1.6	What was the grade of the senior surgeon present?	N	%	N	%
	a) Consultant colorectal surgeon				
	National results 2010	512/546	94%	352/474	74%
	Combined Scottish sites results 2010	29/31	93.5%	26/37	70.3%
	b) Consultant GI surgeon (non-colorectal)				
	National results 2010	15/546	3%	31/474	7%
	Combined Scottish sites results 2010	0/31	0%	4/37	10.8%
	c) Consultant General surgeon				
	National results 2010	9/546	2%	34/474	7%
	Combined Scottish sites results 2010	1/31	3.2%	4/37	10.8%
	d) Other consultant surgeon				
	National results 2010	0/546	0%	3/474	0.6%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	e) Specialist registrar				
	National results 2010	9/546	2%	38/474	8%
	Combined Scottish sites results 2010	1/31	3.2%	3/37	8.1%
	f) Associate specialist				
	National results 2010	1/546	0.2%	6/474	1%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	g) Other				
	National results 2010	0/546	0%	10/474	2%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
4.1.7	What were the indications for surgery?	N	%	N	%
	a) Failure of Medical Therapy				
	National results 2010	254/546	47%	141/474	30%
	Combined Scottish sites results 2010	10/31	32.3%	13/37	35.1%
	b) Toxic megacolon				
	National results 2010	0/546	0%	10/474	2%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	c) Bleeding				
	National results 2010	3/546	0.6%	9/474	2%
	Combined Scottish sites results 2010	0/31	0%	1/37	2.7%
	d) Obstruction				
	National results 2010	136/546	25%	138/474	29%
	Combined Scottish sites results 2010	9/31	29.0%	11/37	29.7%
	e) Completion Proctectomy				
	National results 2010	27/546	5%	1/474	0.2%
	Combined Scottish sites results 2010	4/31	12.9%	0/37	0%
	f) High Grade Dysplasia				
	National results 2010	2/546	0.4%	0/474	0%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	g) Low Grade Dysplasia				
	National results 2010	4/546	0.7%	0/474	0%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	h) Ungraded Dysplasia				
	National results 2010	0/546	0%	0/474	0%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	i) Cancer				
	National results 2010	5/546	0.9%	2/474	0.4%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	j) Perforation				

	National results 2010	3/546	0.6%	76/474	16%
	Combined Scottish sites results 2010	1/31	3.2%	5/37	13.5%
	k) Abscess				
	National results 2010	40/546	7%	120/474	25%
	Combined Scottish sites results 2010	0/31	0%	6/37	16.2%
	l) Formation of Ileostomy				
	National results 2010	19/546	3%	27/474	6%
	Combined Scottish sites results 2010	1/31	3.2%	1/37	2.7%
	m) Closure of stoma				
	National results 2010	29/546	5%	1/474	0.2%
	Combined Scottish sites results 2010	4/31	12.9%	0/37	0%
	n) Other indication				
	National results 2010	180/546	33%	106/474	22%
	Combined Scottish sites results 2010	13/31	41.9%	7/37	18.9%
4.1.8	Type of intervention	N	%	N	%
	a) Segmental/Extended Colectomy				
	National results 2010	51/546	9%	59/474	12%
	Combined Scottish sites results 2010	1/31	3.2%	7/37	18.9%
	b) Subtotal Colectomy				
	National results 2010	25/546	5%	61/474	13%
	Combined Scottish sites results 2010	1/31	3.2%	6/37	16.2%
	c) Protolectomy				
	National results 2010	27/546	5%	3/474	0.6%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	d) Stricturoplasty				
	National results 2010	25/546	5%	11/474	2%
	Combined Scottish sites results 2010	0/31	0%	3/37	8.1%
	e) Ileal/Jejunal Resection				
	National results 2010	66/546	12%	49/474	10%
	Combined Scottish sites results 2010	7/31	22.6%	9/37	24.3%
	f) Resection of Intra-abdominal fistula				
	National results 2010	29/546	5%	14/474	3%
	Combined Scottish sites results 2010	1/31	3.2%	1/37	2.7%
	g) Proctectomy				
	National results 2010	15/546	3%	1/474	0.2%
	Combined Scottish sites results 2010	0/31	0%	0/37	0%
	h) Completion Proctectomy				
	National results 2010	16/546	3%	1/474	0.2%
	Combined Scottish sites results 2010	4/31	12.9%	0/37	0%
	i) Ileocolonic Resection				
	National results 2010	211/546	39%	150/474	32%
	Combined Scottish sites results 2010	9/31	29.0%	11/37	29.7%
	j) Drainage of abscess				
	National results 2010	9/546	2%	76/474	16%
	Combined Scottish sites results 2010	0/31	0%	5/37	13.5%
	k) Formation of Ileostomy or colostomy				
	National results 2010	69/546	13%	105/474	22%
	Combined Scottish sites results 2010	4/31	12.9%	5/37	13.5%
	l) Revision of Stoma				
	National results 2010	11/546	2%	6/474	1%
	Combined Scottish sites results 2010	2/31	6.4%	0/37	0%
	m) Perineal procedure				
	National results 2010	6/546	1%	11/474	2%
	Combined Scottish sites results 2010	0/31	0%	1/37	2.7%
	n) Closure of Stoma				
	National results 2010	27/546	5%	1/474	0.2%
	Combined Scottish sites results 2010	4/31	12.9%	0/37	0%
	o) Division of adhesions				

	National results 2010	26/546	5%	31/474	7%
	Combined Scottish sites results 2010	0/31	0%	3/37	8.1%
	p) Other intervention				
	National results 2010	112/546	21%	75/474	16%
	Combined Scottish sites results 2010	6/31	19.3%	5/37	13.5%
4.1.8i	Was the surgery done laparoscopically/laparoscopically-assisted?				
	National results 2010	379/546	69%	102/474	22%
	Combined Scottish sites results 2010	3/31	9.7%	7/37	18.9%
4.1.9	Was the ASA status recorded pre-operatively?	N	%	N	%
	Yes				
	National results 2010	379/546	69%	297/474	63%
	Combined Scottish sites results 2010	17/31	55%	22/37	59.5%
1					
	National results 2010	71/379	19%	55/297	19%
	Combined Scottish sites results 2010	2/17	12%	2/22	9%
2					
	National results 2010	246/379	65%	154/297	52%
	Combined Scottish sites results 2010	8/17	47%	15/22	68%
3					
	National results 2010	49/379	13%	66/297	22%
	Combined Scottish sites results 2010	2/17	12%	1/22	5%
4					
	National results 2010	5/379	1%	15/297	5%
	Combined Scottish sites results 2010	1/17	6%	2/22	9%
5					
	National results 2010	0/379	0%	3/297	1%
	Combined Scottish sites results 2010	0/17	0%	0/22	0%
NA					
	National results 2010	8/379	2%	4/297	1%
	Combined Scottish sites results 2010	4/17	24%	2/22	9%

4.2	SURGICAL COMPLICATIONS	National Results 2010 ELECTIVE ADMISSIONS n=		National Results 2010 Non-ELECTIVE ADMISSIONS n=	
		N	%	N	%
4.2.1	Did the patient suffer from any of these complications following their surgery?				
	a) Wound Infection				
	National results 2010	40/546	7%	28/474	6%
	b) Rectal stump complications				
	National results 2010	0/546	0%	2/474	0.4%
	c) Intra-abdominal bleeding				
	National results 2010	8/546	1%	5/474	1%
	d) Intra-abdominal sepsis				
	National results 2010	21/546	4%	42/474	9%
	e) Anastomotic leakage				
	National results 2010	15/546	3%	17/474	4%
	f) Stoma complications				
	National results 2010	8/546	1%	9/474	2%
	g) Deep vein thrombosis				
	National results 2010	1/546	0.2%	2/474	0.4%
	h) Pulmonary embolus				
	National results 2010	3/546	0.6%	3/474	0.6%
	i) Ileus requiring TPN				
	National results 2010	13/546	2%	16/474	4%
	j) Cardiac				
	National results 2010	7/546	1%	5/474	1%
	k) Respiratory				
	National results 2010	16/546	3%	29/474	6%
	l) Clostridium difficile associated diarrhoea				
	National results 2010	0/546	0%	1/474	0.2%
	m) Other				
	National results 2010	61/546	11%	43/474	9%
	n) No complications				
	National results 2010	386/546	71%	341/474	72%
	Combined Scottish sites results 2010	19/31	61.3%	29/37	78.4%

4.3	POST-OPERATIVE PROPHYLACTIC THERAPY	ELECTIVE ADMISSIONS		Non-ELECTIVE ADMISSIONS	
		N	%	N	%
4.3.1	Was the patient prescribed any of the following drugs on discharge?				
	a) Azathioprine				
	National results 2010	114/546	21%	78/474	16%
	Combined Scottish sites results 2010	7/31	22.6%	5/37	13.5%
	b) Mercaptopurine				
	National results 2010	13/546	2%	9/474	2%
	Combined Scottish sites results 2010	1/31	3.2%	0/37	0%
	c) Metronidazole				
	National results 2010	31/546	6%	26/474	6%
	Combined Scottish sites results 2010	0/31	0%	1/37	2.7%
	d) 5-ASA				
	National results 2010	107/546	20%	88/474	19%
	Combined Scottish sites results 2010	5/31	16.1%	7/37	18.9%
	e) Methotrexate				
	National results 2010	10/546	2%	4/474	0.8%
	Combined Scottish sites results 2010	0/31	0%	2/37	5.4%

f) Infliximab	National results 2010	9/546	2%	15/474	3%
	Combined Scottish sites results 2010	1/31	3.2%	1/37	2.7%
g) Other	National results 2010	68/546	12%	87/474	18%
	Combined Scottish sites results 2010	4/31	12.9%	6/37	16.2%
h) None	National results 2010	279/546	51%	239/474	50%
	Combined Scottish sites results 2010	15/31	48.4%	21/37	56.8%

SECTION 5: DISCHARGE ARRANGEMENTS

5.1	DISCHARGE ARRANGEMENTS N=3071	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
5.1.1	Was the patient taking oral steroids on discharge?	1763/3071	57%	93/162	57.4%
5.1.1i	Was a steroid reduction programme stated on discharge?	1538/1763	87%	89/93	95.7%
5.1.1ii	Were bone protection agents prescribed?	1022/1763	58%	45/93	48.4%
5.1.2	Was patient on immunosuppressives on discharge?	1054/3071	34%	57/162	35.2%
5.1.3	Was there a plan for maintenance Anti TNF on discharge?	481/3071	16%	18/162	11.1%

SECTION 6: OUTPATIENT VISITS

6.1	PATIENT HISTORY N=3122	National Results 2010		Combined Scottish sites results 2010	
		N	%	N	%
6.1.1	Did the patient have previous outpatient visits for Crohn's disease at this hospital in the 12 months prior to this admission?	2117/3122	68%	124/168	73.8%
6.1.2	How many times was the patient reviewed for their Crohn's disease in an outpatient's clinic in the 12 months prior to the start date of this admission?	Median	IQR	Median	IQR
		3	2-5	3	2-5
6.1.3	Approximately how many times was the patient seen by the following staff in the 12 months prior to the start date of this admission?				
	a) Consultant	2	1 - 4	2	1-4
	b) IBD nurse specialist	0	0 - 1	0	0-2
	c) Specialist registrar	0	0 - 1	0	0-1
	d) F2 (SHO)	0	0 - 0	0	0-0

Section 5: Individual site 2010 key indicator data

The table in this section gives named site data in alphabetical order of participating site. These data items were agreed by the UK IBD Audit Steering Group as reflecting the questions of particular importance to IBD patients. The combined Scottish results from all 11 participating sites are shown for comparison. These results should be interpreted within the context of the fact that many sites entered a relatively small number of cases to the audit and therefore percentages should be reviewed alongside actual numbers of cases submitted.

Key Indicators	How many cases were entered to the UK IBD audit?		Was the patient seen by a consultant gastroenterologist during their admission? (this does not apply to patients who were admitted for either elective surgery or who were under the direct care of a surgeon)		In patients with diarrhoea, was a stool sample sent for Standard Stool Culture (SSC)? (SSC is a test to identify bacteria or viruses that may be causing an infection)		Was prophylactic Heparin prescribed? (This medication is used to prevent and treat blood clots)		Was the patient prescribed rescue therapy during the admission? (Drugs that decrease the action of the body's immune system)		If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?		Was the patient weighed during admission? (Crohn's disease only)		Was the patient seen by a dietician during their admission? (Crohn's disease only)	
	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Ulcerative colitis	Crohn's Disease	CD Only	CD Only			
Scottish results 2010	Median = 13	Median = 17	Yes = 110 (90.9%)	Yes = 112 (82.3%)	Yes = 71 (76.3%)	Yes = 43 (66.1%)	Yes = 121 (85.8%)	Yes = 145 (86.3%)	Yes = 4 (11.1%)	Yes = 38 (38.0%)	Yes = 45 (48.4%)	Yes = 116 (85.3%)	Yes = 60 (44.1%)			
NHS Ayrshire & Arran																
Crosshouse Hospital	17	17	9 (60%)	6 (43%)	6 (67%)	2 (50%)	9 (53%)	11 (65%)	0 (0%)	1 (7%)	2 (22%)	12 (86%)	4 (29%)			
NHS Borders																
Borders General Hospital	11	16	11 (100%)	15 (94%)	5 (83%)	6 (60%)	9 (82%)	10 (63%)	0 (0%)	0 (0%)	2 (33%)	15 (94%)	13 (81%)			
NHS Dumfries & Galloway																
Dumfries & Galloway Royal Infirmary	13	9	12 (92%)	7 (78%)	9 (90%)	5 (63%)	11 (85%)	5 (56%)	0 (0%)	7 (58%)	4 (50%)	7 (78%)	5 (56%)			
NHS Forth Valley																
Stirling Royal Infirmary	7	17	7 (100%)	11 (100%)	4 (80%)	1 (50%)	4 (57%)	15 (88%)	0 (0%)	0 (0%)	1 (14%)	8 (73%)	3 (27%)			

Key Indicators	How many cases were entered to the UK IBD audit?		Was the patient seen by a consultant gastroenterologist during their admission? (this does not apply to patients who were admitted for either elective surgery or who were under the direct care of a surgeon)		In patients with diarrhoea, was a stool sample sent for Standard Stool Culture (SSC)? (SSC is a test to identify bacteria or viruses that may be causing an infection)		Was prophylactic Heparin prescribed? (This medication is used to prevent and treat blood clots)		Was the patient prescribed rescue therapy during the admission? (Drugs that decrease the action of the body's immune system)		If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?		Was the patient weighed during admission? (Crohn's disease only)		Was the patient seen by a dietician during their admission? (Crohn's disease only)	
	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Crohn's Disease	Ulcerative colitis	Ulcerative colitis	Crohn's Disease	CD Only	CD Only			
Scottish results 2010	Median = 13	Median = 17	Yes = 110 (90.9%)	Yes = 112 (82.3%)	Yes = 71 (76.3%)	Yes = 43 (66.1%)	Yes = 121 (85.8%)	Yes = 145 (86.3%)	Yes = 4 (11.1%)	Yes = 38 (38.0%)	Yes = 45 (48.4%)	Yes = 116 (85.3%)	Yes = 60 (44.1%)			
NHS Grampian																
Aberdeen Royal Infirmary	20	20	19 (95%)	16 (94%)	12 (67%)	7 (70%)	18 (90%)	19 (95%)	0 (0%)	0 (0%)	2 (18%)	17 (100%)	5 (29%)			
NHS Greater Glasgow & Clyde																
Glasgow Royal Infirmary	20	20	7 (100%)	7 (78%)	5 (100%)	4 (100%)	20 (100%)	18 (90%)	0 (0%)	3 (43%)	1 (17%)	6 (67%)	5 (56%)			
NHS Lanarkshire																
Hairmyres Hospital	6	8	3 (60%)	4 (57%)	1 (33%)	0 (NA%)	3 (50%)	8 (100%)	0 (0%)	0 (0%)	1 (25%)	6 (86%)	3 (43%)			
Monklands Hospital	3	7	3 (100%)	4 (67%)	3 (100%)	2 (100%)	3 (100%)	5 (71%)	0 (0%)	1 (50%)	2 (33%)	3 (50%)	3 (50%)			
Wishaw General Hospital	4	15	1 (50%)	10 (77%)	0 (NA%)	4 (50%)	4 (100%)	15 (100%)	0 (0%)	0 (0%)	9 (82%)	12 (92%)	3 (23%)			
NHS Lothian																
Western General Hospital	20	18	18 (100%)	11 (85%)	13 (87%)	6 (86%)	20 (100%)	18 (100%)	3 (33%)	16 (100%)	5 (83%)	11 (85%)	3 (23%)			
NHS Tayside																
Ninewells Hospital	20	21	20 (100%)	21 (100%)	13 (68%)	6 (60%)	20 (100%)	21 (100%)	1 (25%)	10 (50%)	16 (84%)	19 (90%)	13 (62%)			

Appendices

Appendix 1: Table 1: Key results for adult IBD care in the UK – ulcerative colitis across all rounds

The key results detailed below in Tables 1 and 2 show corresponding results from the 2006, 2008 and 2010 rounds of the UK IBD audit, wherever directly comparable. These data were compiled by comparing only the results from the 128 sites that took part in all three rounds (with the same site composition in each round). The figures shown in the tables indicate the number and percentage where the response was ‘yes’ to each question. Any statistically significant change is represented by an asterisk to the right of the 2010 data column.

Table 1: Key results for adult IBD care in the UK – ulcerative colitis across all rounds			
	2006 (1953 comparable cases of which 1668 non-elective)	2008 (2016 comparable cases of which 1655 non-elective)	2010 (1948 comparable cases of which 1614 non-elective)
1. Did the patient die during the admission?	34/1953 (1.7%)	31/2016 (1.5%)	16/1948 (0.8%) *
2. Where the patient had a pre-admission diagnosis of UC had they been admitted for UC in the 2 years prior to the audited admission?	829/1621 (51.1%)	750/1655 (45.3%)	421/1255 (33.6%) *
3. Were non-elective patients seen by an IBD nurse during their admission?	395/1667 (23.7%)	496/1653 (30.0%)	725/1614 (44.9%) *
4. Were stool samples sent for Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) in non-elective patients with diarrhoea (recorded in the first full day following admission)?	SSC 738/1120 (65.9%)	SSC 857/1160 (73.9%)	SSC 961/1189 (80.8%) *
	CDT 604/1120 (53.9%)	CDT 770/1160 (66.4%)	CDT 882/1173 (75.2%) *
5. Were the stool samples positive?	NOT ASKED	SSC 17/857 (2.0%) CDT 32/770 (4.2%)	SSC 24/961 (2.5%) CDT 14/882 (1.6%) *
6. Was prophylactic Heparin prescribed for non-elective admissions?	905/1668 (54.3%)	1220/1649 (74%)	1406/1614 (87.1%) *
7. Non-elective patients prescribed, but not responding to, corticosteroids during the admission who received either Ciclosporin or Anti TNF therapy?	Ciclosporin 108/412 (26.2%)	Ciclosporin 117/433 (27.0%)	Ciclosporin 152/655 (23.2%)
	Anti TNF 20/412 (4.9%)	Anti TNF 52/433 (12.0%)	Anti TNF 110/655 (16.8%) *
8. Did the patient respond to treatment with Ciclosporin or Anti TNF?	Ciclosporin 59/108 (54.6%)	Ciclosporin 61/116 (52.6%)	Ciclosporin 97/152 (63.8%)
	Anti TNF 8/20 (40.0%)	Anti TNF 40/50 (80.4%)	Anti TNF 94/110 (85.5%) *
9. Was the surgery performed on elective patients undertaken laparoscopically?	28/274 (10.2%)	58/362 (16.0%)	145/332 (43.7%) *
10. Was the surgery performed on non-elective patients undertaken laparoscopically?	11/213 (5.2%)	27/207 (13.0%)	66/195 (33.9%) *
11. If the patient was prescribed steroids on discharge, were they also prescribed bone protection agents?	534/1300 (41.1%)	749/1347 (55.6%)	971/1396 (69.6%) *

Appendix 2: Table 2: Key results for adult IBD care in the UK – Crohn’s disease across all rounds

Table 2: Key results for adult IBD care in the UK – Crohn’s disease across all rounds			
	2006 (2074 comparable cases of which 1669 non-elective)	2008 (2109 comparable cases of which 1638 non-elective)	2010 (1900 comparable cases of which 1626 non-elective)
1. Did the patient die during the admission?	27/2074 (1.3%)	23/2109 (1.1%)	15/1990 (0.8%)
2. Were non-elective patients seen by an IBD nurse during their admission?	302/1666 (18.1%)	394/1638 (24.1%)	620/1626 (38.1%) *
3. Was Anti-TNF therapy given during the admission? (only includes non-elective patients indicated as not already receiving Anti-TNF therapy on admission)	58/1485 (3.9%)	77/1571 (4.9%)	118/1468 (8%) *
4. Was prophylactic Heparin prescribed for non-elective admissions?	933/1669 (55.9%)	1194/1633 (73.1%)	1400/1626 (86%) *
5. Were Standard Stool Culture (SSC) and Clostridium Difficile Toxin (CDT) samples sent, in non-elective patients with diarrhoea (<i>recorded in the first full day following admission</i>)?	SSC 290/523 (55.5%) CDT 224/523 (42.8%)	SSC 340/516 (65.9%) CDT 307/516 (59.5%)	SSC 470/774 (60.7%) * CDT 426/767 (55.5%) *
6. Were non-elective patients seen by a dietician during the admission?	598/1669 (35.8%)	557/1638 (34.0%)	645/1626 (39.7%) *
7. Were non-elective patients weighed during the admission?	858/1669 (51.4%)	920/1638 (56.2%)	1214/1626 (74.7%) *
8. Were non-elective patients both weighed and seen by the dietician during the admission?	465/1669 (27.9%)	461/1638 (28.1%)	583/1626 (35.9%) *
9. Was the surgery performed on elective patients undertaken laparoscopically?	47/374 (12.6%)	122/460 (26.5%)	147/361 (40.7%) *
10. Was the surgery performed on non-elective patients undertaken laparoscopically?	32/364 (8.8%)	48/320 (15%)	61/298 (20.5%) *
11. Was the patient a smoker at the time of admission?	654/2074 (31.5%)	674/2109 (32.0%)	617/1990 (31.0%)

Appendix 3: Glossary / Abbreviations

Abbreviation	Full title
5ASA	5-Aminosalicylic acid
ACPGBI	Association of Coloproctology of Great Britain and Ireland
Anti TNF α	Anti-Tumour Necrosis Factor Alpha
ASA Status	American Society of Anesthesiologists Status
BPM	Beat Per Minute
BSG	British Society for Gastroenterology
BSPGHAN	British Society for Paediatric Gastroenterology Hepatology and Nutrition
CD	Crohn's Disease
CDT	Clostridium Difficile Toxin
CEEU	Clinical Effectiveness and Evaluation Unit
CQC	Care Quality Commission
CRP	C-Reactive Protein
°C	Degrees Celsius
F2	Foundation Doctor-Year 2
HQIP	Health Quality Improvement Partnership
IBD	Inflammatory Bowel Disease
IBDQIP	Inflammatory Bowel Disease-Quality Improvement Project
IQR	Inter-Quartile Range
MG/DAY	Milligrams per Day
NCAPOP	National Clinical Audit and Patient Outcomes Programme
NICE	National Institute for Health and Clinical Excellence
NSF	National Service Framework
RCN	Royal College of Nursing
RCP	Royal College of Physicians
SG	Steering Group
SHO	Senior House Officer
SSC	Standard Stool Culture
UC	Ulcerative Colitis
UK	United Kingdom

Appendix 4: Members of the UK IBD Audit Steering Group

Chair

- Dr Ian Arnott, consultant gastroenterologist, Western General Hospital, Edinburgh
Association of Coloproctology of Great Britain and Ireland
- Mr Bruce George, consultant colorectal surgeon, John Radcliffe Hospital
Association of Coloproctology of Great Britain and Ireland
- Mr Graeme Wilson, consultant colorectal surgeon, Western General Hospital, Edinburgh
British Dietetic Association
- Ms Miranda Lomer, consultant dietician, Guy's and St Thomas' NHS Foundation Trust
British Society of Gastroenterology
- Dr Stuart Bloom, consultant gastroenterologist, University College Hospital
British Society of Gastroenterology
- Dr Keith Bodger, consultant physician & gastroenterologist, University Hospital Aintree
British Society of Gastroenterology
- Dr Barney Hawthorne, consultant gastroenterologist, University Hospital of Wales
British Society of Gastroenterology
- Dr Keith Leiper, consultant gastroenterologist, Royal Liverpool University Hospital
British Society of Gastroenterology
- Professor Chris Probert, consultant gastroenterologist, Bristol Royal Infirmary
British Society of Gastroenterology
- Professor Jonathan Rhodes, professor of medicine, University of Liverpool
British Society of Gastroenterology
- Mrs Chris Romaya, executive secretary
British Society of Gastroenterology
- Dr Ian Shaw, consultant gastroenterologist, Gloucestershire Royal Hospital
British Society of Gastroenterology
- Dr Abraham Varghese, consultant gastroenterologist, Causeway Hospital
British Society of Paediatric Gastroenterology, Hepatology and Nutrition
- Dr Sally Mitton, consultant paediatric gastroenterologist, St George's Hospital
British Society of Paediatric Gastroenterology, Hepatology and Nutrition
- Dr Richard Russell, consultant paediatric gastroenterologist, Yorkhill Hospital, Glasgow
Health Services Modernisation
- Mr. John Frankish, Aneurin Bevan Health Board
Crohn's and Colitis UK (NACC)
- Mr Richard Driscoll, chief executive
Crohn's and Colitis UK (NACC)
- Ms Elaine Steven, vice-president
Primary Care Society for Gastroenterology
- Dr John O'Malley, clinical director, All Day Health Centre, Arrowe Park Hospital
Royal College of Nursing Crohn's and Colitis Special Interest Group
- Ms Karen Kemp, IBD clinical nurse specialist, Manchester Royal Infirmary
Royal College of Nursing Crohn's and Colitis Special Interest Group
- Ms Allison Nightingale, IBD clinical nurse specialist, Addenbrooke's Hospital
Royal College of Physicians
- Ms Rhona Buckingham, manager, Clinical Effectiveness and Evaluation Unit
Royal College of Physicians
- Mr Calvin Down, project manager, UK IBD audit
Royal College of Physicians
- Ms Jane Ingham, director of Clinical Standards
Royal College of Physicians
- Miss Aimee Protheroe, project coordinator, UK IBD audit
Royal College of Physicians
- Dr Jonathan Potter, clinical director, Clinical Effectiveness and Evaluation Unit
Royal College of Physicians

Dr Kevin Stuart, clinical director, Clinical Effectiveness and Evaluation Unit
Royal College of Physicians
Professor John Williams, consultant gastroenterologist, Abertawe Bro Morgannwg University
NHS Trust & Director of Health Informatics Unit, RCP
Royal Pharmaceutical Society of Great Britain
Ms Anja St. Clair-Jones, lead pharmacist-surgery and digestive diseases, Royal Sussex County
Hospital

Appendix 5: Audit Participants

Each of the sites listed below contributed to the 2010 round of the adult audit, submitting one or more cases for inclusion:

Aberdeen Royal Infirmary
Borders General Hospital
Crosshouse Hospital
Dumfries & Galloway Royal Infirmary
Glasgow Royal Infirmary
Hairmyres Hospital
Monklands Hospital
Ninewells Hospital
Stirling Royal Infirmary
Western General Hospital
Wishaw General Hospital

Appendix 6: Action Plan

This action plan has been produced to enable you to take forward the recommendations of this audit and allows for localisation in the addition of further actions as you feel appropriate for your own service. We would recommend the use of the IBDQIP Shared Document Store (SDS) www.ibdqip.co.uk as a particularly useful resource when considering the actions required below, here you can freely access guidelines, business cases and examples of best practice from around the UK.

National recommendation	Action required	Staff responsible	Progress at your site
1. Sites should aim to continue to deliver high quality care for patients with UC and CD, including collecting stool specimens and giving prophylactic Heparin to all appropriate inpatients	a) Submission of all relevant local cases to the UK IBD Audit b) All IBD patients with diarrhoea should be considered for stool sample collection for SSC and CDT c) All IBD inpatients should be prescribed Heparin, unless contraindicated	UK IBD Audit Clinical Lead Consultant Gastroenterologists Consultant Gastroenterologists	
2. Sites should consider the value of rescue therapy for patients that do not respond to intravenous steroids	d) In patients with no/poor response to steroid treatment, Ciclosporin / Anti TNF should be considered	Consultant Gastroenterologists	
3. Bone protection should be prescribed to all patients who receive corticosteroids	e) Local policy should dictate that bone protection agents are prescribed to all IBD patients started on steroid treatment	Consultant Gastroenterologists / Hospital policy managers	
4. Sites should continue to ensure appropriate use of specialist wards areas	f) All IBD patients should be admitted directly to specialist gastroenterology wards	Bed Managers / Ward Staff	
5. Further audit is needed on the use of Anti TNF drugs and sites are encouraged to participate in the ongoing UK IBD Biologics Audit	g) Any site providing biological treatment (Infliximab or Adalimumab) to IBD patients, should be registered to participate in the UK IBD Biologics Audit (or a relevant alternative)	UK IBD Audit Clinical Lead	
6. Sites are strongly encouraged to review the therapy received by all IBD patients. 5ASA drugs may be stopped in many CD cases and	h) Local review of existing evidence should be undertaken to inform any continued use of 5ASA drugs in CD patients i) Any patient on long-term steroids (>3	Consultant Gastroenterologists Consultant Gastroenterologists	

the use immunomodulators and biologics in keeping with national clinical guidance will help to reduce long-term steroid use and the need for admission	months) should be under regular review		
7. Sites should continue to focus on the nutritional need of patients with CD ensuring they have appropriate dietetic support	<p>j) All CD inpatients should have their weight regularly monitored (weekly/daily?)</p> <p>k) Business cases should put forward to promote the need for further dietetic support for IBD inpatients</p>	<p>Nursing staff / Healthcare assistants</p> <p>Consultant Gastroenterologists /</p>	
8. Patients with CD who smoke, should be encouraged to engage with formal smoking cessation services	l) Leaflets promoting local smoking cessation services should be handed to all CD inpatients that smoke	All members of the IBD Team	
9. ENTER THE LOCAL ACTIONS YOU HAVE IDENTIFIED HERE			
10. ENTER THE LOCAL ACTIONS YOU HAVE IDENTIFIED HERE			