Original Article

Acceptance of Inflammatory Bowel Disease Treatment Recommendations Based on Appropriateness Ratings: do Practicing Gastroenterologists Agree with Experts?

Valérie Pittet\(^1\), Michel H. Maillard\(^2\), Stéphanie Lauvergeon\(^1\), Marjan Timmer\(^1\), Pierre Michetti\(^2,3\), Florian Froehlich\(^2,4\), Bernard Bumand\(^1\), John-Paul Vader\(^1\), Christian Mottet\(^2,5\)

\(^1\)Healthcare Evaluation Unit, Institute of Social & Preventive Medicine (IUMSP), Lausanne University Hospital, Lausanne, Switzerland \(^2\)Division of Gastroenterology & Hepatology, Lausanne University Hospital, Lausanne, Switzerland \(^3\)Crohn and Colitis Center, Clinique La Source-Beaulieu, Lausanne, Switzerland \(^4\)Division of Gastroenterology & Hepatology, University Hospital Basel, Basel, Switzerland \(^5\)Division of Gastroenterology, Hôpital Neuchâtelois, Neuchâtel, Switzerland

\(^\ast\)Corresponding author: Valérie Pittet, Healthcare Evaluation Unit, Institute of Social & Preventive Medicine (IUMSP), Route de la Corniche 10, CH-1010 Lausanne, Switzerland. Telephone: +41 21 314 72 82; Fax: +41 21 314 49 54; Email: Valerie.Pittet@chuv.ch

Abstract

**Background:** Appropriateness criteria for the treatment of Crohn's disease (CD) and ulcerative colitis (UC) have been developed by expert panels. Little is known about the acceptance of such recommendations by care providers. The aim was to explore how treatment decisions of practicing gastroenterologists differ from those of experts, using a vignette case study and a focus group.

**Methods:** Seventeen clinical vignettes were drawn from clinical indications evaluated by the expert panel. A vignette case questionnaire asking for treatment options in 9 or 10 clinical situations was submitted to 26 practicing gastroenterologists. For each vignette case, practitioners’ answers on treatments deemed appropriate were compared with panel decisions. Qualitative analysis was performed on focus group discussion to explore acceptance and divergence reasons.

**Results:** Two hundred thirty-nine clinical vignettes were completed, 98 for CD and 141 for UC. Divergence between proposed treatments and panel recommendations was more frequent for CD (34%) than for UC (27%). Among UC clinical vignettes, the main divergences with the panel were linked to 5-aminosalicylate (5-ASA) failure assessment and to situations in which stopping treatment was the main decision. For CD, the propositions of care providers diverged from the panel in mild to moderate active disease, for which practitioners were more prone to an accelerated step-up than the panel's recommendations.

**Conclusions:** In about one-third of vignette cases, inflammatory bowel disease treatment propositions made by practicing gastroenterologists diverged from expert recommendations. Practicing gastroenterologists may experience difficulty in applying recommendations in daily practice.

**Keywords:** Ulcerative colitis; Crohn's disease; vignette case study; focus groups; appropriateness of care
1. Introduction

Crohn’s disease (CD) and ulcerative colitis (UC) are two subtypes of inflammatory bowel disease (IBD) and are characterized by chronic inflammation of the intestinal tract. Because of the complicated course of CD and UC, a wide variety of clinical situations may be identified, with multiple potential treatments. Explicit criteria for treatment appropriateness were developed by two multidisciplinary European panels, one focused on the treatment of CD (EPACT II)\(^\text{1,2}\) and the other on the treatment of UC (EPATUC).\(^\text{3}\) However, we do not know whether and to what extent practicing gastroenterologists agree with these criteria.

Appropriateness criteria were developed using the RAND Appropriateness Method (RAM), which combines extensive literature review with systematic synthesis of experts’ opinions, thus theoretically filling the gap between evidence-based knowledge and the variety of clinical situations met in clinical practice. Although the methodology used to develop appropriateness criteria is rigorous, the actual use and acceptance of such criteria has never been formally assessed among providers. Challenges may exist in applying the recommendations of panels of appropriateness experts to clinical practice, and the perceptions and beliefs of physicians should be taken into account when the translation of use into practice is questioned. One method commonly used to collect information about treatment decisions in practice is clinical vignette case studies.\(^\text{4-8}\) Clinical vignettes have been used in many fields, including gastroenterology, to study variation in treatment decisions, processes of care, and physician adherence to guidelines.\(^\text{9-12}\) To date only a few studies have used clinical vignettes to study the consistency and level of agreement between groups of academic experts and community gastroenterologists about diagnoses and treatment decisions regarding CD and UC,\(^\text{13-16}\) but none of them has combined such studies with qualitative analyses and used after-discussions with providers for deeper exploration and understanding of decisions.

In this study, we aimed to assess the acceptance by practicing gastroenterologists of treatment recommendations based on appropriateness ratings from the European Panel on the Appropriateness of Therapy for Crohn’s disease (EPACT-II) and European Panel on the Appropriateness of Therapy for Ulcerative Colitis (EPATUC). Vignettes of cases describing the clinical situation of CD or UC patients were developed to assess the extent to which the experts and practicing gastroenterologists concurred on the treatment considered appropriate. A second objective was to discuss a subset of these cases with practicing gastroenterologists during a focus group discussion to explore the reasons behind acceptance of or divergence from the experts’ recommendations.

2. Methods

2.1 Appropriateness ratings from expert panels

Treatment appropriateness criteria were developed by two panels of experts (named ‘panelists’ in the following text). The first, EPATUC, convened in June 2011 and was focused on treatment for UC; the second, EPACT-II, convened in October 2012 to assess treatment for CD. Both panels developed explicit criteria using RAM, a modified Delphi approach that combines evidence from the literature and existing guidelines with panelists’ judgments, thus allowing the drafting of recommendations where clear evidence is missing. Panelists were physicians following a large number of patients with IBD (i.e., some were working in dedicated IBD clinical centers) in their daily practice, and had an academic or institutional affiliation and an active research and/or educational agenda related to IBD. To conduct each panel, an exhaustive literature review was first performed, in parallel with the development of potential indications (i.e., clinical scenarios) for the use of therapy. Panelists were experts from the various medical specialties involved in the care of patients with IBD, i.e., gastroenterologists, surgeons, internists, and general practitioners. The RAM approach comprised two rounds of ratings, a first round performed by each panelist individually and independently, and a second round performed during a panel meeting after intensive discussion on scenarios in which decisions remained equivocal. Ratings were performed on a nine-point scale from 1 (extremely inappropriate) to 9 (extremely appropriate). Median and disagreement index (D) calculations were used to categorize ratings into three categories: appropriate (median 7–9, without D), uncertain (median 4–6, or D) and inappropriate (median 1–3, without D). During both panels, a range of therapies was assessed for a total number of 54 UC (EPATUC) and 134 CD clinical situations (EPACT-II).

2.2 Vignette case development

We developed eight vignette cases describing the clinical situation of patients with CD and nine with UC. The objective was to assess frequent situations; therefore, we first checked the frequency of clinical situations observed among patients enrolled in the Swiss IBD Cohort (SIBDC), a national prospective clinical cohort of IBD patients.\(^\text{17}\) Subsets of four or five vignette cases were independently developed by four IBD specialists and senior gastroenterologists (MHM, PM, FF, CM) (referred to as ‘expert gastroenterologists’ in the following text) to ensure face validity, comprehensibility, and comprehensiveness. The whole set of vignette cases were then classified into the corresponding EPACT-II and EPATUC clinical situations by the four expert gastroenterologists. For all situations, a range of treatments was rated for appropriateness by panelists. Clinical situations used in the panel were those of typical patients described with key characteristics only. Clinical vignettes, which were customized narrative scenarios. An example of a clinical vignette and the corresponding clinical situation assessed through the panel is shown in Figure 1.

2.3 Study participants

We used the Swiss Medical Association’s (FMH) directory to identify gastroenterologists in Switzerland. Physicians who were no longer active were excluded. An invitation letter was sent to 304 gastroenterologists, of whom 52 indicated that they were interested in participating. They were given the choice of completing vignette cases by post or email. One reminder was sent to each interested physician and a final reminder was performed by telephone. To limit the time needed for participant gastroenterologists to answer vignette cases, we divided the total number of vignette cases to be assessed between two questionnaires: one with 9 (Q1) and the other with 10 vignette cases (Q2). Two vignette cases were identical in both Q1 and Q2. Participant gastroenterologists were asked to answer three open-ended questions about the treatment they would choose for each case. The questions asked were as follows: (1) ‘Which treatment (first choice) would you prescribe? What are the elements that support your decision?’, (2) ‘What would be the dosage, timing, and duration of this treatment?’, and (3) ‘Would you propose other therapeutic options? If yes, please specify.’ We used the answers to questions 2 and 3 only to consolidate the answers to question 1. This procedure helped us to discriminate between the actual first choice of treatment when multiple options and lines of treatments were indicated; for example, the indication of dose and duration informed us which treatment option was considered for the actual current situation.
(e.g., active disease) and which was foreseen for the future (e.g., once maintenance was obtained). The decision to use open-ended questions was also motivated by previous studies showing that, in evaluating clinical practice, simple multiple-choice questions tended to overestimate the physician's performance.

2.4 Focus group

To gain a better understanding of which factors may influence the process whereby physicians decided which treatment they considered appropriate, a subset of four relevant vignettes was discussed in detail during a focus group meeting with practicing physicians.

Figure 1. Example of a clinical vignette description (A) and of the corresponding clinical situation assessed by the panel (B).
gastroenterologists. One hundred twenty-four French-speaking gastroenterologists, excluding responders to the clinical vignette questionnaires and expert gastroenterologists, were approached to participate in the focus group. Eight physicians indicated that they were interested and seven eventually participated in the meeting. This meeting was moderated by one of the co-investigators of the SIBDC (VP) and a collaborator experienced in focus groups and qualitative research (SL). For each vignette case, gastroenterologists were first asked about their case management and the treatments they might prescribe. Questions regarding the appropriateness of the treatment they proposed and the expected risks, benefits, and outcomes for the patients were discussed. Then, the treatments proposed by the panelists were presented and the reasons for acceptance or divergence were discussed.

2.5 Data collection
Responses to the vignette case questionnaires were collected on an Excel sheet. Answers concerning the first choice of treatment proposed for the situation were summarized by and compared between two independent reviewers (VP, MT). A choice could be a single treatment or a combination of treatments. We considered all answers from participant gastroenterologists as deemed appropriate for the particular clinical situation. Indeed, we did not ask gastroenterologists to rate a selected range of treatments on a nine-point scale in order not to influence their decision and to be closer to practice; therefore, we did not collect indications for treatments that might be uncertain or inappropriate. The focus group discussion was transcribed by the qualitative researcher (SL) and its content was subsequently analyzed. A coding grid was created during content analysis, organizing the participants’ answers in terms of diagnostic tests, treatments (including reasons for their choice), and expected treatment outcomes. Acceptance of or divergence from recommendations was assessed. Reasons for divergence were summarized specifically for each situation.

2.6 Statistical analyses
We compared first choices of treatments proposed by participant gastroenterologists with the treatments proposed by panelists. If a treatment combination was not assessed as such by the panel, we assessed each individual treatment independently. A combination of treatment with discordant appropriateness (e.g., a combination of steroids [appropriate] and infliximab [inappropriate]) was considered of uncertain appropriateness. Only one choice (referred to as ‘the treatment’ in the following text) was taken into account per participant. This could be a monotherapy (e.g., 5-ASA) or a combined therapy (e.g., 5-ASA + azathioprine/6-mercaptopurine [5-ASA + AZA/6MP]). We performed our analyses per participant, not per treatment. Results were expressed in terms of acceptance, a variable with three categories: ‘acceptance’ (the treatment proposed by a gastroenterologist was considered appropriate by the panelists), ‘uncertainty’ (the treatment proposed by a gastroenterologist was considered uncertain by the panelists), and ‘divergence’ (the treatment proposed by a gastroenterologist was considered inappropriate by the panelists). A treatment proposed by a participant gastroenterologist, but not assessed at all by panelists, resulted in divergence.

3. Results

3.1 Baseline description of study participants
Among the 52 gastroenterologists who indicated that they were interested in participating in the vignette case study (VC-GEs) and to whom we sent the questionnaires, 26 (50%) returned their answers. All VC-GE participants were males, 17 (65%) were practicing in the German-speaking part, 7 (27%) in the French-speaking part, and 2 (8%) in the Italian-speaking part of Switzerland. Sixty percent (n = 15) were from private practices, one-third (n = 8) from community hospitals, and 12% (n = 3) from university hospitals. Concerning the focus group participants (FG-GEs), 4 (57%) were males and 3 females; 3 (43%) were in private practice, 3 (43%) in a university hospital and 1 (14%) in a community hospital.

3.2 Clinical vignettes for UC patients
Nine clinical vignettes for UC patients were developed and are summarized in Table 1. We considered three situations for patients with active UC, i.e., mild to moderate left-sided colitis, severe proctitis, and active steroid-dependent extensive colitis. The remaining six situations described patients in remission. The stacked bars in Table 1 represent, for each situation, the results of the comparison between treatments proposed by the VC-GEs and treatments judged by the EPATUC panelists. For example, for the first situation, that of a patient with active mild to moderate left-sided UC who had prior topical and oral 5-ASA failure, seven out of a total of 26 VC-GEs who gave a response to this particular vignette case agreed with the treatments considered appropriate by the EPATUC panel; for 11/26 the comparison led to uncertainty, and 8/26 disagreed with these treatments. For patients with active disease, the majority of treatments proposed by the participant gastroenterologists were in agreement with the panel (25/31; 49%) or led to uncertain acceptance (17/31; 33%). The main divergences were for cases in which oral and/or topical 5-ASA treatments were indicated by VC-GEs, compared with panelists, although these treatments had previously failed. This was also observed for the two patients with left-sided colitis in remission obtained with steroids and with prior 5-ASA failure. The treatments proposed, in the case of proctitis in remission with prior 5-ASA failure, were oral and/or topical 5-ASA with or without oral or topical steroids. All these treatments diverged from those considered appropriate by EPATUC. For the case of proctitis in remission with prior successful 5-ASA treatment, 38% of the VC-GEs suggested stopping the treatment and adopting a wait and see attitude; this option was not considered at all by the panelists. Overall, 38/141 (27%) of treatments proposed by YG-GEs diverged from the recommendations of panelists (Figure 2).

3.3 Focus group discussion on UC clinical vignettes
Two clinical vignettes were discussed in the focus group; those are indicated in bold in Table 1. The first was the situation of a patient with left-sided colitis in remission obtained by the use of steroids, with prior 5-ASA failure. The FG-GEs judged it appropriate to prescribe an immunomodulator with or without oral 5-ASA. Those in favor of using only an immunomodulator explained this as being related to the fact that they considered the patient to have had a second, severe flare. Some of them also considered adding oral 5-ASA, firstly to prevent neoplasia and secondly because 5-ASA might be beneficial to the patient while waiting for the immunomodulator to be effective. In addition, FG-GEs considered oral 5-ASA to be appropriate, in contrast to panelists, because there was only one previous flare episode and they therefore did not consider this treatment to have failed. In this particular clinical situation, EPATUC panelists recommended AZA/6MP as being the appropriate treatment and probiotics as uncertain. The latter was not proposed by any
gastroenterologist. FG-GEs indicated that they rarely used probiotics in practice, and only in cases in which all other treatments failed.

The second situation was a patient with proctitis in remission, with prior successful 5-ASA. Some of the FG-GEs proposed to continue the topical 5-ASA treatment and others proposed to stop the treatment followed and to adopt a wait and see strategy, because the patient was in histological and endoscopic remission. Those in favor of the 5-ASA treatment argued that relapse might be more severe if treatment were to be stopped for a period of time. The benefit of using topical 5-ASA was therefore to limit the risk of relapse; the risk might be noncompliance to topical treatment followed by a new flare. Arguments for stopping the treatment were that the patient was in histological and endoscopic remission, and the facts that the patient seemed to have had only one flare at disease diagnosis and had an initially mild disease located in the rectum. Here, the expected benefit for the patient was the absence of any treatment. In this situation, EPATUC considered oral and/or topical 5-ASA to be appropriate.

### 3.4 Clinical vignettes for CD patients

Eight clinical vignettes were made for CD patients and are summarized in Table 2. Five vignettes described situations of patients with active disease. For active low to moderate luminal CD with prior prednisone failure, the acceptance of treatments proposed by the panel by VC-GEs was high (around 70%); the proportion was lower (21%) in the situation of patients who had prior budesonide failure, with no prior history of prednisone for the described episode. For one of those situations, two-thirds of the treatments proposed (8/12) remained of uncertain acceptance; these were a combination of steroids with AZA/6MP or infliximab, and other divergences were related to VC-GEs’ proposals of infliximab or resection surgery instead of prednisone, as recommended by the panel. One vignette was focused on patients with fistulizing CD. The patient with fistulizing CD who had a complex fistula was treated in complete agreement with EPACT-II recommendations.

<table>
<thead>
<tr>
<th>Description</th>
<th>Acceptance of EPATUC treatment recommendations by practicing gastroenterologists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active mild to moderate left-sided UC with prior topical + oral 5-ASA failure</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Severe proctitis, not steroid-refractory, with prior successful topical 5-ASA</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Active extensive UC, steroid-dependent, with prior AZA/6MP and 5-ASA failure</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Proctitis in remission with prior successful 5-ASA treatment*</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Proctitis in remission with prior 5-ASA failure</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Left-sided UC in remission obtained using 5-ASA</td>
<td>![Bar chart showing acceptance proportions]</td>
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<tr>
<td>Left-sided UC in remission obtained using steroids</td>
<td>![Bar chart showing acceptance proportions]</td>
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<tr>
<td>Left-sided UC, in remission obtained using steroids, with prior 5-ASA failure</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
<tr>
<td>Left-sided UC, in remission obtained using steroids, with prior 5-ASA failure*</td>
<td>![Bar chart showing acceptance proportions]</td>
</tr>
</tbody>
</table>

*Clinical vignettes discussed in the focus group.
5-ASA, 5-aminosalycilates; AZA/6MP, azathioprine/6-mercaptopurine.

![Figure 2. Overall numbers and proportions of treatment acceptance between practicing gastroenterologists and panelists’ recommendations for ulcerative colitis (UC) and Crohn’s disease (CD).]
For surgically induced remission with a high risk of postoperative recurrence, 5/13 (38%) VC-GEs proposed a wait and see approach. The same option was chosen by 7/13 (54%) VC-GEs in a situation of medically induced remission obtained with steroids. Overall, as shown in Figure 2, divergence between CD treatments proposed by VC-GEs and recommendations of panelists was observed in 33/98 (34%) of the cases, a higher, but not significantly different (p = 0.26), proportion than for UC.

Table 2. Main clinical situations of CD patients described in the vignette cases proposed to practicing gastroenterologists. Numbers and proportions of the cases in which treatments proposed by gastroenterologists compared with EPACT-II panelists showed acceptance (green), uncertainty (yellow), or divergence (red).

<table>
<thead>
<tr>
<th>Case description</th>
<th>Acceptance of EPACT-II treatment recommendations by practicing gastroenterologists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active mild to low-moderate luminal CD with prior budesonide failure</td>
<td>2% 20% 40% 60% 80% 100%</td>
</tr>
<tr>
<td>Active mild to low-moderate luminal CD with prior budesonide failure</td>
<td>3% 1% 2% 4% 8% 10%</td>
</tr>
<tr>
<td>Active mild to low-moderate luminal CD with prior prednisone failure</td>
<td>2% 1% 4% 8% 10%</td>
</tr>
<tr>
<td>Steroid-dependent CD with prior AZA/6MP failure</td>
<td>7% 6% 4% 1% 2%</td>
</tr>
<tr>
<td>Fistulizing CD with an active complex fistula</td>
<td>0% 20% 40% 60% 80% 100%</td>
</tr>
<tr>
<td>Steroid-refractory CD with prior AZA/6MP failure*</td>
<td>10% 12% 12% 10% 8% 6%</td>
</tr>
<tr>
<td>High-risk CD in remission, surgically induced*</td>
<td>7% 2% 4% 8% 10%</td>
</tr>
<tr>
<td>CD in remission obtained using steroids</td>
<td>5% 1% 2% 4% 8% 10%</td>
</tr>
</tbody>
</table>

*Clinical vignettes discussed in the focus group.
5-ASA, 5-aminosalicylates; AZA/6MP, azathioprine/6-mercaptopurine.

3.5 Focus group discussion on CD clinical vignettes
The two CD clinical vignettes discussed in the focus group are indicated in bold in Table 2. The first was the situation of a patient in surgically induced remission with a high risk of postoperative recurrence. The FG-GEs chose two treatment options: one was to start AZA/6MP immediately, without waiting for the results of a follow-up endoscopic evaluation at 6 months, and the second was to wait for the results of the follow-up endoscopy. In the case of remaining lesions and/or high calprotectin levels, the treatment proposed was AZA/6MP; otherwise, the patient would have been asked to stop smoking, without any specific treatment (wait and see) for at least 1 year. Those gastroenterologists in favor of waiting for the endoscopic assessment before making a decision also proposed to start 5-ASA treatment immediately to minimize the risk of relapse. The benefit of this treatment was related to its low rate of adverse events; however, they perceived some burden for the patient in having to take several tablets per day for a relatively long time, even if the patient did not show symptoms just after surgery, as mentioned in the following extract (where ‘GE’ represents ‘gastroenterologist’):

GE1: ‘(…) but except that 5-ASA is still a number of tablets to take per day … in fact it is still not trivial for a patient who no longer has any symptom, i.e., she is doing well, to tell her ‘listen you will have to take 8 tablets per day’ … ‘(…) she will not be highly excited with that.’

GE2: ‘(…) you could also talk to her about what the risks are associated with relapse…’
GE1: ‘yes’
GE2: ‘which are still not trivial either’
GE1: ‘no no that’s clear’
GE2: ‘I mean, when I think when we balance the risks of the medication and the risks of relapse, I think that relapse is worse (…)’

The second clinical vignette discussed in the focus group was the case of a steroid-refractory CD patient with a prior AZA/6MP failure who had recently undergone stenotic dilation. In this case, all FG-GEs agreed on a treatment combining AZA with anti-tumor necrosis factor. They justified this option by the fact the patient, having active colonic disease with a stenosis located in the ileum, had already had a dilation to treat this complication. They proposed to give the combined treatment for a short period (i.e. 6 months) followed by stoppage of AZA. This was motivated by the fact that the patient already had AZA failure; therefore, little benefit might be observed under long-term combined treatment. The only reason to perform resection surgery would have been failure of the dilation. However, they felt that surgery would not have been the right option at the time of vignette assessment, because the patient had active disease with colonic lesions. Moreover, FG-GEs mentioned that,
according to their own experience, 80% of patients in a clinical situation like this could be treated without surgery. In summary, they would treat the patient with infliximab for 2 years, and would make it clear to him that surgery would not be proposed as the first option. Their perception of the treatments they might propose is mentioned in the following extract:

GE4: ‘(...) I think that patients’ expectation is to actually go into remission with the mildest treatment…’
GE6: ‘... without surgery’
GE4: ‘... and if possible without surgery (…)’

4. Discussion

This study investigated the acceptance of recommendations from expert panels by practicing gastroenterologists. Two methods were used to achieve this goal: a vignette case study and a focus group to explore reasons for proposed treatments and comparison with recommendations from experts. Among clinical vignettes for UC patients, we found that the main divergences were linked to the assessment of a 5-ASA failure and to situations in which stoppage of treatment was an option but was not considered by the panel. Treatments proposed by gastroenterologists diverged from those of panelists more frequently for CD (34%) than for UC (27%). For CD, the proposed treatments diverged from those of the panel in active disease situations in which the drug treatments proposed by gastroenterologists were more aggressive than those proposed by the panel.

Vignette cases have been used for CD and UC in other studies to investigate various aspects, such as diagnosis, treatment decisions, communication between physician and patient, preventive care for IBD patients, and classification of CD. Only a few vignette case studies were performed for IBD treatments. One of these used five vignette cases for CD to observe whether experts and community gastroenterologists were consistent in their diagnostic assessment and management of CD. Although they found there was general agreement between experts and community providers, except for the management of perianal fistula, community providers were more likely than experts to prescribe 5-ASA for the proposed situations. This was not the case in our study, in which proposals to use 5-ASA in CD remained very infrequent. The only situation in which oral 5-ASA was prescribed alone or in combination with AZA/6MP was for the management of steroid-dependent CD, in the case of surgically induced remission, or as chemo-prevention, as mentioned by the FG-GE; Ersalilian et al. made a similar observation on the vignette case that they proposed for a steroid-refractory CD.

Vignette cases for UC were used to study the level of agreement between experts and community gastroenterologists, focusing on areas of controversy, such as the use of 5-ASA compounds in UC. In that study, experts were more likely than community gastroenterologists to prescribe long-term 5-ASA treatment after the induction of remission and to use high doses of 5-ASA to induce remission in moderate UC. In our study, practicing gastroenterologists tended to continue prescribing 5-ASA where experts would not have used it any longer. One reason for this seems to be related to the difficulty of assessing treatment failure; therefore, the decision to step up in UC remains uncertain for practicing gastroenterologists. Other reasons might be linked to variation in judgments of drug efficacy or disease severity profiles.

Variability in the choice of treatment was also observed for other diseases. Green and Wheeler studied the appropriateness of pain relief treatment in cancer pain management, and found that the achievement of optimal health was complicated by the variability in the treatment of patients with similar conditions. Variations in medical practice due to uncertainty about factors such as the efficacy of treatment, recent visits of pharmaceutical representatives, judgment and beliefs about the costs of drug acquisition, and side-effect profiles, were observed in a study investigating prescriptions for treatments for postoperative nausea and vomiting. These observations might be related to a lack of evidence for some indications or a lack of knowledge of evidence by practitioners for those indications. In the field of IBD, a recent survey on how gastroenterologists follow clinical practice guidelines for venous thromboembolism prophylaxis in hospitalized IBD patients led to the observation that they did not follow guidelines for several reasons, such as being unaware of guidelines (especially in community hospitals compared with university hospitals) or not being up to date with literature when more advanced in their career. We could not test this hypothesis in our study as this question was not directly addressed. However, when discussing cases in the focus group, we observed a general agreement between gastroenterologists. During the focus group’s discussion, all gastroenterologists frequently referred to the scientific literature to explain their choice, according to their own evaluation of the patient’s clinical situation. Other studies showed that expert gastroenterologists, i.e., physicians with more than 50% of their patients having IBD, were more comfortable in using a broad array of medical therapies than physicians with less frequent practice in treating IBD patients. We did not collect the corresponding information in our study; nevertheless, such a reason might explain why, for some vignette cases, gastroenterologists tended to limit their choice of treatment, especially for UC. In the field of depression, Tiemeier et al. showed marked variation in prescribed treatments, with a difference in the amount of appropriate treatment between professional groups, i.e., psychiatrists and general practitioners, who tended to choose an appropriate treatment for severe depression more frequently than psychologists and psychotherapists, who chose an appropriate treatment more often for mild depression. In our study, we also observed divergences according to disease severity. This led us to question how evidence-based recommendations for IBD are perceived by gastroenterologists and whether some differences might be related to lack of understanding of recommendations. The other point is linked to RAM methodology; indeed, some treatments have been rated as appropriate on the basis of a weaker grade of evidence (e.g., individual cohort studies) but supported by positive experience in practice. On the other hand, RAM may help to identify situations for which several treatments might be inappropriate, based on the literature available and experts’ experience thus, filling a gap due to unpublished negative results of randomized controlled trials.

We also observed that some treatment options were not considered by the panels; one example is the stoppage of treatment, which appears as an option potentially chosen by practicing physicians in the situation of initially mild proctitis in clinical and histological remission obtained with 5-ASA. In certain clinical situations, part of the explanation of divergence between practicing gastroenterologists and panelists was related to potential fears or expectations of patients that may affect decisions in practice. These could be, for example, side effects or a high risk of nonadherence to treatment, even if in theory it might be the most appropriate treatment according to expert panels. In the focus group, treatments were discussed according to patient characteristics such as age, gender, body mass index, and smoking status, which were not considered important in the ‘average patient’ examined by the panels. Indeed, panelists...
were asked to rate the appropriateness of treatment for an average patient, defined in terms of selected characteristics, which were those characteristics considered most important in discriminating among the main clinical situations, i.e., generally qualifying patients enrolled in clinical trials, whereas practicing gastroenterologists may have thought more about existing cases. Guidelines are general and should be adapted to each individual patient’s case, opinion, and decision, and to the individual context. In addition, it appeared that definitions of severity or disease activity profiles, for which treatment steps are recommended, are difficult to assess in practice, thus leading to treatments that may be different from recommendations.

Our study has some limitations. The expert opinion collected using the RAND appropriateness method was based on a nine-point scale and a disagreement index, whereas opinions from practicing physicians were collected using open-ended questions and the current analysis was limited to appropriate treatments without calculation of a score. Thus, the process of extracting information differed between panel experts and practicing gastroenterologists, which could explain some of the observed differences. Another limitation is the small number of participants in the vignette case study, which might have induced a lack of gastroenterologist representativeness. As very few respondents were from university hospitals, the results mostly reflect usual practice and highlight the difficulties of applying recommendations in real IBD patients.

Conflict of Interest

No author has any conflict of interest or financial ties relevant to the manuscript to disclose.

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VP, MHM, PM, FF, CM, and SL conceived and designed the study. VP, MHM, PM, FF, CM, BB, and JPV analyzed and interpreted the data. VP, MHM, MT, BB, and CM drafted the manuscript. VP, MHM, PM, FF, CM, MT, SL, BB, and JPV critically revised the manuscript for significant intellectual content. VP, MHM, PM, FF, CM, MT, SL, BB, and JPV gave final approval of the version to be published. VP obtained funding.

References