REVIEW

Improving outpatient services: the Southampton IBD virtual clinic

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Abstract

The follow-up of inflammatory bowel disease (IBD) patients is challenging due to the relapsing remitting nature of the diseases, the wide spectrum of severity and complexity as well as the need for monitoring of long-term complications and drug treatments. Conventional outpatient follow-up lacks flexibility for patients and there are competing pressures for clinic time. Alternative follow-up pathways include telephone clinics, self-management programmes or discharging patients. The IBD virtual clinic (VC) is a further option. Patients with an established diagnosis for >2 years, who have been stable for >1 year, do not have primary sclerosing cholangitis and who give their consent, are entered into the VC system. Two months before their annual follow-up is due patients are sent blood test forms and a simple questionnaire with an information sheet. If they meet any of the criteria on the questionnaire, they are asked to contact the IBD specialist nursing team to discuss their situation. The blood test results and the patient's database entry are reviewed to ensure that they are not due surveillance investigations. The patients and their GPs then receive a letter informing them of their management plan. We currently follow-up 20% of the Southampton IBD cohort using the VC. The VC system is an innovative, efficient and patient-responsive method for following up mild to moderate IBD. It is well liked by patients but is dependent on a well-maintained database with good integration of IT systems and requires both clerical and IBD nurse specialist support.

Introduction

The long-term management of chronic disease is a major challenge facing the NHS. Like many chronic diseases, inflammatory bowel disease (IBD) has a wide spectrum of severity and often follows an unpredictable course with some patients requiring frequent contact with secondary care while others need long-term monitoring for complications of the disease but not necessarily direct face-to-face contact. Conventional follow-up has taken the form of at least yearly review, often in a busy general gastroenterology clinic. Although this annual review has been seen as a way of maintaining specialist–patient contact, it is unsatisfactory for a number of reasons. It remains expensive for care commissioners and patients and it is an inefficient way to manage long-term stable illnesses. Most patients do not necessarily need or want to attend hospital when they are well but nevertheless require long-term specialist monitoring for complications. This cohort of well patients attending clinics uses a significant proportion of outpatient capacity, making IBD services less responsive to patients who do need urgent access to clinics for management of acute flares or who have complex severe disease. The yearly outpatient review may also miss patients with low-grade active symptoms leading to acceptance of an unnecessarily poor quality of life.

Any recent growth in outpatient clinic capacity is likely to slow down considerably in the foreseeable future and in the case of most IBD services it has already been proved that they are unable to keep up with the ever-increasing demands and expectations of patients. Innovative care pathways are therefore required to provide high-quality, long-term care for all patients with IBD as described by the National IBD Standards.[1] Some time ago, gastroenterology outpatient waiting times in Southampton General Hospital were over 26 weeks, referrals were increasing and the hospital was facing considerable cost savings pressures. The IBD team

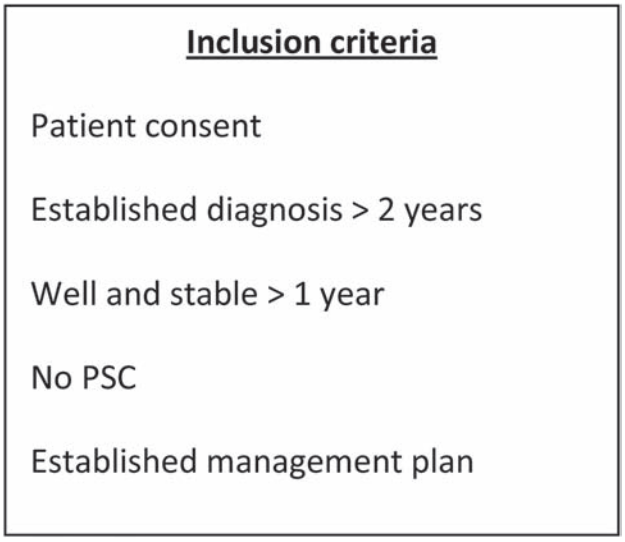

Figure 1 The virtual clinic inclusion criteria. PSC, primary sclerosing cholangitis.

therefore needed to develop a system of care that reduced secondary care activity, improved the quality of care provided, and was safe and cost effective. Furthermore, the system must allow urgent access to clinics within five working days and most importantly had to satisfy patients' demands and expectations. All these features map closely to the principles of good IBD care.[1–3] As a result, we developed a 'virtual IBD clinic' which evolved over a period of time. The critical step was establishing a database with a very concise data set which was practical to use in a busy outpatient environment. This article describes the experiences of the clinicians and the patients in using this system.

The IBD virtual clinic

Southampton General Hospital (SGH) is a large teaching hospital that caters to a population of 600 000 with an estimated 2400 patients with IBD attending the hospital. The IBD virtual clinic (VC) is designed to take the place of the traditional outpatient clinic for a selected group of patients. Central to operation of the VC is the SGH IBD database which is fully integrated with local laboratory and administration systems. It currently holds the records of approximately 1800 patients, which have been identified from inpatient or outpatient review, treatment or investigation. Patient notes are passed on to a database administrator who creates the patient's record, which is then updated by the clinical team through regular use in outpatient clinics. Patients are recruited into the VC if they meet the criteria outlined in figure 1. Careful patient selection is essential to ensure that the patients are safely followed up. SGH currently has 509 patients enrolled onto the VC clinic pathway, which represents approximately 20% of our estimated IBD population.

The IBD VC pathway

Suitable patients are identified in conventional outpatient clinics by the gastroenterology team and, with the permission of the patient, referred to the pathway using the IBD database. Once on the system, those who are due for their annual review are identified 2 months in advance of that review by an automated reporting system. The database administrator then sends the patient an information pack which contains a letter informing them that their VC review is due, a leaflet outlining the VC review process, a questionnaire aimed at identifying those patients who may require a traditional outpatient appointment, and a blood form for routine monitoring including full blood count, renal and liver profiles and C-reactive protein. On completion of their blood tests, usually in primary care, the database is automatically updated and the administrator ensures that the test results are available. The IBD specialist nursing team is informed that results are ready for acknowledgement and that the VC review is ready for completion.

Individual assessment of the need and frequency of colonoscopic and bone density surveillance is established and requested during the VC review based on current national guidelines. Relevant results are acknowledged including blood results, endoscopic surveillance and bone density scans, to highlight any abnormal findings where necessary to the supervising consultant gastroenterologist. If required, blood tests are repeated, further investigations are requested and the patient is contacted. At every stage of the pathway, all correspondence sent to the patient is copied to their GP. Eighty per cent of patients complete the VC pathway annually without any concerns figure 2.

Patients identified by the questionnaire with potential disease complications

Patients are asked to contact the nurse specialist if they have answered yes to any of the questions in the patient leaflet questionnaire figure 3. Patients are also asked to report any concerns or queries relating to their IBD or whether they would prefer a traditional outpatient review.

A traditional outpatient review is arranged if necessary, although many cases of concern can be dealt with over the phone, or an alternative course of action can be taken. In the case of a patient with significant symptoms, urgent review is requested with patients being seen within 5 days (IBD Standards, 2009). Patients are also encouraged to contact the IBD specialist nurse team at any time including between VC reviews should they experience symptoms or have any concerns regarding their condition.

It is recommended that patients taking thiopurines or methotrexate should stay under specialist review[2 3] but patients on these therapies whose IBD is stable and who have bloods taken every 3 months in primary care are included in the VC pathway but with traditional

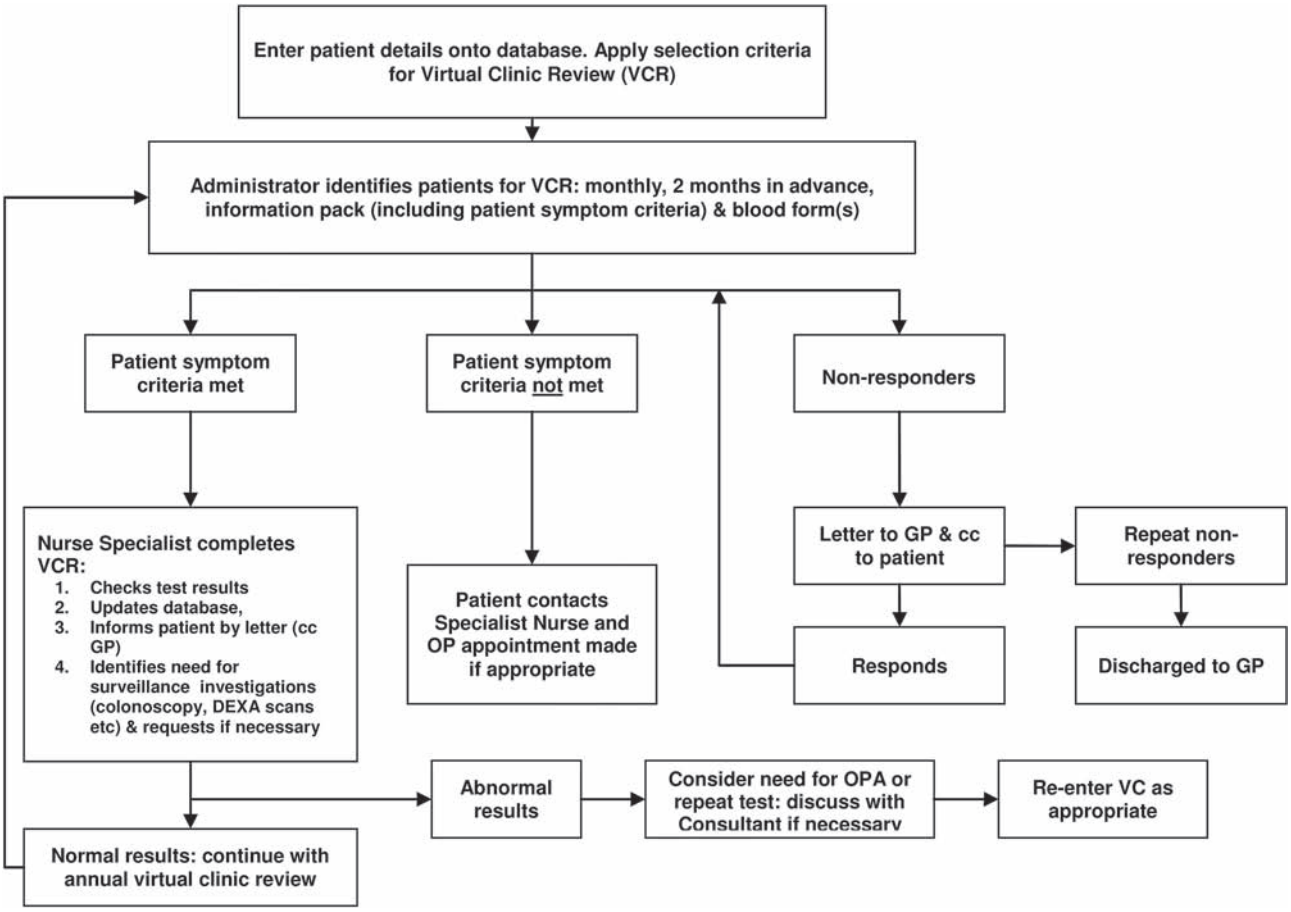

Figure 2 The inflammatory bowel disease virtual clinic pathway. cc, copies to; GP, general practitioner; OPA, outpatient assessment.

outpatient review every fourth year to assess the need for continuation of treatment.

Review of results

Patients with normal test results who do not make unscheduled contact with the IBD nurse specialists are re-entered onto the VC pathway for review in 12 months. Abnormal results are explained either by active disease or by alternative pathology. Those with results explicable by other illnesses may be deemed suitable to continue with VC review after a discussion with the IBD specialist nurse or supervising gastroenterologist if necessary. Otherwise an outpatient review is arranged. VC patients attending outpatient clinics for treatment of an exacerbation of their disease can return to the VC once they have refulfilled the VC criteria.

Non-compliance with VC protocols

In the event that a patient fails to have a blood test, the database alerts the administrator who informs the IBD specialist nurse team. A repeat pack is sent with a letter outlining the recommendation for annual review and reiterating the purpose of the VC. The administrator ensures personal details are correct and excludes the possibility that the patient's blood tests may have gone elsewhere for analysis. In the event that the patient fails to have a blood test a second time, a letter to the GP with a copy to the patient is generated and the patient is discharged back to the care of the GP. Our audit data show that 59 (12.0% of the total VC patients) patients did not reply to the initial information pack of which 42 responded to the follow-up letter. Only 17 (3.5%) patients were discharged back to GP care as per hospital policy.

Infrastructure

The VC pathway relies on the IBD database being fully integrated with local laboratory and hospital administration systems. A dedicated administrator maintains the database entering details within agreed parameters and ensuring all episodes of care are documented. In SGH the gastroenterology specialist nurse secretary is funded at 0.5 whole time equivalents towards the administration of the database and VC. Two IBD specialist nurses oversee the day-to-day running of the clinic and spend the equivalent of one clinic per week each performing the VC duties. There is a nominated consultant supervising the clinic.

What do patients think?

In 2010, we surveyed 120 patients (20.0% of the VC population) to understand the patient experience of

1	Have you had a flare up of your symptoms in the last 6 months? This includes symptoms such as: • Blood in your stools • Waking up at night needing to open your bowels • Diarrhoea	Yes	No
2	Have you been to see your GP about any symptoms in the last 6 months?	Yes	No
3	Have you had a course of steroids (Prednisolone of Budesonide) in the last 6 months?	Yes	No
4	Has the medication for your IBD been changed since you were last seen in the out patient clinic?	Yes	No
5	Have you been diagnosed with any new medical conditions since you were last seen such as: • Diabetes or heart/kidney/liver problems	Yes	No
6	Are you pregnant, planning to become pregnant, breast feeding or planning to breast feed?	Yes	No
7	Do you suffer with any of the following: • Osteoporosis (thin bones) • Primary Sclerosing Cholangitis • pancreatic problems	Yes	No

Figure 3 The patient leaflet questionnaire. IBD, inflammatory bowel disease.

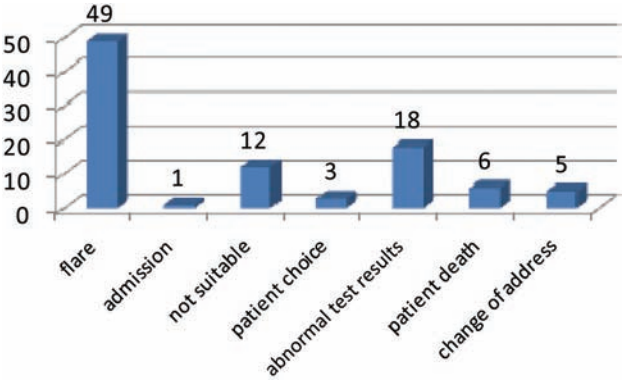

Figure 4 Redirected virtual clinic appointments (2009). A total of 94 (19.6%) of the 479 appointments were redirected.

the VC using an anonymised questionnaire. We also reviewed the performance of the VC from the perspective of the hospital by examining the database.

Ninety-four (19.6%) patients were redirected from the VC pathway for reasons outlined in figure 4. Between 2006 and 2009, 866 outpatient appointments have been avoided with a total of 396 appointments avoided in 2009. The results of the patient leaflet questionnaire revealed a high level of satisfaction with the VC figure 5; 90.9% of responders preferred VC follow-up to a traditional outpatient review, perhaps reflecting the reduced interference with work and social lives with 84.7% and 75.7% either agreeing or strongly agreeing that VC follow-up interferes less with work and social life, respectively. The economic burden to the individual is also reduced with 83.0% of patients reporting decreased personal cost of using the VC versus the traditional outpatient clinic.

Discussion

Increasing pressures within all healthcare systems dictate that innovative pathways for the management of chronic disease are urgently required. At least 13% of all gastroenterology outpatient clinics are for IBD[4] and these clinics absorb between a quarter to one-third of the total economic cost of IBD,[1 5 6] which is estimated at around £3000 per person per year.[5 7] Strategies to reduce this burden have been proposed for many years, and include telephone clinics, patient self-management options and discharge to primary care.[2]

In SGH we have developed an innovative, efficient patient-responsive pathway to follow up patients with stable IBD. The Southampton IBD VC maps to the principles of good IBD care outlined in the IBD standards document, standard A11, '*Outpatient Care*' and the patient-centred standard C4, 'supporting patient

(n=120)	Strongly agree or agree (%)	Neutral (%)
Reduces hospital visits	96.2	3.8
Prefers normal follow-up system	9.1	22.2
Feel adequately monitored	89.5	8.6
Interferes less with work	84.7	12.1
Interferes less with social life	75.7	19.4
GP blood tests easy to get done	66.1	11.7
Saves transport costs	83.0	9.4

Figure 5 The patient satisfaction questionnaire. GP, general practitioner.

to exercise choice'[1] as well as guidance from the BSG[2]. At the time of writing, there are 1810 patients on the IBD database with 509 (28.1%) enrolled on the VC pathway. Approximately a quarter of our IBD patients can continue to receive specialist follow-up yet at the same time avoid attending traditional outpatient clinic appointments, freeing up an estimated 400 outpatient clinic appointments in 2011 for the management of patients either who are having a flare or those with complex disease. One unintended effect of introducing this care pathway is the change in the spectrum of illnesses seen in the traditional IBD outpatient clinic. As a result of the introduction of the VC, clinics now contain a higher percentage of complex patients which may necessitate a change in outpatient-clinic booking patterns with an increase in the length of appointment.

The VC is well liked by patients. The non-response rate is only 3.5%, compared with the non-attendance rates of 10–20% at UK gastroenterology clinics.[8] Non-attendance is mostly due to practical factors and forgetfulness[9] and the VC provides a solution to these issues. It has also provided a more structured reliable system for the efficient follow-up of patients on surveillance pathways. It can ensure that the results of surveillance endoscopy are followed up appropriately and that the most up-to-date surveillance guidelines are observed.[10]

Following the success of the IBD VC, the same model of follow-up has been applied to other chronic gastrointestinal conditions in which a majority of patients have controlled and benign diagnoses such as coeliac disease and Barrett's oesophagus.

Conclusions

The Southampton VC has proved to be an efficient, effective and acceptable way to manage stable IBD patients. Our experience informs us that crucial to its success is a well-maintained and integrated database with committed clerical and IBD specialist nurse support.

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Contributors The VC concept was conceived by DF, PP and BS. The patient survey was designed and planned by FC and carried out together with JH and SJ. The first draft of the paper was written by AC, JH and FC and reviewed by SJ, DF and MS.

Competing interests None.

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References

1. IBD Standards Group. Quality Care: Service Standards for the healthcare of people who have Inflammatory Bowel Disease (IBD) 2009.
2. **Mowat C**, Cole A, Windsor A, *et al*. Guidelines for the management of inflammatory bowel disease in adults. *Gut* 2011;**60**:571–607.
3. **Dignass A**, Van Assche G, Lindsay JO, *et al*. The second European evidence-based Consensus on the diagnosis and management of Crohn's disease: Current management. *J Crohns Colitis* 2010;**4**:28–62.
4. **Burt CW**, Schappert SM. Ambulatory care visits to physician offices, hospital outpatient departments, and emergency departments: United States, 1999–2000. *Vital Health Stat* 2004;**157**:1–70.
5. **Bassi A**, Dodd S, Williamson P, *et al*. Cost of illness of inflammatory bowel disease in the UK: a single centre retrospective study. *Gut* 2004;**53**:1471–8.
6. **Kappelman MD**, Rifas-Shiman SL, Porter CQ, *et al*. Direct health care costs of Crohn's disease and ulcerative colitis in US children and adults. *Gastroenterology* 2008;**135**:1907–13.
7. **Cummings JR**, Keshav S, Travis SP. Medical management of Crohn's disease. *BMJ* 2008;**336**:1062–6.
8. **Bateson MC**. Non-attendance at clinic: cycles of audit of a consultant based gastroenterology outpatient department. *Postgrad Med J* 2004;**80**:615–6.
9. **Hussain-Gambles** N, Allgar. Reasons for and consequences of missed appointments in general practice in the UK: questionnaire survey and prospective review of medical records. *BMC Family Practice* 2005;**6**:47.
10. **Cairns SR**, Scholefield JH, Steele RJ, *et al*. Guidelines for colorectal cancer screening and surveillance in moderate and high risk groups (update from 2002). *Gut* 2010;**59**:666–89.