



Non-face-to-face delivery of an inflammatory bowel disease service

Project summary

East Surrey Hospital (ESH) inflammatory bowel disease (IBD) service looks after approximately 4,000 patients. Stretched staff resources resulted in long waiting times for outpatient care and adverse outcomes, eg emergency admissions.

In 2014, the service was radically redesigned to provide open access through telephone and email support. This led to the introduction of a web-based patient management portal called Patients Know Best (PKB), which allows patients to record their symptoms and communicate with the IBD team remotely. It enables access to timely advice and clinical review, prompting escalation where necessary.

Alongside this, ESH introduced low-dose azathioprine combined with allopurinol (LDAA) to improve efficacy and reduce side effects. This reduced the need for clinical intervention and escalation to costlier biologic therapies and can be managed entirely remotely.

Benefits

Environmental



- > The redesigned IBD service saves around 650 patient hospital attendances per annum, a carbon saving of at least 60 tonnes CO₂e
- > At an average patient journey of approximately 23 miles* this equates to around 4.4 tonnes CO₂e

Social



- > Patients are empowered to take responsibility for their health
- > By preventing hospital admissions and lengthy outpatient appointments, patients save time and avoid stress and time off work
- > A sample of patients surveyed in 2018 showed that the majority felt that the service had a positive impact on their IBD and improved their quality of life

Financial



- > The service saves around £232,320 per annum by avoiding hospital admissions (average stay 5 days) and appointments
- > The introduction of LDAA has reduced the use of expensive monoclonal therapy and led to a 90% reduction in admissions and 80% reduction in operations (28 admissions in 2015, compared with 280 in 2008; 20 operations in 2015, compared with 113 in 2008)
- > This equates to potential savings of approximately £1.5 million per annum on operations alone[†]



Efficiency and productivity

- > The service avoids 80 hospital admissions, 136 emergency department attendances and 440 outpatient appointments per annum
- > Patient access to specialist care at the time of a flare-up has reduced from 6 weeks to 1 week

* based on a random sample of 50 patients
 † based on an average of £16,226.23 per operation for ulcerative colitis

Background

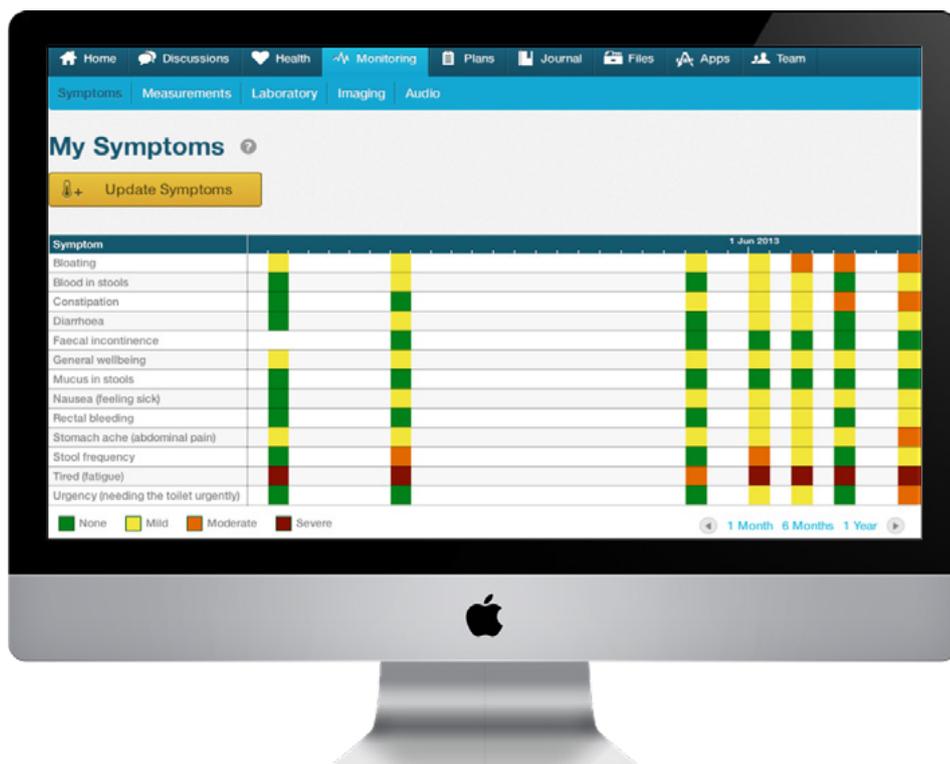
IBD is a lifelong condition with patients experiencing flare-ups that vary in frequency and severity. It is vital that patients receive treatment promptly at the time of a flare.

ESH is a large district general hospital serving a population of 535,000. The IBD service looks after approximately 4,000 patients. The service was run with 1.5 whole-time equivalent (WTE) IBD consultants and 1 WTE IBD clinical nurse specialist – well below the national minimum recommended in British Society of Gastroenterology guidance. This resulted in long waiting times for conventional outpatient care and adverse outcomes for IBD patients unable to access services when required.

Aims

To tackle these long waiting times, open access to the IBD service through telephone and email support was offered to all known IBD patients in 2014. This led to the introduction of a web-based patient management portal called Patients Know Best (PKB). This non-face-to-face (NFTF) delivery allows patients to record their symptoms and communicate with the IBD team remotely. This accelerates access to timely advice, clinical review for flare-ups, and escalation to disease-modifying therapy where appropriate. It also offers reassurance to those who are stable without the need for a face-to-face review.

Fig 1 A screen from the PKB portal



Resources

Funding

Initially this was a pilot project funded by Janssen, a pharmaceutical company of Johnson & Johnson, and subsequently supported by local clinical commissioning groups (CCGs).

For the NFTF service, telephone and email was offered first and revealed the demand on the IBD service, which far exceeded the capacity of ESH. The service could not be funded through Payment by Results as the NFTF interaction remuneration is £90 less than face to face, creating a shortfall of £160,000. Work was done with local CCGs to develop a block contract for £300,000/year to meet this quantity of activity. This funds 3.5 WTE band 7 clinical nurse specialists, 1 band 4 administrator, the PKB licence and consultant physician associate time.

Staff

The redesign was undertaken in collaboration with patients and CCGs.

The service is managed by the following staff:

- > 1.5 WTE IBD consultants
- > 2 WTE IBD clinical nurse specialists
- > 1 administrator.

A total of 3.5 clinical nurse specialists (CNSs) are required to manage the redesigned service (an additional 1.5 are currently being recruited). Their focus is on NFTF work with support and guidance from consultants. CNSs and admin staff become upskilled through this process. Previously, consultants were doing routine follow-up of stable patients and CNSs were dealing with flares. Now, CNS and admin staff are utilised more efficiently to cover routine work and become upskilled, freeing up consultant time to see complex cases/flares.

Training

Patients do not require specific training to use the new system. They are set up with an account on PKB and directed to the website, which is self-explanatory and intuitive to use. Some patients need specific help and admin staff assist them. Our vision for the future is to have volunteer patient experts to introduce other patients to PKB to help with cascading knowledge.

Results

The redesigned service guides those with the greatest clinical need through automated flagging of deteriorating symptoms to the clinician with the most appropriate expertise. All NFTF interactions are vetted by an IBD clinical nurse specialist with administrator support. The IBD CNS and administrator log in every working morning to review the messages from the previous day for triage and will periodically use PKB throughout the day for ongoing communication with patients.

Consultant face-to-face time in clinic has been released from routine follow-up of stable patients and diverted to those with complex disease or who are experiencing a flare-up.

Data collected in 2015 showed that there were 4,358 NFTF interactions. A total of 1,500 contacts were related to immunosuppression therapy monitoring – the number of patients started on immunosuppression would not have been possible without NFTF monitoring, leaving a large portion of IBD patients undertreated. Eighty hospital admissions, 136 emergency department attendances and 440 outpatient appointments were saved.

There were no reported breaches of clinical safety. The patient time to access specialist care at the time of a flare-up reduced from 6 weeks to 1 week. Fifty active users of PKB in 2015 increased to 700 in 2017 due to patient-led demand.

The service was evaluated in 2018 in terms of patient self-management, patient-reported outcome measures and clinical outcomes. Of a sample of 35 patients, 68% said the NFTF service had a positive impact on their IBD, 77% said it helped them feel more confident in managing their own health and 57% said it had improved their quality of life.

In terms of disease-modifying therapy, the low dose azathioprine with allopurinol (LDAA) proved to be well-tolerated, safe and effective, reduced the use of expensive monoclonal antibody (mAb) therapy by an estimated £4.5 million and led to a 90% reduction in admissions and 80% reduction in operations when we compared data from 2008 with 2015.

PKB allowed the team to undertake the mandatory monitoring of this therapy at scale without the need for face-to-face appointments. Patients can quickly flag up side effects, enabling early intervention for those who need it. The potential cost saving is huge, as the next line of treatment is mAb therapy, which costs an average of £12,500 a year per patient, while LDAA costs £200 a year, and is delivered as a daily tablet, rather than an injection or hospital-based infusion.

Impact on patients

Using a NFTF service means that patients save on travel time to appointments, don't need to take time off work for their treatment and save on travel costs.

Patients have said that this helps them to feel in control and they appreciate having someone there to answer their questions.

‘Made me more responsible in taking care of my health.’

‘Easier to take control and contact professionals for advice when needed.’

‘It has been a great comfort and reassurance. It helps me understand my illness and allows me to take control.’

Patient feedback

Lessons learnt

The redesigned IBD service at ESH offers a low-cost technology-enhanced care delivery model that provides timely advice and treatment leading to improved patient experience and clinical outcomes.

The service is being delivered with lower than the national recommended number of consultants (65%) and clinical nurse specialists (50%) but is providing care to more patients requiring close monitoring than would have been possible without a NFTF service, without compromising on safety.

There was initial resistance to change due to a number of reasons, which included: the fact that improving outcomes reduces trust income, clinician

fear of open door access, lack of a commissioning and funding model, and the investment required for IT solutions.

Early discussions with local CCGs to establish a shared understanding and responsibility over commissioning led to the block contract currently in place. Any initial increase in workload due to open access was a manifestation of the true demand on the service. Very little work was deemed unnecessary. This led to a broader understanding of the demand on the service and eventually, appropriate resourcing.

The new model of care breaks down the traditional boundaries between the service user and provider, promoting collaborative working with patients with long-term conditions.

The introduction of LDAA has reduced the number of patients being treated with costlier mAbs to 140. Other similar-sized services have approximately 500 patients on mAbs – more closely reflecting the expected rate of mAb use of 10–15% of the IBD population. There is therefore potential for substantial savings if LDAA were to be introduced more widely across the NHS.

Notes on the calculations

The carbon calculator used was www.carbonfootprint.com/calculator.aspx. The carbon footprint for travel was based on an average-sized car using unknown fuel.

The hospital attendances CO₂e was calculated using NHS Sustainable Development Unit figures from a 2010 paper on indicative carbon emissions per unit of healthcare activity.

The costs of operations, appointments and admissions were calculated using figures in Table 1 in the article ‘A UK cost of care model for inflammatory bowel disease’ from *Frontline Gastroenterol* 2015; Jul; 6(3): 169–174. www.ncbi.nlm.nih.gov/pmc/articles/PMC5369575/#R9

The cost of monoclonal antibody therapy was calculated using the NICE costing statement for ulcerative colitis: www.nice.org.uk/guidance/ta329/resources/costing-statement-pdf-428356477

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