

## Service delivery

# Telemedicine platform myIBDcoach reduces hospitalisations and outpatient gastroenterology visits in patients with IBD

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**Commentary on:** de Jong MJ, van der Meulen-de Jong AE, Romberg-Camps MJ, *et al.* Telemedicine for management of inflammatory bowel disease (myIBDcoach): a pragmatic, multicentre, randomised controlled trial. *Lancet* 2017;390:959–68.

## Context

Inflammatory bowel disease (IBD) is a chronic heterogeneous disease with high complexity, often requiring intensive management by a gastroenterologist and ancillary team with the goal of achieving clinical remission. Multiple prior studies have demonstrated the feasibility of implementing telemedicine into IBD practices via various technological platforms with resulting improved quality of life, disease knowledge and adherence, and a decrease in hospitalisations, emergency room visits and steroid use.<sup>1–3</sup> This randomised controlled trial (RCT) examines quality of life and healthcare utilisation after implementation of a telemedicine system in four IBD practices in the Netherlands.<sup>4</sup>

## Methods

This study was a pragmatic RCT comparing remote monitoring with telemedicine to standard of care. The system included monitoring of symptoms and education modules, the frequency of which was based on disease activity. Patients responded to questions regarding self-reported disease activity, quality of life, adherence, anxiety and depression. Alerts were generated based on predefined thresholds. All intervention patients were evaluated in person annually. Patients were eligible to participate if they were age 18–75 years and had internet access and were excluded if they had an ileoanal or ileorectal anastomosis or if they had been hospitalised within two weeks of screening. Patients were followed for one year after randomisation; the primary outcomes were number of outpatient visits and patient quality of care. Additional measures included number of flares, hospitalisations, emergency room visits, steroid use, surgeries, treatment adherence, self-efficacy and knowledge.

## Findings

In total, 465 patients were randomised to the telemedicine and 444 to the standard treatment group. Mean number of outpatient visits and telephone encounters to the gastroenterologist decreased in the telemedicine group (1.26 vs 1.98,  $p<0.0001$  and 0.58 vs 0.84,  $p=0.0003$ , respectively). However, the mean number of visits or telephone consultations with a nurse were not different between groups. Quality of life was similar between groups. Less patients were hospitalised in the telemedicine versus standard care group (0.05 vs 0.10,  $p=0.046$ ), although there was no difference in other disease-related secondary outcomes.

## Commentary

This RCT demonstrated that remote monitoring via telemedicine is efficacious and feasible compared with standard IBD care. The attrition rate was lower than prior studies with 94% of patients in the telemedicine group completing 1-year follow-up; however, only 75% returned questionnaires at study end.<sup>4</sup> Information was not provided on ease of use of the system or patient satisfaction; however, these factors were previously reported as well as accepted.<sup>5</sup> At 1 year, there was a significant decrease in outpatient gastroenterology visits and hospitalisations in the telemedicine group, and no difference in other measures of disease activity. This supports the notion that telehealth can be used to monitor patients without compromising clinical care. The trial included patients at both academic and non-academic medical centres, with no differences in outcomes based on setting of treatment. This highlights the feasibility of implementing similar programmes in smaller centres where resources may be limited.

Although there was no significant difference in disease activity or severity between groups, most patients in the study were in remission at enrolment. Therefore, the results of this trial are not applicable to a population of poorly controlled or flaring patients. Further studies of remote monitoring need to include patients with active symptoms to determine if remote monitoring is safe and efficacious in this setting. Additionally, maintaining a therapeutic relationship between the patient and treatment team is essential. As this study only assessed 1-year outcomes,<sup>4</sup> additional data are needed on maintaining patient engagement and adherence with a telemedicine programme in patients with IBD beyond 1 year.

## Implications for practice

This study demonstrates that use of telemedicine in IBD as a partial replacement to standard care reduces healthcare utilisation without a change in quality of care. This has potential implications in clinical practice to not only reduce costs but to increase access to IBD specialist care. Despite these obvious benefits, other considerations with remote monitoring include the costs of unreimbursed care associated with telemedicine including telephone calls and electronic messaging and staff requirements to monitor self-assessments. Additional studies are needed to study long-term outcomes as well as to assess telemedicine in other settings such as IBD-specialty medical homes.

**Contributors** Both authors have submitted equally to this submission.

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