



Exploring the benefits of eHealth solutions in treating inflammatory Bowel Disease (IBD)

In this article, we present how eHealth solutions have helped to improve treatment outcomes for persons with Inflammatory Bowel Disease (IBD) in Denmark.

eHealth solutions offer tremendous potential for improving treatment outcomes and quality of life for patients with chronic illnesses, such as IBD. IBD is normally diagnosed when patients are relatively young, in their 20s or 30s – a time when patients would be finishing their education, beginning their career and starting a family.

IBD is a progressive disease. Patients experience a wide range of symptoms. They have to deal with periodic flares in disease activity. And every time they experience a flare, the condition of the bowel worsens. Over time, these flares can result in accumulative damage in the intestinal tract, which can lead to severe complications.

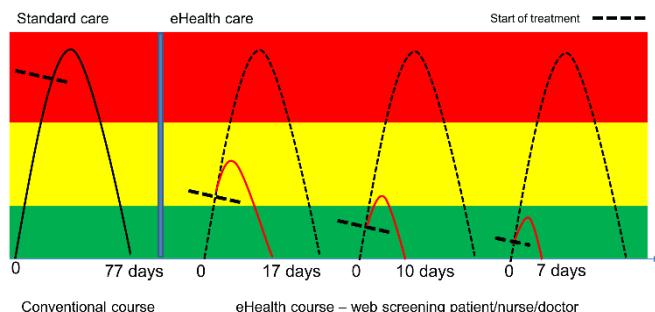
To treat these symptoms and flares, patients need frequent adjustments to their medication; they might also have more outpatient clinic visits, hospitalisations and surgeries. As a result, IBD patients often feel that their quality of life has decreased. They struggle with feelings of being disabled and the sense that a 'normal life' is beyond their reach.

This article is based on a presentation given by Dr. Johan Burisch, MD, PhD (Denmark) at the European Council of Enterostomal Therapy (ECET) conference in June 2019. Johan works as a Gastroenterologist at Hvidovre University Hospital and Senior Researcher at the Danish Centre of eHealth and Epidemiology in Denmark. In his presentation, Johan shared the experiences and results his team have had using an eHealth platform to treat patients with Inflammatory Bowel Disease over the past 15 years.

The Constant Care Platform

For healthcare professionals working with IBD, the main goal is to reduce the burden of inflammation and avoid flares. To do this, they must follow each patient closely and offer individualised treatment, customised to the patient's unique disease pattern. This is where eHealth solutions have proven to be a great help. (See Figure 1)

Figure 1: eHealth solutions make it possible to change the conventional course of IBD, enabling patients to enter remission more quickly.¹



Using the eHealth platform, Constant Care, Johan and his team at Hvidovre University Hospital monitor patients on a daily basis. Patients register their data using the Constant Care app. Johan and his team can then use this data to observe the development of the disease in real time and help patients chart their own disease pattern. By tracking patients' symptom scores and faecal calprotectin levels over time, the team can intervene earlier, before a flare becomes severe, start treatment immediately, and help patients enter remission more quickly. They are also in a better position to tailor treatment to the patient's unique needs, thereby improving the course of the disease. Finally, by involving patients in their care, Johan's team also helps them to regain some control over their lives, giving them a greater sense of independence and confidence.

Close monitoring through patient involvement

The Constant Care platform monitors two things: patients' symptoms (represented as a subjective symptom score) and their faecal calprotectin level (objective measurement).

The symptom score is based on the data reported by the patients. However, since symptoms do not correspond to the severity of the inflammation attack, an objective evaluation is necessary as well. Using a home kit, patients are able to measure their faecal calprotectin level at home and submit the results via the application. The results of the subjective and objective scores are then combined using a series of algorithms. And based on the resulting composite score, the platform advises patients on what steps they need to take.

Role of the eHealth IBD nurse

The eHealth IBD nurse monitors the status of 300 patients daily from her computer. In the system, the nurse can see the current scores and disease status for all patients, analyse their latest results, and contact the patients if necessary. This saves physicians' time, allowing them to focus on the more severe cases.

For the more severe cases, the eHealth solution enables physicians to offer customised treatment plans and monitor the progress of these. Whereas a standard treatment plan might call for treatment administration every eight weeks, physicians using the eHealth platform can customise the treatment based on real-time data and observations.

Better treatment outcomes with eHealth solutions

Studies have shown that eHealth solutions provide better outcomes for IBD patients in four main areas:

- **Improved disease course.** One PhD study performed by Johan's team demonstrated that eHealth patients re-entered remission after a flare far quicker than the control patients. eHealth patients entered remission after 17 days, as opposed to 77 days for the control group. The study also showed that 100 per cent of eHealth patients started relevant therapy immediately (the day they experienced symptoms), whereas only 10 per cent of the control group did.²⁺³
- **Improved adherence.** eHealth solutions not only help patients to re-enter remission more quickly; it also helps them to remain in remission longer by supporting adherent behaviour. The PhD study showed that eHealth patients performed better in the areas of self-initiated treatment, adherence, compliance and knowledge about their disease than the control group.²⁺³
- **Improved quality of care.** A US study using the Constant Care platform app, reported an improved quality of care as opposed to the control group. They also felt more involved in their treatment decisions.⁴
- **Reduced clinical visits and hospitalisations.** In a Dutch study, the eHealth group had 50 per cent

¹ Munkholm & Burisch. Springer 2015 pp 85

² Elkjaer M, et al. Gut 2010;59:1652-61

³ Kane S, et al. Am J Med 2003;114:39-43

⁴ Atreja A et al. DOP069 ECCO 2018

fewer hospitalisations than the control group. They also reduced the number of outpatient visits by 65 per cent.⁵

The Constant Care platform is in place in two departments at Hvidovre University Hospital in Denmark and will travel to more departments in the near future.

Watch Johan present his results in this [Coloplast TALKS](#)

ECET 2019, Rome



“We believe eHealth solutions like these are what patients want – and we can see they improve quality of care for patients.” – Dr. Johan Burisch, MD, PhD

⁵ Jong MJ de, et al. Lancet 2017;390:959–968.