

App ensures 30% faster recovery after major abdominal operations

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Through the use of eHealth application ikHerstel, patients recover from major abdominal operations 30% faster than patients who do not use the app. That is the main conclusion of research led by Amsterdam UMC

across eleven Dutch hospitals. The app aims to empower patients to feel more in control of their recovery process. The results were published today in *Lancet Digital Health*.

Patients are being discharged from the hospital quicker after treatment. Where patients used to receive care, information and support in the hospital for a number of days, they are now often home after one day. Previous research has shown that this leads to patients feeling as insufficiently supported during their [recovery](#).

Researchers at Amsterdam UMC previously developed and launched the special ikHerstel (I, Recover in Dutch) app to assist patients after surgery and to guide them remotely. The app offers a customized recovery plan. Prior to an operation, the attending doctor or nurse discusses the app with the patient, allowing patients to fill in what is important for them in their recovery. This can be anything from walking to the grocery store or running 10km. In this way, patients can prepare for the operation, but also for their recovery afterwards

Judith Huirne, Professor of Gynecology, and Han Anema, Professor of Occupational Health, at Amsterdam UMC are the initiators of this eHealth app. "Innovations in health care must first of all help patients, in this case to regain control over their lives. An operation is not nothing, a patient can then be insecure to resume daily activities," says Huirne. One patient likes gardening, the other wants to go for a quick walk or longs to return to the tennis court.

The ikHerstel app helps them to safely resume the desired life after surgery. "This app has been extensively scientifically researched, and we will continue to do so, again and again for a different type of operation. We started with gynecological procedures. After [positive outcomes](#) came an extension to surgical and orthopaedic operations. Each time it turned out that patients who use the app recover faster and return to the hospital

less often," adds Anema.

The study, now published in the *Lancet Digital Health*, involved 355 patients who underwent bowel or uterine surgery, such as those who had colon cancer. Major abdominal operations come with a higher risk of long recovery and complications. Half of the patients were given access to the ikHerstel app.

This group recovered 13 days earlier than the control group. Each patient indicated which eight personal activities they wanted to resume before they personally felt they were recovered. Via the app, patients can see whether the recovery is going according to plan. If necessary, the patient can contact the specialist via an e-consultation.

The research group led by Huirne and Anema from Amsterdam UMC developed this eHealth intervention with the help of approximately 1500 patients over the past 15 years. [Research from 2018 has already shown that the app accelerates recovery in minor operations by 5 days](#). These results were also published in *The Lancet* at the time. Now the app also proves to be successful in major operations and accelerates this recovery by 13 days.

Appropriate care

Given the reality of staff shortages in health care, this is good news for both patients and hospitals. The Integrated Care Agreement (IZA) of the Dutch cabinet states that there is an urgent need in health care for more value-driven appropriate care. Patients assess care based on outcomes that are personally important to them. According to the IZA, appropriate care in the future will often be hybrid care: a combination of digital and physical care in which the patient is enabled to take more control and self-management in care.

"The ikHerstel app is a wonderful example of this. A scientifically researched and personalized recovery plan via your phone. We make it as easy as possible for the patient and provide all information and personal guidance and monitor remotely whether everything is going according to plan. Patients do not have to come to the hospital for this," says Anema.

Implementation agenda

Currently, 10 percent of Dutch hospitals use the ikHerstel app, but the team wish to expand that even further. Algorithms have since been developed for about 20 different treatments (gynecology, surgery and orthopaedics). Recovery recommendations are now being developed for obstetrics, urology and cardiology.

The goal is to have recovery recommendations ready for 80% of all elective operative care by the end of 2025. In June 2023, ikHerstel was added to the government's Implementation agenda of Care Evaluation and Appropriate Use (ZE&GG). In this implementation agenda, patients, health care providers, health care providers, health insurers and government work together to offer proven best care to the patient and to accelerate new scientific innovations.

More information: Personalised electronic health programme for recovery after major abdominal surgery: a multicentre, single-blind, randomised, placebo-controlled trial, *The Lancet Digital Health* (2023).
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