

## Telerehabilitation for Patients with Heart Failure



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## What is telerehabilitation?

Telerehabilitation is rehabilitation supported by information and communications technologies.

## Objectives

- Using telerehabilitation, to enable patients with heart failure to experience increased quality of life and a more individualized rehabilitation program.
- To enable patients with heart failure to be able to master their illness with the help of new technology.
- To develop and test a digital toolbox for patients with heart failure, the aim of which is to predict the development of symptoms and to prevent readmissions.
- To help patients with heart failure to increase their daily physical activity using a digital pedometer.
- To conduct research on the health literacy of patients who participate in a telerehabilitation program compared with a standard rehabilitation program.
- To test and evaluate the effects of a telerehabilitation program for patients with heart failure from clinical, patient, organization, health technology and economic perspectives.

## User-driven innovation

By means of user-driven innovation, the Future Patient project, in collaboration with patients, families, healthcare professionals, companies and researchers, has developed a heart web portal (Hjerteportalen.dk) and an associated telerehabilitation program.



## Three steps in the Telerehabilitation Program

### Step I (0-3 months)

Adjustment of  
medicine

### Step II (3 months)

Telerehabilitation in  
healthcare center or  
callcenter

### Step III (6 months)

Everyday life with  
telerehabilitation

## The user's digital toolbox

The Future Patient project has developed Hjerteportalen.dk ( in English: The HeartPortal.dk), where the citizen can view a variety of information about heart failure in the form of text, images and sound. On the portal, both patients, their families and healthcare professionals can view data about blood pressure, pulse, weight, steps, breathing and sleep patterns as well as communicate together digitally. The equipment used in the trial is shown below.



## Contacts

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### **Technical issues**

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### **Factbox**

**Partners in the project:** Randers Health Center, Skive Health Center, Viborg Health Center, Cardiology Department & Outpatient Heart Clinic, Regional Hospital in Viborg and Skive, Danish Heart Foundation, Technical University of Denmark (DTU), Department of Psychology at Aarhus University; Department of Computer Science at Aalborg University (AAU); CIMT at Odense University Hospital; Laboratory for Welfare Technology, SMI, Department of Health Science and Technology, AAU. The project runs from October 2016 to August 2018.

**National partners:** Patient@Home & EIR Research and Business Park

**International advisory board:** Norwegian Centre for eHealth Research, Tromsø, Norway; La Trobe University, Melbourne, Australia; Cleveland Clinic, Cleveland Ohio; University of California at Berkeley; University of California, Davis Health System; Henry Ford Health System, USA; Connected Health Innovation, Partners Healthcare, Harvard Medical School.

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**Approval:** The study has been approved by the Research Ethics Committee of the North Denmark Region, case number N-20160055.

**Read more about the project:** <http://www.labwelfaretech.com/fp/heartfailure/>