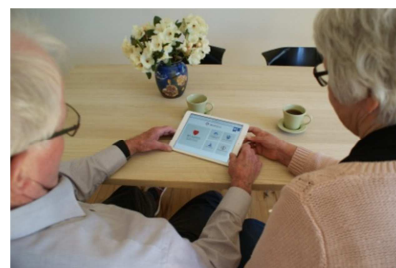


## Invitation Opening Seminar

**Expansion of the Laboratory for Assistive Technologies, SMI, Department of Health Science and Technology, Aalborg University & launching of a new research program:**

**"Future patient - individual smart welfare technologies and services"**

**Date** September 11, 2015, 12:30-15:30  
**Location** Fredrik Bajers Vej 7, entrance at Building A, Auditorium B3-104, Aalborg University (AAU)



*The purpose of this research program is to develop and test new welfare technology solutions and programs based on new self-tracking technologies. The goal is to reduce the number of readmissions, ensure individual treatment and enhance quality of life for patients. The target groups of the project are patients with heart failure and patients who have undergone knee surgery. Heart failure is a common disorder that affects 26 million people and results in over one million hospitalizations per year in Europe and the United States. The disease is chronic and restricts patients in their daily functions and reduces their quality of life when the heart cannot pump enough blood to the body. Furthermore, the admissions related to heart failure take up a large part of the health budget. The costs of rehabilitation of patients undergoing knee surgery are also expensive for the healthcare system. Worldwide 149 out of every 100,000 persons undergo knee surgery each year. However, telehealth and telerehabilitation projects have not always proven as economically advantageous as the technology needed by the patients is too expensive, and often the training programs are not tailored to the individual patient. Today the new so-called self-tracking technologies measuring sleep, movement, pulse, etc. are relatively inexpensive.*

**Registration:** Participation in the event is free, but registration is required. [Please register here](#) no later than September 3, 2015 at 12 pm. Cancellations of reservations can be made by email to [lonesa@hst.aau.dk](mailto:lonesa@hst.aau.dk) no later than September 6, 2015 at 12 pm.



## Program

*Moderator: Birthe Dinesen, Associate Professor & Head of the Laboratory for Assistive Technologies - Telehealth & Telerehabilitation, SMI, Department of Health Science and Technology, Aalborg University (AAU)*

- 12:30 **Welcome** by Lars Hvilsted Rasmussen, Dean of Faculty of Medicine, AAU
- 12:40 **Perspectives for the research programme: "Future Patient"** by Kim Dremstrup, Head of Department of Health Science and Technology, AAU
- 12:50 **Who is tomorrow's patient?** by Steffen Groth, former Associate Dean & Acting Dean of Faculty of Medicine, AAU, and former Director of the IAEA & WHO
- 13:00 **Keynote speaker: The future of the Connected Healthcare System** by Kamal Jethwani, MD, MPH, Senior Director, Connected Health Innovation, Partners Healthcare & Associate Professor at Harvard Medical School, USA
- 13:45 **Coffee break and poster session** of ongoing research projects (please see description page 3 in the program)
- 14:15 **Presentation of the research program "Future patient - individual smart welfare technologies and services"** by Birthe Dinesen
- 14:30 **Telehealth and heart failure patients - challenges and opportunities in the future** by Olav Wendelbo Nielsen, PhD, MD, Cardiology Ward Bispebjerg and Frederiksberg Hospitals
- 14:45 **Telerehabilitation and orthopaedic patients - challenges and opportunities in the future** - by Ole Simonsen, consultant, Clinic of Orthopaedic Surgery, Aalborg University Hospital
- 15:00 **Kick-off of the research program: "Future Patient"** by Kim Dremstrup
- 15:05 **Reception & Networking**

### About Future Patient

#### **Future patient - individual smart welfare technologies and services**

The overall objective of the research program is to develop, test and evaluate individual and intelligent welfare technologies and services. The target group of the research program is heart failure patients and patients who have undergone knee surgery and subsequently require rehabilitation. The research is innovative and challenges limits in relation to existing national and international research within the field. The research program will last from 1 September 2015 to 31 August 2020. User-driven innovation will be the starting point for the program; an interdisciplinary research team will be part of the implementation of the program. Read more at [www.futurepatient.dk](http://www.futurepatient.dk).

Age and Johanne Louis Hansen Foundation and AAU support the project.





## Ongoing research projects

- will be presented at a Poster Session on the day

### **The Video Assist (in Danish "Videostøtten")**

Mentally vulnerable citizens in their own home are characterized by the struggle of coping with daily life, experiencing anxiety and lack of structure in everyday life. The citizens are often associated with a social rehabilitation center offering support and assistance in everyday life. In spite of this, the group of people is characterized by a high admission rate to psychiatric hospitals. The purpose of the research project is to explore how psychologically vulnerable citizens and occupational professionals experience and use tele-rehabilitation in everyday life by remote psychiatry. Telepsychiatry is the use of telecommunication technology to connect patients and health care providers permitting effective diagnosis, education, treatment, consultation, transfer of medical data, research, and other health care activities. The project aims to prevent readmissions to the psychiatric department and the promotion of safety in everyday life. More than 50 mentally vulnerable citizens participate in the project. The project carried out in and is funded by the Civil Administration and Labour, Esbjerg Municipality, in the period 2013-2016. *Contact: Claus Ugilt Østergaard.*

### **iTrain - telerehabilitation of COPD patients**

Chronic Obstructive Pulmonary Disease (COPD) places a substantial burden on society, including patients, their families and the healthcare system. Pulmonary rehabilitation is considered as an integral part of the long-term management of COPD. Despite this, many people with COPD do not have access to, or do not complete, rehabilitation programs, and long-term maintenance has been difficult to achieve after short-term treatment. Telerehabilitation has potential to improve access to pulmonary rehabilitation, with long-term benefits for patients, their communities and the healthcare system. This research project aims to compare long-term telerehabilitation of COPD patients consisting of exercise training at home, telemonitoring, and education/self-management with standard care. An international multi-center prospective randomized controlled trial (RCT) is being conducted between Norway, Denmark and Australia. The RCT aims to demonstrate whether telerehabilitation will prevent hospital readmissions, thus reducing healthcare costs for patients with COPD and whether it will improve the patient's status and quality of life. In Denmark, Esbjerg Municipality, South West Hospital in Esbjerg and AAU are participating in the project from 2014-2017. The Research Council of Norway is funding the research project. *Contact person: Birthe Dinesen.*



### **Pedometer, self-determination and autonomy based physical activity for cardiac patient in a telerehabilitation program, The Teledi@log project**

Physical activity is the most important part of cardiac rehabilitation. This PhD study investigates whether a pedometer can help the patient achieve goals for physical activity in a cardiac telerehabilitation program. In this study the accuracy and reliability of the pedometer is being tested. Further, the steps taken by hospitalized patients' is being examined in order to potentially predict physical activity on a long-term basis. The patients' self-determination in relation to number of steps taken will be investigated with special attention on autonomy. Telerehabilitation is expected to empower the patients to take an active role in their own health care and self-management. However, autonomy seems to be at stake technology and might create surveillance instead of independence. The project is part of the Teledi@log project, [www.teledialog.dk](http://www.teledialog.dk). The project is funded by Eir Research and Business Park, The European Regional Development Fund. *Contact Person: Charlotte Thorup.*

### **Pain Track**

Chronic pain is a multifactorial disease which affects about 20% of the population of the industrialized world. Although chronic pain is one of the most frequent, debilitating and costly diseases in the clinic and in the labor market, is in many cases not adequately addressed. Patients with lung cancer often have surgery to cure cancer. A thoracotomy is a major operation, and patients often develop chronic pain after their surgery. The reasons for the development of chronic pain after surgery are still uncertain despite many theories. This project seeks to elucidate the pain pattern after surgery, so as to form an understanding of the development of chronic pain in patients who have undergone surgery. This will contribute to the optimization of the current treatment strategies as well as developing of new treatments. Knowledge of risk factors can help identify patients at risk of pain problems in the acute post-operative recovery and longer term, and thus, if possible, take this into account before the operation. Patients participating in the study make pain diary weekly via their smartphones / tablets a year after their surgery. The project is funded by Eir Research and Business Park, The European Regional Development Fund. *Research team Aalborg University Hospital and AAU: Carsten Simonsen, Jan Jesper Andreasen, Birthe Dinesen, John Hansen, Anita Tracey & Lars Arendt-Nielsen.*

### **The Intelligent Bed tested in Denmark and China**

The intelligent bed consists of 10 intelligent functions such as light und the bed, movements in the bed, out of bed sensor, moisture sensor, control of breaks and bed railings, etc. The concept of the intelligent bed is developed by a Danish company named Linak. The concept of the intelligent bed is tested in a nursing home and in patient's own homes in collaboration with district nursing in Denmark. The concept of the intelligent bed was tested on a rehabilitation ward in Guangdong Hospital in China. The project is a PhD study performed by Hao Cai investigating possibilities and barriers on implementation of the intelligent bed in Denmark and China. *Contact person: Hao Cai.*