

Volume 11, 1 August 2011

Publisher: Igitur publishing

URL: <http://www.ijic.org>

URN:NBN:NL:UI:10-1-101552 / ijic2011-115

Copyright: 

---

Poster abstract

## **Implementation and testing of a digital pen and paper tool to support patients with heart failure and their health care providers in detecting early signs of deterioration and monitor adherence**

*Leili Lind, RN, PhD, Department of Biomedical Engineering/Medical Informatics, Linköping University, and Santa Anna IT Research Institute, Linköping, Sweden*

*Leonie Klompstra, PhD Stud, Department of Social and Welfare Studies, Linköping University, Norrköping, Sweden*

*Tiny Jaarsma, RN, PhD, Professor, Department of Social and Welfare Studies, Linköping University, Norrköping, Sweden*

*Anna Strömberg, RN, PhD, Professor, Department of Medical and Health Sciences, Linköping University, Linköping, Sweden*

*Correspondence to: Leili Lind, E-mail: [Leili.lind@liu.se](mailto:Leili.lind@liu.se)*

---

### **Abstract**

**Aim:** To implement and evaluate a HF management tool for patients with chronic HF using digital pen and paper for improvement of patient self-management.

**Methods:** Developmental and implementation phase: researchers within medical technology and HF care will together with staff from home care and primary care (physicians and nurses) a small group of users (patients) and companies develop a HF management tool based on digital pen and paper and implement it in clinical practice.

**Evaluation phase:** The HF management tool will be tested in ten HF patients admitted to hospital-based home care. The technical equipment and clinical follow-up routines will be evaluated (reliability, stability, acceptance, user friendliness, and patient- and staff satisfaction). The patients will monitor and register shortness of breath, intake of medications, weight, blood pressure, pulse and saturation daily.

Data will be collected through patient and staff interviews and observations as well as through questionnaires evaluating health-related quality of life, HF self-care and knowledge, quality of care, participation and perceived control. Health care and organisational costs will be estimated from patient and staff records.

Innovative aspects and significance of the study: There is a great need for less labour-intensive and more cost-effective innovations that improve care and facilitate follow-up of patients with moderate to severe HF and at high risk for deterioration needing hospitalisation.

### **Keywords**

**heart failure, home care, digital pen**

---