

---

## CONFERENCE ABSTRACT

# Integrated care for elderly living at home – a case description of IoT and big data possibilities

2nd Asia Pacific Conference on Integrated Care, Melbourne, 11-13 November 2019

Linda Askenäs<sup>1</sup>, Jaime Campos<sup>1</sup>, Jan Aidemark<sup>1</sup>, Martina Boström<sup>2</sup>

1: Linnaeus University, Växjö, Östergötland, Sweden;

2: Region Jönköping County, Jönköping, Jönköpings län, Sweden

---

**Introduction:** The Internet of Things(IoT) plays a vital role on medicine today; studies show that, 40% of IoT-related technologies will be assigned to the health domain in 2020. This new ICT reshape the possibilities to accomplish integrated care, among all stakeholders. The aim is to demonstrate the level of new ICT-integration and models for integrating the personal health, quality of life and self-care into conventional health care processes.

**Method:** The study is based on a case study of an codesign process with a group of 6 elderly and 5-7 different health care professionals and 6 technical developers/researchers. During five focus group meetings the group discussed the need for support of new ICT solutions and care processes when focusing on designing new processes for preventing fall accidents. The study is based on integrated care theories and models.

**Results and discussion:** The necessary technical requirements will be shifting in different stages of a natural ageing process, the older person can go from being totally independent to more and more dependent on effective health care services. Three different personas were developed by the group, and all these stages need different types of integration of IoT and use of big data analytics.

- Active Alice, the main ICT-challenge is to support the elderly to stay in this stage for as long as possible, using IoT for inspiring them to take actions for health promotion, preventing accidents and upholding a good quality of life. The gathered data can also be viewed by health care professionals on regular care and follow up meetings.

- Vital Hubert, the older adult is still living independently at home but faces a number of health issues, including chronic conditions. It is essential to uphold and rehabilitate the elderly to stay as independent as possible and get the best possible care at the time it is needed. By using innovative technologies to share clinical- and health-related information among the different experts, the service will with less efforts, than today, produce an individualised and integrated horizontal care to prevent more severe conditions.

- Life fighter Lee, the older person is dependent on care and in this stage and the use the IoT-technology will be as a tool to plan and coordinate a seamless care around the patient – going with the help of innovative technologies from a plan-based-care to a need-based-care that are integrated both horizontal (experts) and vertical (primary, secondary etc.).

**Conclusions:** New ICT sloutions like IoT and big data analytics will be important to get an effective vertical and horisontal integrated care that focuses on the patients empowerment.

Askenäs; Integrated care for elderly living at home – a case description of IoT and big data possibilities

**Lessons learned:** Using the co-design approach for defining new models for integrated care are beneficial and takes all stakeholders into account.

**Limitations and future studies:** The health and wellbeing sectors are very diverse across Europe and the world, where each person has their own specific needs, preferences and interests when it comes to using ICTs for living independently at home. Thus, there is a need to study it further.