Adoption of robotics into a hospital's daily operations requires broad cooperation

August 30 2017

VTT Technical Research Centre of Finland studied the implementation of a logistics robot system at the Seinäjoki Central Hospital in South Ostrobothnia. The aim is to reduce transportation costs, improve the availability of supplies and alleviate congestion on hospital hallways by running deliveries around the clock on every day of the week. Joint planning and dialogue between the various occupational groups and stakeholders involved was necessary for a successful change process.

As the population ages, the need for robotic services is on the increase. Adopting new technology to support care and nursing work is not straightforward, however. Autonomous service robots and robot systems raise questions about safety as well as about their impact on care quality and jobs, among others.

VTT has studied the implementation of a next-generation logistics robot system at the Seinäjoki Central Hospital. First steps are being taken in Finland to introduce automated delivery systems in hospitals, with Seinäjoki Central Hospital acting as one of the pioneers. The Seinäjoki hospital's robot system will include a total of 5-8 automated delivery robots, two of which were deployed during the study.

With deliveries running 24/7, the system will help to improve the availability of supplies and alleviate congestion on hallways. Experiences gained during the first six months show that transport personnel expenses and the physical strain of transport work have been reduced. The personnel's views on the delivery robots have developed favourably and

other hospitals have shown plenty of interest in the Seinäjoki hospital's experiences.

From the perspective of various occupational groups, adoption of the system has had a varied effect on their perceived level of sense of control and appreciation of their work, as well as competence requirements. This study by VTT, employing work research approaches and a systems-oriented view, highlights the importance of taking into account in the change process the interdependencies between various players, along with their roles in the hospital's core task.

Careful planning, piloting and implementation are required to ensure that the adoption of new robots runs smoothly as a whole. "As the system is expanded with new robots and types of deliveries, even more guidance, communication and dialogue is needed. Joint planning that brings various players to the same table ensures that the system's implementation goes as smoothly as possible, making it easier to achieve the desired overall benefits", says Senior Scientist Inka Lappalainen of the ROSE project.

VTT's study is part of the Robots and the Future of Welfare Services project (ROSE), running from 2015 to 2020. The project investigates Finland's opportunities for adopting assisting robotics to support the ageing population's independent living, wellbeing and care. There is also a blog post on the topic: roseproject.aalto.fi/fi/blog/32-blog8.

Roadmap

Intermediate results of the project are presented in the publication Robotics in Care Services: A Finnish Roadmap, providing recommendations for both policy making and research.

More information: The roadmap is available on the ROSE project

website, at roseproject.aalto.fi/ or roseproject.aalto.fi/fi/blog/29-roadmap-blog-fi.

Provided by VTT Technical Research Centre of Finland