

A study of the possibilities and effect of assistive robots in the intramural elderly healthcare

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Valorisation

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Valorisation

This thesis describes the results of the research on the possibilities and effect of socially assistive robots in the intramural elderly care. The results are promising, as they show the potential robot based interventions can have in increasing the quality of care. These results can only be of benefit to our care system, including but not limited to care professionals, care financers, care takers and public health services, if the results are translated to applicable and practical applications in daily care practice.

Relevance

Accessibility, quality and financial durability of health care and elderly care have been placed, by initiative of the European summit in Nice, on the European agenda. By the increasing demographic ageing the number of people with health problems strongly increases. The need for autonomy and the limited availability of care providers make the quest for technological support relevant. Moreover, the possible increase of care quality plays a role. A robot is able to process data in a very fast and objective manner, does not become sick or tired, has no stress and carries out its tasks with a high degree of exactitude. By the increasing technological developments the cost of this technology decrease and people become more and more familiar with technological appliances. Cost reduction in care surroundings can be realized because robots can take over trained staff tasks. Moreover, patients are less dependent on (human) care providers, which can reinforce the feeling of self-control and autonomy.

Target groups

Elderly

The research described in this thesis focuses on elderly people in the intramural psychogeriatric care. People who participated in the field studies, as described in Chapters 5 and 6, were selected based on therapeutic or care support objectives. Of the three developed interventions, as described in Chapter 4, the intervention aiming at supporting social visits was not included in the effectiveness study described in Chapter 6. This intervention could however be of significant importance

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to family members and informal care givers, supporting the meaningful context of social visits. It is therefore recommendable to investigate the effectiveness of these interventions. Although the target group in this thesis was limited to elderly people in intramural psychogeriatric care, there are no obvious objections to translate the results to elderly people receiving psychogeriatric care living at home.

Another possible target group is people with intellectual disabilities, both elderly people and children. A pilot study involving this target group has already been performed, the results are only indicative but promising enough to be further investigated.

Care professionals

The developed interventions described in Chapter 4 were co-created with 31 professional care givers, including psychologists, physical therapists, occupational therapists, medical doctors, nurses, diversional therapists, and team leaders. The pilot study described in Chapter 5, investigating the feasibility of the interventions, was carried out by 16 care professionals in three different care institutions. The effectiveness study, described in Chapter 6, was performed by 28 care professionals from six different care locations. These care professionals applied the interventions in daily care practice, in doing so not only contributing to the research but also gaining experience in applying robot based interventions in daily care. The developed training course, mentioned in Chapters 4, 5 and 6, can also be used to further support implementation of Paro interventions in care practice.

Researchers

More research is needed to further investigate the potential of socially assistive robots in care. It is not sufficient to examine the effect the robots will have in a laboratory setting or in a conditioned field study. This research focused on psychogeriatric care, but socially assistive robots can be of benefit to other user groups and domains. The procedure used in this project, from intervention development to effectiveness study, can provide guidance to further research involving socially assistive robots. Our approach lead to user-centered interventions, co-created with care professionals. Resulting in practically applicable and meaningful robot interventions. The integral involvement of health professionals and healthcare organi-

zations, both in the design of interventions and the effectiveness study, lead to a greater commitment and acceptance with regard to the use of robots in healthcare.

Care financiers

The results presented in Chapter 6 provide the basis for care financiers to reimburse the application of Paro involved interventions. Without such reimbursement the broad use and implementation of meaningful robot based interventions will be unnecessarily slowed down.

Industry

Broad implementation of robot based interventions also requires thorough maintenance and service contracts. The robot must have such a degree of effectiveness, both functionally and in use, that the patients and care providers are willing to use the robot in daily living. Health service providing companies should guarantee a high level of availability and reliability of the robot systems. They could also provide the necessary training of care professionals in order to successfully implement robot interventions in daily care. The service level agreements should target multi levels: providing service to individual users, service-based agreements targeting all users and corporate level agreements.

Innovation and further activities

Products developed in this research project were the three interventions, the blended training course and the (individualised) measurements instruments used in the feasibility and effectiveness study. The seal robot Paro was already available and no adjustments were needed (or possible).

In addition to these products and the effectiveness of Paro interventions, perhaps the greatest value of this research is that robot based interventions can be seen as tools that can make a substantial contribution to improving the quality of care. A variety of initiatives is undertaken by the participating healthcare organizations to stimulate further implementation of these interventions and to consider other useful applications.