

Summary of milestone report 3.1

This summary covers the 3.1 milestone report *analysis of possibilities, limitations, risk and chances of assisted living technologies for people with dementia and nursing homes* within work package 3 of the Demantec project.

The overall aim of work package 3 is a potential & benefit analysis whereas the 3.1 report has examined the German and Danish market for assisted living technologies through a literature based foundation along with relevant case studies. The study was divided into 3 chapters: 1) focussing at nursing homes, the disease dementia and the caring needs for people suffering from dementia 2) a macro analysis (PESTLE) of the condition in which eHealth companies in the field of dementia and nursing homes act 3) a SWOT analysis with regard to strength and weaknesses of the two industrial partners within the Demantec project as case studies as well as the opportunities and threats on operating within the field of using technologies in German and Danish nursing homes in the care of people with dementia. The following sections highlight some of the essential findings from the report.

Preliminary review of target groups

General patient oriented needs, staff oriented needs and family oriented needs were identified according to research and practical experiences by nursing homes, to get a comprehensive overview.

Patients suffering from dementia have the need to be reminded to drink or eat, they have need of body care, absence of pain as well as physical activity and recovery. Another need is having manageable challenges, that means it is important to remove not too many tasks from patients' responsibility. But there is also a need for easing tasks, e.g. by removing too many alternatives when a person suffering from dementia has to do decisions in their daily life. Other needs are adaption of stimuli, so that a resident is stimulated or shielded from stimuli, activation of perception and an individual and sometimes non-verbal communication. Furthermore, residents need to be understood and accepted and they need empathy, familiar rituals, meaningful occupation, security and reconnection with old memories. There are also social needs like social contacts, emotional bond, participation and integration as well as expressing religiosity. Additionally, patients suffering from dementia need support when it comes to time and place. This can be supported by structuring of daily life and the use of clear lighting, contrasting colors and construction as a round building with no dead ends corridors regarding architecture. These needs are in general quite similar in both countries. Regarding technology needs of dementia patients the German project partners put a focus on the patients' safety and the design of devices. There is a need for automatic switch off (household appliances), personal tracking and call systems that give a signal, if a resident leaves the nursing home. Furthermore, devices used by people suffering from dementia must have big control buttons as well as simple menus and functions. Tablet-PCs are useful because of their intuitive touchscreen which replaces keyboard or mouse. The Danish project partners also

described the need of technology to keep the patient safe (e.g. security alarms) but they furthermore described a need for technology to support the patients' skills and competences. This support could be provided using electronic calendars, aids to support memory, cognition or recreate pieces of a person's past or help to reconnect with memories and relatives.

Staff working in nursing homes in Germany and Denmark have need for continuing education/training which provides knowledge about symptoms and manifestations of dementia, dementia & sexuality, dementia & exercise as well as about medicine, psychology, law and social work. Furthermore, trainings should also focus on skills and competences regarding communication, showing respect and should provide a repertoire of actions. There is also need of simplified administrative tasks and physical work, optimized working processes. In Germany, there is further need for joint communication, teamwork and good relationships within the team as well as job autonomy, transparency, appropriate material, calm working routine, qualified employees, more employees and provision of good care. Danish project partners described also need for more eLearning tools including a build-in function reminding people to refresh their knowledge as well as knowledge of innovative technologies that can support to reduce loss of functional levels in the person suffering from dementia.

Relatives of people suffering from dementia have need for services and counselling which is nationwide, located nearby, with uncomplicated coordination, little bureaucracy and inform about rights relatives and patients have as well as help with bureaucracy. There is additional need of expertise about the illness dementia and of advice concerning handling of difficult situations and emotional burdens. Furthermore, peer support and a social network is needed so that relatives can talk about their feelings and issues as well as need for support in everyday life. Relatives have the need to know that the person suffering from dementia is well cared for and safe. Relatives also have the need to be in contact with the resident and get informed. The need of family members concerning technology is knowledge about which technologies are available for specific problems. In general, all these needs refer to Germany and Denmark.

When it comes to staff oriented and family oriented needs concerning technology, there were no research findings. Therefore, the project will go more into depth within milestone 3.2 and will be investigating needs further.

Macro analysis

A PESTLE analysis was conducted in order to establish an understanding of the macro environmental aspects that influence the Demantec project with regard to assisted living technologies used in nursing homes for people suffering from dementia. The PESTLE analysis examined political, economic, social, technological, legal and environmental aspects in order to identify potential opportunities and barriers for e-health technologies in Germany and Denmark. Some of the overall results of this analysis are summarized as follows.

The analysis revealed that dementia has a huge political focus in both Germany and Denmark as both countries are in the process of developing national dementia strategies. While the Danish Ministry of Health has allocated over € 60 million (DKK 470 million) for a National Action Plan for Dementia from 2016 to 2019 (Sundheds og ældreministeriet, 2015), there has been founded an alliance for people with dementia in Germany by the German Ministry for Family Affairs, Senior Citizens, Women and Youth in 2012. This alliance is meant as a step towards a national dementia strategy (BFSFJ, n.d.).

In both Germany and Denmark there currently is a shortage of qualified staff in nursing homes. According to the Nursing Home Rating Report 2015 due to the increasing number of people in need of care from 2015 to 2030 there is a demand for 345,000 more people working fulltime as qualified staff in nursing homes, which is estimated to cost about 58 to 80 billion Euros (fos/aerzteblatt.de, 2015). In Denmark there has also been investigated a need for more qualified staff in nursing homes (Alzheimerforeningen, 2013, p. 2; Kommission om livskvalitet af selvbestemmelse i plejebolig og plejehjem, 2012, p. 21 cited from Tilbudsportalen, 2011). This issue might lead to a high demand of implementing technologies in both the German and Danish nursing homes supporting the qualified staff.

In Denmark there is already a focus on assisted living technologies as mean to enhance the quality of care and reduce the costs of care within the Public Sector. By 2020 innovative and efficient digital solutions are expected to be a natural part of the main welfare within the health, social and educational fields of Denmark according to the common strategy for digital welfare of The Danish Government, Local Government Denmark and Danish Regions (Digitaliseringsstyrelsen, 2016). There are already many dementia related technologies available on the Danish and German market, and eHealth companies seem to experience a general interest for using assisted living technologies for people suffering from dementia.

It is essential that eHealth companies operating in the field of dementia and nursing homes are aware that Germany and Denmark has different reimbursement structures or procurement processes, as it can pose a huge barrier when scaling the solutions internationally. In Germany nursing homes are responsible for choosing technologies for their institution (decentralised approach), in Denmark municipalities prove, choose and implement assisted living technologies (centralized approach). In Germany there are certain acquisition regulations of how to acquire assisted living technologies that hamper the procurement of new assisted living technologies. The regulations imply that assisted living technologies have to be listed in the Catalogue of Therapeutic Appliances in order for the nursing home to be reimbursed by the nursing care insurance. Knowledge of technologies would be a prerequisite for nursing homes acquiring assisted living technologies. Such knowhow might not always be given in nursing homes.

In Germany elderly people in general appear to have only few experiences in the use of assisted living technologies for people aged 60 or older. While the Danish population is more used to the presence of digital technologies. Danish studies indicate the early implementation focus is key for proper introduction of technology to people suffer from dementia. But implementation along with needs and requirements for people with dementia, their relatives and qualified staff in nursing homes are both areas that need further investigations in the forthcoming work packages of Demantec.

In conclusion, the time has come to implement innovative technologies in dementia care in both German and Danish nursing homes. Differences in both countries have been revealed and must be considered. A special focus should be on the needs of the target groups that are directly involved in the dementia care. This can be, apart from the affected person him- or herself, the qualified staff as well as the relatives.

The needs of the people with dementia as well as requirements for adapting innovative technologies will be further investigated within Demantec. Further research results are expected for summer 2017.

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