

N. NIJHOF, J.E.W.C. VAN GEMERT-PIJNEN, A. SIXSMITH, E.R. SEYDEL. **User evaluation of ADLife technology to improve wellbeing and to save cost for people with dementia.** *Gerontechnology* 2012;11(2):256; doi:10.4017/gt.2012.11.02.361.00

**Purpose** Technology can support people with dementia and their caregivers<sup>1</sup>. It can help clients stay at home longer which is often a more cost effective and convenient option than admission into a nursing home<sup>2</sup>. But generally speaking, there is a lack of scientific evidence on the impact of technology in healthcare and it is in this context that the present research was conducted. We evaluated of the ADLife preventative technology system for people with dementia. ADLife is a commercially-available system consisting of a gateway with an alarm button, 3 door sensors, electronic use sensor, bed mat sensor, chair mat sensor, and a movement sensor, which registers the pattern of a person's behavior in their home. The professional caregiver from the participating healthcare organization contacts the person with dementia or the family contact person if changes in activity occur which might indicate a dangerous situation<sup>3</sup>. An earlier study indicated that the interface needs to be more user friendly<sup>4</sup>. The following research questions were addressed in our study: (i) which activities are undertaken for introducing ADLife?; (ii) how is the uptake of ADLife related to usage and usability?; and (iii) what impact has ADLife upon health care delivery, well being and cost savings? **Method** Van Gemert-Pijnen et al.<sup>5</sup> described the CeHReS roadmap as a holistic approach for the research and development of e-Health from contextual inquiry, value specification, design, and operationalization to summative evaluation. Together with usage behavior, eHealth impact should be measured to assess whether the intended objectives of the eHealth technology are realized. Main topics in this study's summative evaluation are for the uptake: usage behavior and usability of ADLife and for the impact: health care delivery, client wellbeing, the wellbeing of family caregivers and cost savings<sup>5</sup>. To address these questions we used a mixed method design; interviews with clients, family caregivers and professional caregivers, desk research from the records of the project group meetings and a cost analysis. The questions in the interviews were based on the CeHRes roadmap and the topics mentioned in this roadmap. The interviews were coded in a coding scheme and the calculations for the cost analysis were done in Excel. The evaluation was conducted over 10 months with 14 clients of a healthcare organization in the Netherlands. **Results & Discussion** ADLife was easy to install at a persons' home. The results of the ADLife evaluation indicates that the system has considerable potential in supporting people with dementia at a level comparable with results of other studies in the field of dementia and technology<sup>6</sup>. Clients and family caregivers reported enhanced feelings of safety and in the opinion of family and professional caregivers ADLife can help people with dementia stay home for a longer period of time which is also comparable with earlier studies. We analyzed the costs for 10 clients living at home one month longer instead of being in a nursing home and the savings were 1000 Euro, while for 50 clients the savings were 10,000 Euro. A process evaluation indicated a number of key issues in the implementation of ADLife: disruptions should be brought to a minimum, knowledge of ADLife by professional caregivers, and user friendliness interfaces and presentation of activity data could be improved, which was also mentioned in the earlier study with ADLife.

### References

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