

# PAPER

## Technology for Health

Y. SCHIKHOF, L.S.G.L. WAUBEN. *The need for new personal alarm systems and implementation lessons. Gerontechnology 2018;17(Suppl):136s; <https://doi.org/10.4017/gt.2018.17.s.132.00>* **Purpose** Evaluation of caregivers' experiences to be able to work with an integrated alarm system in a rehabilitation hotel. In an European funded project, the European Regional Development Fund, a health care provider and a small or medium enterprise (SME) asked for end-user evaluation of their integrated system consisting of several smartphone applications. The rehabilitation hotel, including the system, was nearly two years in use. The older patients, or guests, stay in the hotel until they are able to go home, or go elsewhere. **Method** Semi-structured interviews were used to conduct qualitative research. Topics came from a pilot study (questioning six caregivers and six guests) conducted by nursing students and from the understanding that 'perceived usefulness' and 'perceived ease of use' influence intention to use and usage behavior<sup>1</sup>. After four interviews, with three nurses and one trainee, saturation of data was reached. Analysis was done by an independent researcher and interviewer, using open and axial coding. Afterwards, results were discussed with middle management and the SME. **Results & Discussion** The results include five categories. Firstly, all respondents were happy with the smartphone and found it easy to use. Secondly, the knowledge and use of the integrated system was reduced to basics and focused on personal alarms of the guests. Respondents did not know all applications. Thirdly, caregivers expressed the 'usefulness' in knowing the location (WiFi-based) of the guest's interface (bracelet). While the caregivers promoted the use of the personal alarm for *any* need of assistance, they had to respond to many alarms and thus complained about walking excessively. Guests frequently moved after activating their alarm instead of waiting, leading to extra walking. Fourthly, the application for detecting inactivity in guest rooms, lead to great confusion. Caregivers did not know why alarms went off and how to prevent it. Fifth, respondents could not remember what instruction they had received, since it was only oral. Three caregivers had not been present during the introduction of the system. The only caregiver who had been there, did not mention more applications nor used the system differently. Lessons can be learnt concerning the need of repeating explanation, and after implementation. Moreover, training of staff has already been described as an important determinant for success<sup>2</sup>. Secondly, applications are only intended to be used for work processes. Here, caregivers have a strong tendency to make things easy for guests, but when learning to live independently again, this can be a hindrance. Concerning new personal alarm systems, receiving an alarm without any further information, except the location of activation, makes it very hard to prioritize. This is even more challenging in homecare. Technology to solve this is available, but caregivers do not usually ask for adaptations. Instead, they choose to walk faster. In conclusion, personal alarm systems have to be adapted to the needs of caregivers and older people. They have to evolve, become smarter, more durable and integrated before they can be optimally used in home care and in-patient care.

### References

1. Holden RJ, Karsh B. The Technology Acceptance Model: Its past and its future in health care. *Journal of Biomedical Informatics*. 2010;3(1):159-172; <https://doi.org/10.1016/j.jbi.2009.07.00>
2. Schikhof Y, Goumans M. Comparing Experience on Implementation of Health Care Technology. In: Encarnação P, Azevedo L, Gelderblom GJ, Mathiassen N, editors, *Assistive Technology: From Research to Practice*. Amsterdam: IOS Press; 2013;1241-1246

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