

S.C.J. Bakkes, B.J.A. Kröse. *Pervasive Healthcare Technology for Assisted Living Residences*. A contemporary way of accommodating elderly people in their desire for independent living, is implemented in the Netherlands in form of assisted living residences (i.e., "aanleunwoningen"). These residences are built alongside or nearby a traditional nursing home. Senior citizens that are relatively mobile and suffer from no or limited deficiencies in health, are eligible for placement in these residences. Accordingly, the residents benefit from (health care) services provided by the nearby nursing home, while at the same time living *independently*, and in much more *privacy* than would have been possible in the nursing home. Current trends are to assist elderly people by means of, among others, telemonitoring of vital signs and video communication. Recently, systems have been proposed that monitor activities of daily living with networks of simple sensors<sup>1</sup>. However, considering the desire for independent and privacy-conscious living, literature shows that any healthcare technology that is perceived as interfering with the daily activities of elderly residents will be regarded as obtrusive<sup>2</sup>. Therefore, in this paper, we investigate the requirements for incorporation of sensor networks in the domain of assisted living residences, and examine a design that considers literature-defined factors of acceptability. **Method** Alongside a detailed study of relevant literature, in our investigation we perform in-depth interviews with three target groups. Namely, we interview (1) healthcare professionals, (2) managers of healthcare professionals, and (3) elderly people housed in assisted living residences. The results provide valuable guidelines for incorporation of pervasive techniques. **Results and discussion** Results of our interviews indicate that residents may accept potentially obtrusive technology to the extent that it is used solely for the purpose of detecting and responding to emergencies (e.g., a fall to the ground). However, any additional form of monitoring is received with strong opposition, even if it were to concern slowly developing medical conditions (e.g., cystitis). Interestingly, the latter view is generally shared by healthcare professionals, who reason that additional monitoring techniques are remotely relevant to the domain of assisted living residences. Still, managers of healthcare professionals reveal that additional monitoring may be required in the near future to relieve the work routine of health professionals, and, ideally, provide a higher quality of service for the residents. From these findings, we may conclude that pervasive healthcare technology in the domain of assisted living residences should be focussed foremost on detecting and responding to emergencies. Though additional monitoring may benefit directly elderly residents and healthcare professionals, we posit that their acceptance is determined foremost by the ability to control and influence the technique, and by implication, the (careful) design of the pervasive technology.

#### **References**

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