The i-evAALution RCT: Rationale, methods and first results of the pre-tests

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Purpose Despite the growing number of randomised controlled trials (RCT) on the impacts of assistive technologies on older people and their informal carers (Hirani et al., 2014), many questions remain unanswered. Concerning AAL technologies available on the market, they often cannot be combined into larger bundles to cover a wider range of functionalities. The international project i-evAALution therefore aims to develop an integrative technologies bundle, consisting of an emergency watch, a radio-transmission emergency button, a tablet and smart home devices (Figure 1), while in parallel addressing open questions about the acceptance and impacts of these technologies on quality of life and other psychosocial variables. In order to guarantee a high quality 12-month RCT with community-dwelling older people and their informal carers, two pre-test phases were conducted (Czaja et al., 2019). **Method** The layout of both pre-test phases, including all guidelines on procedures and collection of feedback, was designed and elaborated by the consortium. During the first pre-test phase, 13 usability experts were involved in testing and validating the technologies according to predefined tasks and usability heuristics. Furthermore, 14 older persons tested the technologies and answered the baseline questionnaires. During the second pre-test phase, the technology installation and training as well as further questionnaire testing were carried out at the private homes of 6 older persons. **Results and discussion** The two pre-test phases led to several reductions of technological functionalities in order to guarantee a stable and user-friendly bundle, able to evoke positive effects on the outcome variables in the trial phase. The technology training materials were slightly adapted, and the importance of face-to-face training, which is adapted as much as possible to the individual requirements of the older test persons, was confirmed. In this regard, one limitation will remain; due to a targeted high number of test persons and limited resources it will only be possible to conduct a maximum of two training sessions per person. Concerning the baseline questionnaires, the feedback from the pre-tests led to several adaptations which will enhance their comprehensibility and adequacy. In summary, the pre-tests were crucial for a successful roll-out of the technologies according to methodologically and practically optimised protocols and will thus enable the consortium to contribute to the evidence-based knowledge on the impacts of assistive technologies.

References

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Figure 1. The i-evAALution technology bundle