H.B. JIMISON, D.E. YOUNG, J.MARCOE, N. BAHR. **Design guidelines for remote health coaching of older adults.** *Gerontechnology 2012;11(2):251;* doi:10.4017/gt.2012.11.02.479.00 **Purpose** A variety of home health interventions have been demonstrated to be beneficial for older adults[1,2]. However, without coaching, it is difficult to sustain health behaviour change over time. Our goal in this study was to determine how best to design technology and protocols to facilitate remote health coaching for a sustained set of health interventions. **Method** We recruited 20 older adults (mean age of 73.8 ± 6.7 years) living independently in their homes to participate in a feasibility study of remote health coaching. We provided tailored interventions for cognitive exercise, physical exercise, sleep management, and socialization. We also recruited the remote family members of these participants to be part of the socialization intervention. We installed motion sensors, phone sensors, wireless medication dispensers, and computers with our cognitive games, Skype software, Web cameras, and coaching system in all homes. The remote family members also received Web cameras and instructions for downloading Skype software. The health performance metrics based on the monitoring data from the home, including sensor data and self-report measures, were fed back to the coaching station. These metrics then trigger tailored coaching messages that were automatically generated by our software and presented to the health coach to be edited (if needed) and sent out to each participant. We tested our ability to sustain the coaching set of interventions over a period of 6 months. During this period we also engaged the participants in providing usability feedback and suggestions for improved designs for the system. **Results & Discussion** In our field trial to test the sustainability of known health interventions for older adults, we demonstrated that we were able to keep older adults engaged in a set of health coaching interventions for the 6;month period, losing only one participant to illness and hospitalization. The important lessons learned from our usability testing that led to the resulting system design, the debriefing interviews, and the monitoring of system usage included: (i) We needed to enhance the content of automated messages with more variety in greetings, feedback and closings. (ii) The initial phone or Skype interview was critical in building rapport. (iii) It was important to use video and open ended interview questions to obtain accurate information on constraints and contraindications for physical exercise. (iv) We needed to model more completely the behavior change variables associated with self-efficacy, readiness to change and level of interest. (v) We needed to explicitly record and understand the participants' social support. (vi) We needed tutorials on how to use the coaching system to supplement and refresh the initial training. (vii) Feedback must be timely and individualized. (viii) We needed to use positive feedback of some form all the time. (ix) We needed protocols to go week by week (time progression, not never-ending). This study shows the feasibility of delivering a low-cost, multi-faceted intervention that is easily scalable. In addition, the multiple components of the intervention allow us to target important health issues that are not routinely managed with traditional medical care.

References

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