K. Grönholm. The Vivago watch: a telecare solution for cost-efficient care. Gerontechnology 2009;8(2):112; doi: 10.4017/gt.2009.08.02.018.00 Increasing life expectancy accompanied with decreasing dependency ratio in developed countries calls for new solutions to support independent living of the elderly. Telecare enables elderly, disabled and those with long-term conditions to live safely and securely at home for a longer period of time. It also allows carers to remotely monitor the wellbeing of their clients' and take necessary action before a crisis occurs. **Technical description** The Vivago watch (*Figure 1*)[1] continuously monitors the well-being of its user by measuring motion (at the micro and macro level), skin conductivity and skin temperature. It observes and analyses activity and SWR (Sleep, Wake, Rhythm) patterns to conclude on changes in well-being and effects of treatment. If the system detects an abnormal period of immobility, e.g. the user appears to be unconscious, an automatic alarm can be generated. In addition to being the basis for automatic alarms, the collected activity data can also be sent to a remote recipient or viewed online in a care facility for continuous follow-up of a customer's well-being. Disturbances or changes in circadian rhythm and sleep appear an unspecific mechanism, which is sensitive to various health and wellness related factors and diseases. Due to its suitability for long-term and continuous monitoring, Vivago allows us to detect these changes, but simultaneously the non-specificity of the measurement method ensures the user his/her privacy when wearing the device. Time of the day, date or weekday is also shown on the watch that is fully waterproof and equipped with a rechargeable battery. In addition it has a wake-up alarm and backlight. The total watch design reduces the stigma of wearing a standard alarm device. In addition to the watch, Vivago employs a base unit for receiving and forwarding alarms, a device interface unit for integration of external detectors or alarms to the system, and software for alarm receiving and handling and for activity monitoring and analysis. All features can be activated and deactivated according to the user's needs by remote programming. **User studies** Monitoring circadian activity rhythm of elderly nursing home residents (n=16, mean age 85.1 years, range 58-97) with an earlier version of the Vivago watch for several months showed that telemetric activity monitoring offers a practical tool for long term monitoring to detect changes in health status in older adults in their normal environments[2]. Compliance in PERS (personal emergency response) was up to 90%, with <50% for traditional alarm devices[3]. Telemetric monitoring, if introduced inappropriately, may be a potential privacy issue. However, few Vivago users or their relatives consider the telemetric monitoring as threatening their integrity. They perceived the technology as an increase in security that helped them to continue living in their current environment[1].

References

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Figure 1. The Vivago watch