

S. Sage. *ITHAQ: a communicating electronic pillbox for the elderly*. *Gerontechnology* 2009;8(2):121; doi: 10.4017/gt.2009.08.02.014.00 Not strictly following their doctor's prescription may lead aged people to disastrous results for their health, at high social and economical cost. An electronic pillbox, programmed for them, providing sufficient autonomy and safety of use, as well as enough ergonomics for people with visual and/or handling restrictions, will help them taking the right medicine at the right time, in the right quantity. The patient should also be relieved from the fear of mixing his or her medicine, as well as of forgetting to take it. Care-takers, may they be professionals or family members, will wish to ascertain that if the prescribed dose is not taken in due time they can be warned, even at a distance and thus be able to react accordingly. **Technical description** The Carrousel electronic pillbox¹⁻³, with 28 cells available, allows for an autonomy of up to 1 month (at 1 dose/day). The inbuilt electronic card, equipped with infrared light beam and position sensors, able to keep in memory the numerous programming options, pilots an electric motor, which will in turn move the round cell tray (similar to a slides carrousel) to the desired position. Its robust ABS construction as well as the reliable electronics that pilot the apparel grant the user reliability and care-free maintenance. Its unique design allows him/her to take only one dose at a time, the other doses remaining invisible and thus preventing any misuse (the pillbox can be locked). When the alarm rings (and /or flashes), the Carrousel has to be taken with one hand and tilted across a vertical line, with the result that the dose will fall into the other hand placed under the aperture and that the alarm will stop ringing. Should the person not respond in due time to the alarm, the apparel will send a message - through an SMS or via the telecare system with which it is connected - to whichever (mobile) phone number has been entered. Programming can be carried out through the supplied USB port, which allows for an integration of the Carrousel within any USB or radio network, such as a telecare system. This works both ways, in order for the care-taker to check at which exact times doses have been taken (traceability) or modify the programming of the doses (up to 28/day). **User studies** Among other studies, the Carrousel has been validated, as early as in year 2004, with people suffering from light dementia in Norway⁴, with good results not only for the patients, who could respect their doctor's prescription (therapeutic compliance) but also for the helpers (either family or professionals), who were thus given some relief. Out of 5 patients (aged between 65 and 92) and as many helpers, the Carrousel was deemed by 4 (1 not willing to carry on with the experience) as useful and presenting a high cost/benefit ratio.

References

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Figure 1. CARROUSEL, electronic and automatic pillbox, suitable for elderly and/or disabled people, with up to 10 medicine doses/day, connectable to any telecare system