

S.A. ELPRAMA, K. KILPI, C.I.C. JEWELL, F. ONGENAE, F. DE BACKERE, F. DE TURCK, P. SIMOENS, A. JACOBS. **Opportunities to use robots to alleviate behavioral disturbances of nursing home residents.** *Gerontechnology 2016;15(suppl):14s*; doi:10.4017/gt.2016.15.s.855.00 **Purpose** Behavioral disturbances (BD) (e.g. wandering, screaming) occur among people with dementia (PWD)<sup>1</sup>. This observational study explored how social robots could intervene with BDs, such as wandering, exhibited by PWD. If such behavior could be automatically detected using sensors, then a robot could be sent to a wandering resident to (temporarily) stop him/her from wandering. **Method** In two nursing homes we observed (ca. 38 hours) staff in two departments (one open and one closed) to understand how they manage wandering behavior. We mainly focused on the interactions between the staff and the residents. These observations resulted in field notes, which we analyzed using a grounded theory approach<sup>2</sup>. Subsequently, we formulated guidelines describing how robots could intervene in the event of harmful wandering. **Results & Discussion** Staff did not consider wandering as a behavior that should be stopped altogether. In fact, wandering contributes “to stimulation and exercise” of the residents<sup>3p199</sup>. Nonetheless, once the behavior was harmful to the wanderers or others, strategies were used by staff to alleviate harmful wandering (*Table 1*). When wanderers would get tired, a staff member would invite them to sit down with a sandwich or a drink. Residents lingering around the exit (to escape) were often distracted by the staff with suggestions, for example to join the others in the living room. Based on the observations, opportunities for robot interventions were identified. For instance, robots could apply the same strategies such as distracting residents with appropriate interactions. This study contributes to existing research by suggesting non-pharmaceutical strategies to alleviate harmful wandering behavior. Future research will include co-creating robot intervention strategies together with the nursing home staff and investigating how nursing home residents that exhibit BDs respond to robots.

**References**

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*Table 1. Example of strategies used to alleviate wandering and what robots could do*

<b>Resident behavior</b>	<b>Problematic be-cause:</b>	<b>Current staff inter-vention:</b>	<b>Robot intervention option:</b>
Excessive wandering	Exhaustion, hunger, thirst	Encourage resident to rest and replenish with food or drink	Encourage resident to rest (but not give food or a drink)
Attempting to elope / lingering around exit	Dangerous for wanderer	Distracting resident with a conversation	Distract resident
Trespassing (e.g. entering rooms of other residents)	Dangerous for wanderer; upsetting other residents	Reminding resident of forbidden areas; guiding them further	Remind resident of forbidden areas; invite resident to follow robot to other nursing home activities.