**Piloting movement sensing technology in the delivery of cognitive support to people with traumatic brain injury within community living**

**Background:** People with severe traumatic brain injury (TBI) can experience cognitive issues that impact long term support requirements and ability to live independently.

**Aims:** This research piloted use of new movement sensing technology developed for the well elderly – ‘Sofihub’ – with Transport Accident Commission clients with TBI who had returned to community living.

**Methods:** Mixed methods, case series design was used with four adult males with TBI. An occupational therapist met with each participant to set goals for application of Sofihub, with the aim to provide computer-generated audio-prompting for completion of those daily living tasks identified by the participant as requiring cognitive support. A computer programmer then set up Sofihub and sensors based on these individualised goals, with prompts activated by either time or movement. Baseline and outcome data on number of successfully completed tasks were recorded daily over 8-12 weeks duration. Semi-structured interviews were also undertaken at the start and end of trial regarding expectations for, and experience of, Sofihub.

**Results:** Sofihub was found to positively impact completion of nominated tasks(+7%-100% increased task completion rate compared to without Sofihub). Qualitative data indicated some unintended benefits, including reduced sense of isolation given availability of audio-prompts at home, capacity to modify prompts remotely, and procedural learning via repetition of task completion. Challenges were also identified, primarily missed prompts when the person was unexpectedly away from home.

**Conclusion:** Although further evaluation with larger samples is indicated, Sofihub offers promise in augmenting human support for cognitive assistance in daily activities after TBI.