

# Converting a Dementia Aged-care Ward with Art-based Technologies:

## A Case Study

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**Introduction:** The 2021 Australian Royal Commission into Aged Care acknowledged that the Aged Care sector has struggled to innovate, with many facilities continuing to provide environments that contribute to poor quality of life.[1] Similarly, the 2024 Final Report of the Aged Care Taskforce recognised the urgency of reform but stressed that “addressing viability and sustainability issues is a necessary pre-condition for developing an innovative culture”. [2] People living with dementia (PLWD) can be triggered by environments that are visually and socially under-stimulating, causing the natural behaviour to exit seek due to anxiety, disorientation and frustrations, which can increase their pharmacological interventions and extra burdens on staff.

**The Objective: A ward that needed help.** A provider with facilities across Queensland was experiencing issues caused by their locked glass door exits, with residents trying to access nature and expressing their anger and frustration. Also, struggling to way-find to their room doors or find the toilet fast enough to avoid having an accident. The exit doors were framed floor to ceiling glass, wrapped around 3 walls at each end of a corridor- which created a nook. All the resident room doors were the same institutional design and colour, identified only through object recognition or reading i.e. a ‘Shadow Box’ or name plaque.

**The Brief:** Management asked us to stop residents from banging or tugging at exit door handles, correct their toilet door signage and help their residents to find their rightful room door to stop or reduce incidence report writing due to accidental room door entries. Also, in accordance with the Australian Aged Care Design Principles and Guidelines, to transform their institutional facility with a more residential vibe.

**Methodology:** Art-based Technologies (ABTs) are deliberately designed, technologically and architecturally integrated interventions that have transformed this facility to suit the neuropsychological needs of the patients. Studies show that residents prefer a distinct delineation between private art collections in resident rooms and collectively interesting images in community spaces to spark daily conversations, reduce favoritism and arguments.[3] Since the early 1960s, neuroscientific research has consistently demonstrated that institutional environments accelerate cognitive decline compared to

enriched environments that can slow cognitive decline.[4] After age 65, age-related declines in frontal executive function increase reliance on the right parietal lobe, which is sensitive to detail, pattern, and contrast, making it more receptive to art appreciation.[5] Wayfinding studies using virtual technology show that PLWD in long-term care will learn a new route faster, and retain the memory, if provided with landmarks that are:

- Large, frequent, meaningfully placed, stable
- Naturally coloured and bright
- Textured and easy to understand
- High contrasting shapes, tones and colours [6]

Using the above science, we edited our artworks by industrial artist Sharron, to increase their colour luminosity, tonal contrast, edge definition and shape juxtapositions. Imagery was carefully selected to the facilities coastal location and demographic.

### ***Findings:***

The provider told us that the ABTs affected both their residents and staff as follows:

- exit seeking stopped over night
- room door wayfinding improved in 2 days
- in-corridor conversations increased immediately
- staff were immediately happier
- toileting incidences dramatically reduced
- residents began sitting in the exit door nooks and reminiscing coastal life
- Overall cost was less than \$17K
- Concerns about dementia deceit evaporated which correlates with studies showing residents are OK with white lies told to minimise harm.[8] Their Recreational Therapist could now develop daily programs around the ABTs to facilitate active and passive engagement – including for residents who were non-verbal, to foster social interaction, and train staff as evidenced in person-centered approaches.[9, 10]

## References

- [1] **Royal Commission into Aged Care Quality and Safety. 2021.** Final Report: Care, Dignity and Respect, Vol. 1 (Summary and recommendations), Section 1.3.6 “Innovation and Sustainability.” Commonwealth of Australia.
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- [4] **Volkers, K. M., & Scherder, E. J. A. (2011).** Impoverished environment, cognition, ageing and dementia. *Reviews in the Neurosciences*, 22(3), 259–266.
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