Tackling robotic animal intervention challenges through trialing techniques, toolkits, and training C. Wilkinson, A. Jackson, J. Beauregard, B. Livingstone, C. Maleta, A. Arce, M. Bosnich, A. Stephens-Beaudoin. *Gerontechnology* 25(s)

Purpose Scoping and systematic reviews of the robotic animal intervention (RAI) literature have identified a range of positive outcomes for individuals living with dementia including enhanced social engagement, improved mood, increased participation in meaningful activities, and reduced negative emotion and behavioural symptoms of dementia [1,2]. Despite these identified benefits of robotic animals, researchers have highlighted barriers to effective implementation, including the need for staff training and implementation guidelines [1,3,4]. To address these gaps, a 10-month 3-phase exploratory qualitative study (Study A) set out to identify best practices of facilitating robotic seal and bird interventions for residents with dementia living in long-term care (LTC). This included trialing various implementation techniques, incorporating facilitator feedback, and the development of implementation toolkits. A subsequent 8-month project (Study B) aimed to refine implementation toolkits, and to develop and pilot a RAI training program. **Method** *Study A* Facilitators included recreation therapy staff (n=10) and students (n=28), all of whom had no prior robotic seal or bird facilitation experience. The first author (CW) conducted a total of twenty visits to LTC homes (n=7) in Niagara, Canada. Facilitators trialed a range of techniques based on professional recreational therapy experience to provide RAI sessions with LTC residents (n=169). After each LTC visit, semi-structured interviews were conducted to discuss effective facilitation strategies, challenges encountered, and potential solutions, including the creation of tangible resources to support RAI. Interview transcripts were thematically analyzed. Data informed the development of preliminary RAI toolkits, which were trialed by facilitators during the later phases of this study. *Study B* Toolkits were further refined using facilitator and resident feedback. RAI training was developed and piloted to recreation therapy staff and students (n=70). Pre and post training questionnaires and post-training interviews were used to evaluate the program. **Results and Discussion** Results from *Study A* identified that facilitators experienced challenges related to initiating and concluding sessions, guiding therapeutic intentions for the intervention, responding to unexpected questions, and sustaining meaningful conversation. In response, separate toolkits were developed for each robotic animal, providing intervention planning tools, memory aids, conversation prompts and facts, and resources for bringing interventions to a meaningful close. Additional revisions to the toolkits were made after further use in *Study B*. Post-pilot training results from *Study B* indicated significant increases in facilitators' knowledge of how to use robotic seals and birds as therapeutic tools in dementia care. In post-training interviews, facilitators most often highlighted the hands-on learning activities, live and video demonstrations of facilitation techniques and toolkit use, and role play exercises as the most impactful components of the training program. Facilitators reported feeling better equipped to facilitate meaningful RAIs following evidence-informed training that incorporated both technique development and toolkit utilization.

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Table 1. Robotic Animal Training and Toolkit Components

Robotic Animal Training	Robotic Animal Toolkits
Background, history and research on robotic animals	Intervention planning tools
Caring for robotic animals	Conversation prompts
Effective robotic animal intervention techniques	Memory supports
Understanding & utilizing toolkits	Animal profiles and facts
Case study and role play	Activity resources
Practical application with residents	Resources to start and end the intervention