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# Rehab PET: A "Gamified" Rehabilitation Model of Optimistic Recovery & Engaged Learning

Initiative Type

Model of Care

Status

Deliver

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## Summary

An innovative model of care has been developed for rehabilitation services supporting clients with significant disability and numerous barriers to engagement. It delivers an engaging, fun, and

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optimistic journey of recovery that should ultimately boost client's motivation, skills, and self-confidence to self-manage because it incorporates a "gameful" way to learn that's supported by neuroscience.

### Key dates

Feb 2016

Feb 2019

### Implementation sites

It is anticipated that the project will be initially piloted at the Chermside Community Based Rehabilitation Team (CBRT).

### Partnerships

Interested academic partners from UQ are from the Schools of Occupational Therapy, Psychology and Education.

## Key Contacts

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## Aim

To pilot and determine the feasibility of an innovative "gamified" model of care with complex rehabilitation clients of the Community Based Rehabilitation Team.

## Benefits

It is hypothesised that the proposed model of care will improve: 1) Client engagement and Home Exercise Program (HEP) adherence 2) Client's self-management skills 3) Rehabilitation Clinician's confidence to provide therapy instruction that is optimistic, engaging, and effective.

## Background

The Metro North Rehabilitation Clinical Services Plan states that there are issues with both the quantity and quality of community-based rehabilitation treatment provided in the Metro North Health Service District. Quantity: It states that demand for rehabilitation already exceeds supply, with this problem forecast to worsen with projected adult population growth of 8.7 per cent over 5 years. Recent attempts to increase the sustainability of community rehabilitation with telehealth have been frustrated by barriers including a lack of broadband data, and low patient confidence operating the technology, especially for the growing demographic of older clients. Sustainability may not be achieved through providing more extrinsic motivation, but rather through leveraging intrinsic motivators and by supporting the clients to self-manage their own recoveries with suitable community supports {(Gallagher, K.M. (2016), Boger, E.J., et al (2015))}. Quality: The quality of rehabilitation in Metro North has been problematic due to poor staff retention, leading to a lack of capacity of skilled clinicians (Rehab Clinical Services Plan). Lower skills and experience has a significant impact on the effectiveness of rehabilitation, and on the degree to which patients participate, resulting in low value healthcare (Rehab Clinical Services Plan). The literature shows that patient participation in rehabilitation programs and home exercise program adherence is affected by numerous personal and organisational barriers. The patient's self-efficacy (the lack of self-belief in overcoming difficult challenges) and their executive cognition were both identified as significant barriers {(Simpson, L.A. et al (2011), Jones, F. and A. Riazi (2011), Reavenall, S. and H. Blake (2010).)}. Clinicians have some influence over the patient's self-efficacy by providing quality goal setting, feedback that leads to mastery, and peer group facilitation. Furthermore, other motivational barriers such as a fixed mindset, pessimism, and low willpower /grit can also be trained. However, evidence based practices that optimises learning for clients with cognitive impairment and leverage motivation for clients with low self-efficacy have not yet been embedded into practice. The literature also highlights that the Community Based Rehabilitation Team's (CBRT) current model of care is not optimal for promoting self-efficacy or self-determination, which are enablers for learning and self-management {(Simek, E.M., et al (2015), Satink, T., et al (2015))}. The Metro North Rehabilitation Clinical Services Plan calls for new models of care that increase value for the patients

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and the organisation using a wholistic biopsychosocial model, especially in community settings. The proposed model of care (Rehab PET: Positive Engagement for Thriving) extends upon CBRT's existing model of care by drawing from cutting-edge evidence in the fields of health, psychology, neuroscience, education and game design. Specifically, it incorporates the self-determination theory of motivation commonly used in "gamification" to support vulnerable clients who do not optimally engage. This "Gameful" learning style is more likely to increase self-efficacy, which is a prerequisite for long term self-management.

## References

**Key Resources** Gamification for health and wellbeing: [A systematic review of the literature Metro North Rehabilitation Clinical Service Plan](#) **Other** Boger, E. J., S. H. Demain, et al. (2015). "Stroke self-management: A focus group study to identify factors influencing self-management following stroke." *International Journal of Nursing Studies* 52(1): 175-187 13p. Gallagher, K.M. (2016). "Helping Older Adults Sustain Their Physical Therapy Gains: A Theory-Based Intervention to Promote Adherence to Home Exercise Following Rehabilitation." *Journal of Geriatric Physical Therapy* (2001) 39(1): 20-29 [International Classification of Functioning, Disability and Health \(ICF\)](#) Jones, F. and A. Riazi (2011). "Self-efficacy and self-management after stroke: a systematic review." *Disability & Rehabilitation* 33(10): 797-810 14p. Reavenall, S. and H. Blake (2010). "Determinants of physical activity participation following traumatic brain injury...including commentary by Katz-Leurer M and Hassett L." *International Journal of Therapy & Rehabilitation* 17(7): 360-369 10p. Satink, T., E. H. C. Cup, et al. (2015). "How is self-management perceived by community living people after a stroke? A focus group study." *Disability & Rehabilitation* 37 (3): 223-230 8p. Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35- 37). Windsor, England: NFER-NELSON. Simek, E.M., L. McPhate, et al. (2015). "What are the Characteristics of Home Exercise programs That Older Adults Prefer?: A cross-Sectional Study." *American Journal of Physical Medicine & Rehabilitation / Association Of Academic Physiatrists* 94(7): 508-521 Simpson, L.A., J. J. Eng, et al (2011). "Exercise perceptions among people with stroke: barriers and facilitators to participation...including commentary in English C and Olawale OA." *International Journal of Therapy & Rehabilitation* 18 (9): 520 – 530 11p. Su, R., Tay, L., & Diener, E. (2014). The development and validation of Comprehensive Inventory of Thriving (CIT) and Brief Inventory of Thriving (BIT). *Applied Psychology: Health and Well-Being*. Published online before print. doi: 10.1111/aphw.12027 Tak, E.C.P.M., J. G. Z. van Uffelen et al. (2012). "Adherence to exercise programs and determinants of maintenance in older adults with mild cognitive impairment." *Journal of Aging and Physical Activity* 20 (1): 32-46.