

Earlier Diagnosis of Dementia in Parkinson’s Disease: Study Protocol for a Hybrid II Effectiveness-Implementation Trial of ‘PDCogniCare’

Deborah Brooks¹, Dana Pourzinal¹, Elton Lobo¹, Deepa Sriram¹, Tiffany Au¹, Leander K. Mitchell¹, John O’Sullivan^{1,2}, Sharon Naismith³, Annette Broome⁴, Alexander Lehn⁴, Anna Kelder⁴, Jackie Liddle¹, James King¹, Stuart Robertson⁵, Neil Page¹, Kirstine Shrubsole¹, Helen Tinson⁴, Martie-Louise Verreynne¹, Brian Wood⁴, Peter Worthy¹, Jihyun Yang¹, Peter Nestor¹, Mark Chatfield¹, Sabrina Lenzen¹, Edwin Tan³, Tomas Piccinini¹, Elizabeth Beattie⁶, Rodney Marsh², Gerard Byrne¹, Nancy Pachana¹ Nadeeka Dissanayaka¹

[1]The University of Queensland, Brisbane, Australia, [2]Metro North Health, Brisbane, Australia, [3]The University of Sydney, Sydney, Australia, [4]Metro South Health, Brisbane, Australia, [5]OPN 365 Pty Ltd, Brisbane, Australia, [6]Queensland University of Technology, Brisbane, Australia.

BACKGROUND & AIMS

Dementia is observed in 80% of people living with advanced stage Parkinson’s disease (PD),¹ however, there are inadequate opportunities for early diagnosis of dementia in current clinical practice.² Failure to evaluate and identify dementia early presents safety issues to the person living with PD and their families, and hinders treatment, rehabilitation potential, support, and future planning.²

The aim of this study is to test implementation of a new technology-assisted intervention, **PDCogniCare**, for improved diagnosis of dementia in people living with PD. The *PDCogniCare* intervention includes: i) best practice guidelines for cognitive assessments in PD,³ ii) a neuropsychological toolkit and training package, and iii) a digital platform to manage referrals, share information, and track cognitive changes over time. The *PDCogniCare* study outline is shown in **Figure 1**.

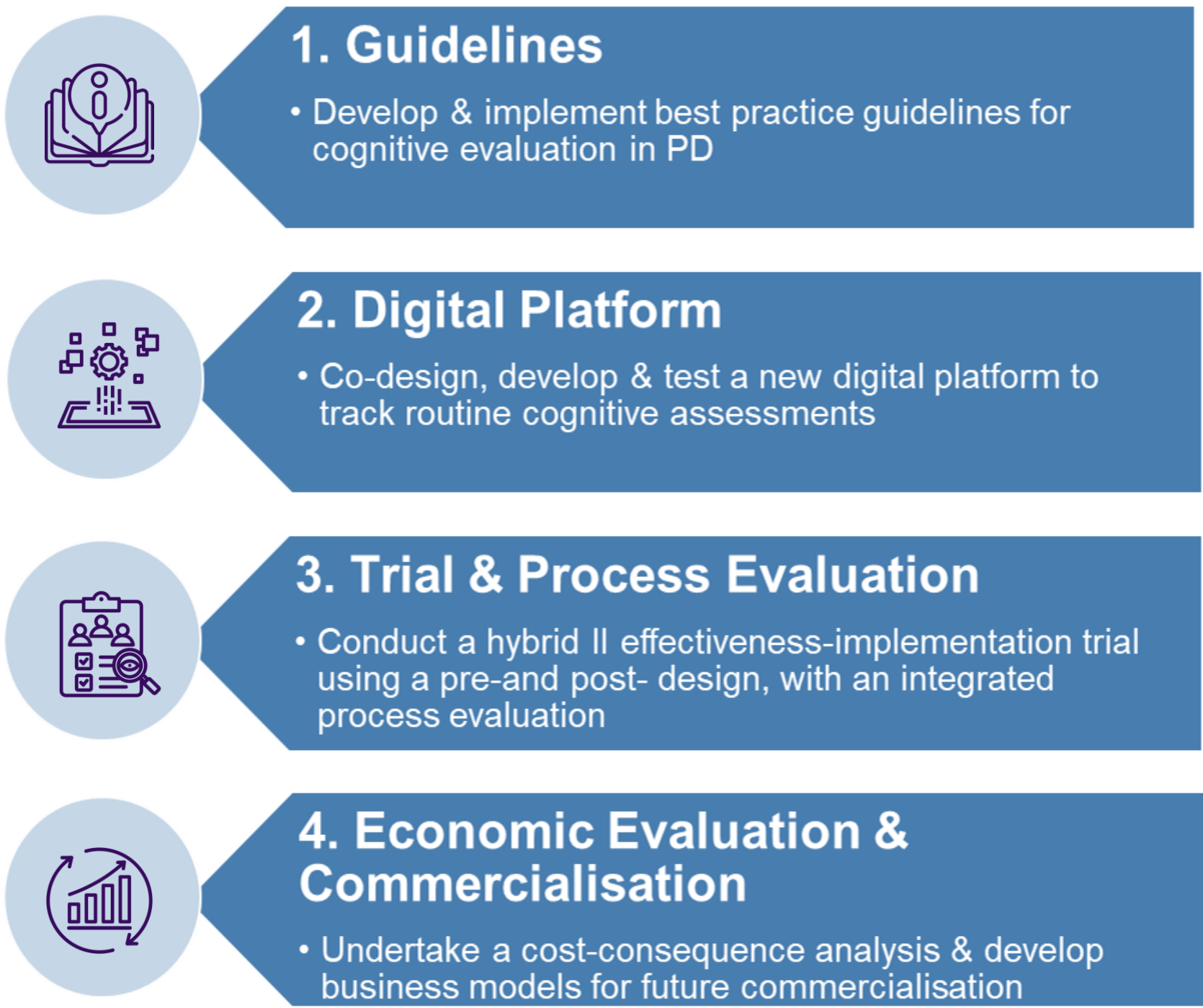


Figure 1: *PDCogniCare* Study Overview

CONTACT INFORMATION

 Deborah.brooks@uq.edu.au
 <https://clinical-research.centre.uq.edu.au/dissanayaka-group>

METHODS

A **hybrid II effectiveness-implementation trial** will be conducted to examine feasibility, effectiveness and implementation of *PDCogniCare* within two Australian public healthcare settings. The trial will use a pre-and post-intervention design (see **Figure 2**).

Effectiveness: We will examine the increase in percentage of people with PD diagnosed with dementia (primary outcome) and mild cognitive impairment (MCI) (secondary) from the total number of people reviewed over 12 months compared to 12 months pre-intervention.



Figure 2: *PDCogniCare* Trial

The in-built process evaluation will examine implementation of an **integrated and extended neuropsychology model** within PD movement disorders clinical care and psychology services (see **Figure 3**).⁴ Training postgraduate neuropsychologists will build capacity to work with people living with PD and their care partners, upskilling the psychology workforce for PD dementia care.

A mixed methods approach, including interviews with participants and stakeholders, will be used to understand factors influencing the use of the platform, delivery of cognitive assessments, and acceptability of *PDCogniCare*.

Implementation outcomes will be evaluated using the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, and Maintenance),⁵ to guide future implementation into practice.

Economics: A cost-consequence analysis will be conducted to identify the economic viability of *PDCogniCare*.

ACKNOWLEDGEMENTS

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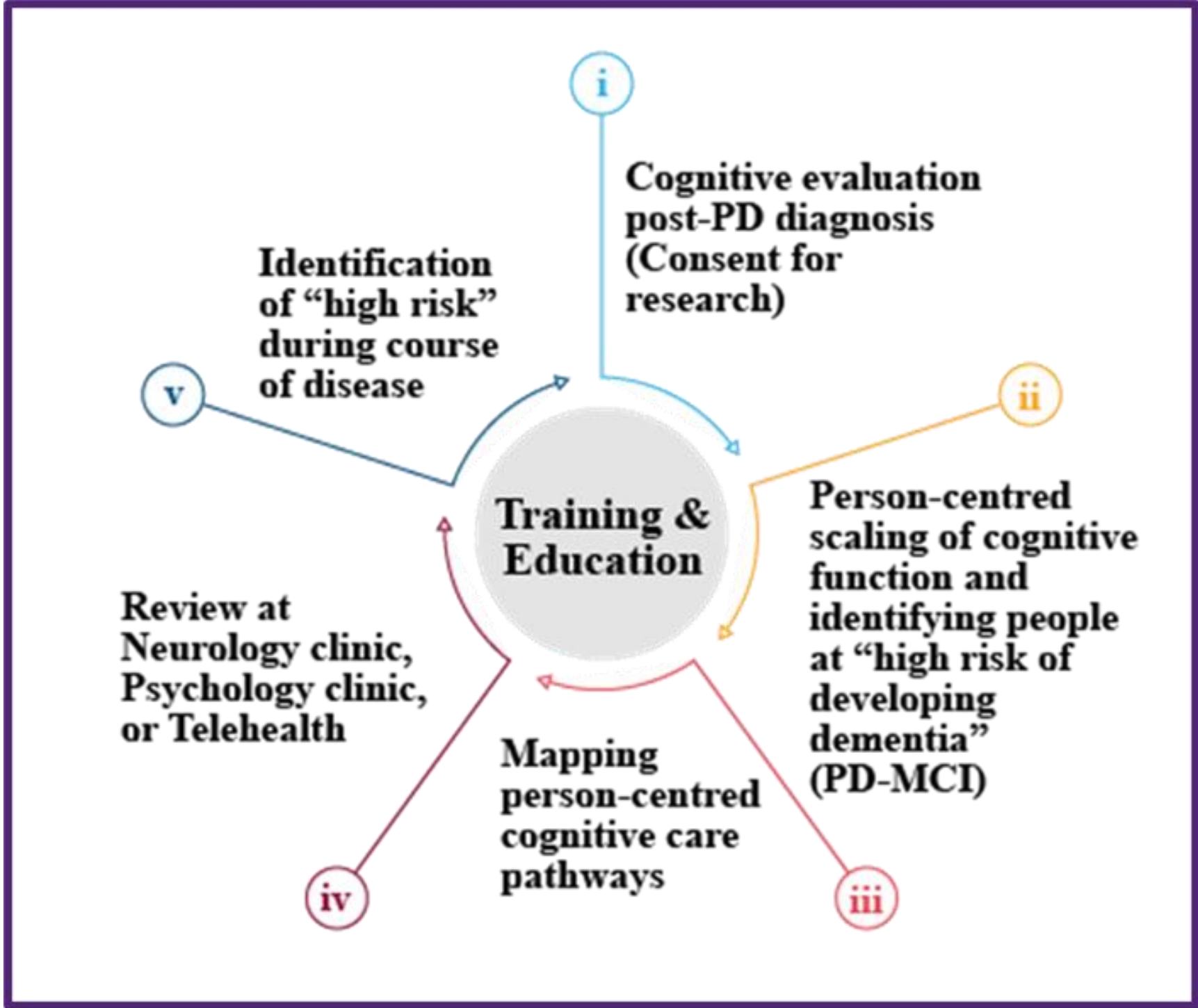


Figure 3: Integrated and Extended Neuropsychology Model⁴

CONCLUSION

PDCogniCare aims to improve diagnosis of MCI and dementia in PD. Implementation of the guidelines, training program, and digital platform in clinical practice will:

- (i) Promote evidence-based practice
- (ii) Upskill and educate PD clinicians and neuropsychology trainees
- (iii) Streamline referral and care pathways
- (iv) Improve quality of care for people with PD

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