Methods: Since 2016 we have measured blood and CSF NfL levels across multiple psychiatric and neurological populations recruited through Neuropsychiatry, Royal Melbourne Hospital and our collaborators (national and international). We have described our findings in a series of published studies. Data from our ongoing work, in larger cohorts and diagnostic groups, will be presented. The diagnostic groups include people with psychiatric disorders (schizophrenia, bipolar disorder, depression, functional neurological disorders), neurodegenerative disorders (Alzheimer's disease, frontotemporal dementia, Huntington's disease, Niemann-Pick Type C) and neurological disorders (e.g., epilepsy).

Results: Our initial pilot study (n=129) found that CSF NfL was a promising biomarker in differentiating psychiatric from neurological disorders. In our larger follow up larger study (n=498) which included more diagnostic groups CSF NfL levels exhibited high accuracy (91%), sensitivity (92%), and specificity (87%) in differentiating psychiatric from neurological disorders, and distinguished behavioural variant frontotemporal dementia from frontal lobe syndrome phenocopies/mimics, with high accuracy. We have found that NfL is not elevated in people with treatment resistant schizophrenia compared to controls and is elevated in people with Niemann-Pick Type C compared to people with psychiatric disorders and controls. Further (unpublished) data has shown that these findings are replicated with plasma NfL levels across 400 further psychiatric, neurological and control participants.

Conclusions: NfL is a highly promising biomarker which differentiates psychiatric from neurological disorders with high sensitivity and specificity. The translation of NfL levels into standard clinical practice could substantially improve the clinical diagnostic process in people with complex neuropsychiatric and cognitive disorders.

Cross-sector learning collaboratives can improve post-diagnosis care integration for people with young onset dementia

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Introduction: Post-diagnosis young onset dementia (YOD) care is often fragmented, with services delivered across aged care, health care, and social care sectors. The aim of this project was to test the feasibility and effectiveness of a learning collaborative implementation strategy for improving the cross-sector integration of care for people with YOD.
Methods: We conducted a longitudinal mixed-methods process evaluation, and recruited one representative from three Australian aged care organisations, three disability care organisations, and three organisations contracted to deliver care navigation services. One representative from each organisation joined a learning collaborative within their local area and completed a six-module online education package incorporating written resources, webinars, collaboration, and expert mentoring. Participants identified gaps in services in their region and barriers to care integration, and developed a shared plan to implement change. Normalisation Process Theory was applied to understand acceptability, penetration, and sustainability of the implementation strategy, as well as barriers and enabling factors.

Results: Dementia knowledge measured by the Dementia Knowledge and Awareness Scale was high among the professionals at the start of the implementation period (Mean = 39.67, standard deviation = 9.84) and did not change by the end (Mean=39.67, standard deviation = 8.23). Quantitative data demonstrated that clinicians dedicated on average half of the recommended time commitment to the project. However, qualitative data identified that the learning collaborative strategy enhanced commitment to implementing integrated care and promoted action toward integrating previously disparate care services. Participant commitment to the project was influenced by their sense of obligation to their team, and teams that established clear expectations and communication strategies early were able to collaborate

and use the implementation plan more effectively (demonstrating collective action). Teams were less likely to engage in the collective action or reflexive monitoring required to improve care integration if they did not feel engaged with their learning collaborative.

Discussion: Learning collaboratives hold promise as a strategy to improve cross-sector service collaboration for people with YOD and their families but must maximise group cohesion and shared commitment to change.

Impairment in Awareness and its Domains Vary According to the Age at Onset of Dementia

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Introduction: Awareness is the recognition of changes caused by deficits related to the dementia process. Awareness is related to a given object, like memory functioning or functional status. Objects of awareness can be grouped into a range of domains, including cognition, functional ability, emotional and social functioning, and behavioral difficulties. Preserved awareness in people with young onset dementia (YOD) has been reported; however, there is a lack of research investigating whether there are differences in the domains of awareness impairment according to the age at onset of dementia. This study compared the differences in awareness and its domains and examined associations with cognition, functionality, neuropsychiatric symptoms, social and emotional functioning, and quality of life (QoL) among people with YOD and late onset dementia (LOD).

Methods: A group of 136 people with dementia and their caregivers (YOD= 50 and LOD= 86) were consecutively selected. We assessed awareness of disease, dementia severity, cognition, functionality, neuropsychiatric symptoms, social and emotional functioning, and QoL.

Results: People with YOD presented more neuropsychiatric symptoms and worse cognition and functional ability than those with LOD. Compared to people with LOD, there were higher levels of awareness total score, awareness of cognitive functioning and health condition, and awareness of functional activity impairments domains in people with YOD, even in the moderate stage of the disease. There were no significant differences between groups in the emotional state, and social functioning and relationships domains of awareness. Multivariate linear regressions showed that functionality had a broad relationship with awareness in people with YOD. In contrast, neuropsychiatric symptoms and QoL were more significant to the awareness of people with LOD.

Conclusion: Different clinical variables are associated with different domains in YOD and LOD groups, reinforcing the heterogeneity of awareness in dementia. Differences in awareness and its domains in YOD and LOD may be particularly relevant to enabling interventions focused on meeting their specific needs and those of their families.

Developing dementia: The existential experience of the quality of life with young-onset dementia – A longitudinal case study

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Introduction: Cognition and the ability to take care of daily activities and oneself gradually declines among people with dementia. Studies are scarce, especially regarding how people with young-onset dementia (YOD) (<65 years) experience