

## A feasibility study investigating longitudinal cognitive changes in patients transitioning from advanced CKD through to dialysis

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### Background

Cognitive impairment and dementia are more prevalent in dialysis patients than in patients with non-dialysis dependent chronic kidney disease (ND-CKD). Patients who choose haemodialysis rather than peritoneal dialysis seem to demonstrate a more severe decline in cognition. There is an unmet need to study the natural history of cognitive impairment from advanced ND-CKD through to dialysis initiation into different dialysis modalities.

### Methods

In this feasibility study patients who were approaching dialysis commencement were highlighted to the investigator. Patients who met inclusion criteria and consented underwent extensive and detailed battery of cognitive assessment alongside quality of life and depression assessments within 2 months prior to dialysis initiation and at 2 months after dialysis commencement. Study feasibility was assessed based on eligibility rates, consent rates, withdrawal rates and missing data.

### Results

Of 116 screened patients 19 patients (median eGFR 8mL/min/1.73m<sup>2</sup>, median age 64 years) participated in the study. Reasons for non-participation were ineligibility (37%), short lead time between dialysis commencement decision and dialysis (23%) and refused consent (23%). 11 participants completed the second cognitive assessment. 47.4% demonstrated cognitive impairment at baseline using Montreal Cognitive Assessment. Most participants demonstrated longitudinal stability or improvements in cognitive scores.

### Conclusion

Increasing cognitive assessor time flexibility, developing a shorter cognitive assessment battery and performing cognitive assessments in the home environment may remove some barriers to consent and retention.