

Eye-tracking tech helps aged care assessment

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Memory loss among older Australians is on the rise as the Baby Boomer generation enters retirement—but a new technique tested by Flinders University researchers that investigates cognitive skills through eye-tracking technology may be used to help incorporate all older people's preferences into aged care policy and practice.

Current estimates indicate that up to 20% of people in developed countries aged 65 and over have [mild cognitive impairment](#) (MCI), with these percentages predicted to rise markedly by 2050. This greatly compromises their ability to communicate efficiently—particularly when it comes to filing official forms.

Researchers from Flinders University have used [eye-tracking technology](#) to investigate the information processes adopted by older people with and without MCI.

Outpatients at Adelaide memory clinics July 2017 and June 2018 were asked to read the same materials, involving written choices about their preferences for alternative states of quality of life.

These were designed to mirror the types of official forms issued to aged-care patients when assessing quality of care and quality of life outcomes. Misunderstanding such materials could potentially lock out people with dementia, MCI or poor memory from making best-informed decisions about their care.

Eye-tracking technology was used to map how each person focused as they read, which can represent good and poor cognition.

The eye tracking technology identified the relationships between cognitive capacity, task complexity and the extent of is the tendency for participants to simplify the choice situation by overlooking or ignoring one or more of the attributes presented. This tactic to take short-cuts to cope with cognitive demands is referred to as attribute non-attendance (ANA).

"This exploratory study provided important insights into the information processes adopted by older people with varying levels of cognitive functioning," says lead researcher Kaiying Wang. "It also helped our team to identify those who needed more help in formulating their decisions."

Recent advances in econometric modeling of health valuation data have demonstrated the added value of capturing ANA information, especially to help data analysis and improve the precision of model estimates.

The researchers have found that eye-tracking technology can usefully inform the design, conduct and econometric modeling of quality of life assessments, which will help to guide health and aged care policy and practice in determining where resources should be targeted to maximize quality of life benefits for older people.

"This new eye tracking technology will help us to find new ways to drive the inclusivity of older

people with cognitive impairment and dementia in these important assessments," says Professor Julie Ratcliffe of Flinders University's College of Nursing and Health Sciences.

"It is very important that older people's preferences about quality of care and quality of life are used to inform economic evaluation of policy and practice in health and aged care."

More information: Kaiying Wang et al, Using Eye-Tracking Technology with Older People in Memory Clinics to Investigate the Impact of Mild Cognitive Impairment on Choices for EQ-5D-5L Health States Preferences, *Applied Health Economics and Health Policy* (2020). [DOI: 10.1007/s40258-020-00588-3](https://doi.org/10.1007/s40258-020-00588-3)

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