Assessing fitness to drive in older people: the need for an evidence-based toolkit in general practice

An objective measure could support GPs' clinical judgement and aid discussions about the need for on-road testing or driving cessation

Katharine A Wallis[1]

James Matthews[2]

Geoffrey K Spurling[3,4]

1 Primary Care Clinical Unit, University of Queensland, Brisbane, QLD.

2 Ocean Shores Medical Centre, Ocean Shores, NSW.

3 Discipline of General Practice, University of Queensland, Brisbane, QLD.

4 Southern Queensland Centre of Excellence in Aboriginal and Torres Strait Islander Primary Health Care, Queensland Health, Brisbane, QLD.

k.wallis@uq.edu.au

doi: 10.5694/mja2.50588

Podcast with Katharine Wallis available at mja.com.au/podcasts

Assessing fitness to drive in older people is an increasingly important but challenging role for general practice. General practitioners are often the first port of call for concerned family or friends, and many Australian states and territories require older drivers to undergo regular assessment of their health and fitness to drive. Some GPs are uncomfortable in this role, citing concern to maintain relationships with older patients, concern about the impact of driving cessation, lack of familiarity with legal responsibilities and local resources, lack of training and clear guidance, lack of an objective measure, and poor access to on-road driving assessments.[1–4] Some GPs report sleepless nights having assessed an older person as fit to drive for another year.[1] While the answer might be simple — that is, to speak to the older person and their family — this is not always straightforward. An objective measure of driving fitness could help.

The number of older drivers in Australia is increasing, as is the number of seriously or fatally injured very old drivers (≥ 85 years of age).[5] Older people are more vulnerable in road traffic accidents and are more likely to die or suffer severe injury.[5,6] While road deaths in Australia have decreased overall in the past ten years (19%), road deaths in older people (≥ 75 years of age) have increased (23%).[7] Driving is a complex task requiring sensory input (vision, hearing), cognitive function (attention, comprehension, memory, decision making, reaction time), and motor function (power, coordination).[8] Ageing is associated with decline in sensory, cognitive and motor function. Accidents can happen to anyone, but road traffic accidents involving older drivers often receive widespread media attention. Recent examples include Prince Philip's driving accident at the age of 97 years, and the 86-year-old driver on the Sunshine Coast who reversed over and killed a 6-year-old girl.[9] However, the loss of a driver's licence can be a devastating blow to independence and wellbeing.[10] While many older drivers are safe and cautious drivers aware of their limitations, some are not.

GPs play a key role in monitoring driver safety. GPs have two main responsibilities: to assess and make a recommendation on a driver's health and fitness to drive when requested, and to report to the relevant licensing authority any impairment adversely affecting a driver's ability to drive safely when impairment is known. The duty to report is discretionary in most Australian states, but in South Australia and the Northern Territory it is mandatory. Doctors who report in good faith are protected from civil and criminal liability for breaching patient confidentiality, except in the NT where there is no express legal protection.[8]

The requirements for medical assessment in older drivers of private vehicles vary across Australian states and territories (Box).[8]

In Queensland, the Australian Capital Territory and New South Wales, drivers are required to undergo an annual medical assessment from the age of 75 years; in Western Australia, drivers are required to have an annual assessment from 80 years of age; while in SA, the NT, Victoria and Tasmania, there is no specific age-based requirement. Some states require on-road testing from the age of 85 years for some licence classes. Each state licensing authority has developed its own medical assessment form, with substantial variation in the information collected. SA has the longest assessment form, with 73 tick-boxes listing medical conditions. SA and WA also collect information about recent involvement in road traffic accidents. Most states require drivers to submit the completed form to the licensing authority themselves, but some states give GPs the ability to complete and submit the form online, preventing drivers discarding unfavourable assessments and doctor-shopping.

The GP role in assessment is to ensure that the health of older drivers meets medical standards and does not unduly increase their crash risk. Austroads and the National Transport Commission have produced an extensive document to guide GPs in assessment.[8] While the Austroads document has much useful information, some GPs say its utility in the time-pressured context of general practice is limited, and that the document lacks clear guidance on referral thresholds and use of screening tests.[1,2] The document recommends that GPs assess functional ability across three domains — sensory, cognitive and motor function — and that the key question GPs should consider is: "Is there a likelihood the person will be unable to control the

Regulatory requirements for medical assessment of older drivers of private vehicles, and practitioner reporting duties, by Australian state or territory[8]

State or territory	Medical assessment	Patient declares crashes	Duty to report
Australian Capital Territory	Annually from 75 years of age	No	Discretionary Not liable if report in good faith
New South Wales	Annually from 75 years of age	No	Discretionary Not liable if report in good faith
Northern Territory	Only when condition notified	No	Mandatory No express indemnity
Queensland	Annually from 75 years of age	No	Discretionary Not liable if report in good faith
South Australia	No prescribed period or age for licence class C, otherwise annually from 70 years of age	Traffic crashes in past 5 years	Mandatory Not liable if report in good faith
Tasmania	No prescribed period or age, but may occur if a condition or concern is declared or reported	No	Discretionary Not liable if report in good faith
Victoria	No prescribed period or age, but may occur if a condition or concern is declared or reported	No	Discretionary Not liable if report in good faith
Western Australia	Annually from 80 years of age, unless a medical condition requires earlier assessment	Traffic offences and crashes	Discretionary Not liable if report in good faith

vehicle and act or react appropriately to the driving environment in a safe, consistent and timely manner?".[8] The document provides detailed guidance on the medical standards for driver licensing purposes for many medical conditions; however, it is less clear regarding the increasingly common grey zone where an older person may be mildly impaired across several domains, with multiple interacting conditions including mild cognitive impairment and multiple medications. The document recommends: "Professional judgement must determine what is acceptable decline … and what is irreversible, hazardous deterioration in driving-related skills that requires reporting to the licensing authority".[8] If GPs are uncertain or concerned, the document recommends that they refer older drivers to a medical specialist or general occupational therapist for assessment, or to a driver assessor occupational therapist for on-road testing.[8] On-road testing "remains the most accurate way of determining fitness to drive".[11] However, on-road testing is likely an imperfect predictor of future crash risk,[12] especially in the context of fluctuating health conditions, and in Australia can be difficult to access, especially in rural and remote areas, and costly.[1,2]

In practice, GPs often use the relevant state or territory medical assessment form to guide their assessment, and make their recommendation based on clinical judgement sometimes informed by a single cognitive screening test.[1] The in-office screening tools that GPs report using most often in Australia include the Montreal Cognitive Assessment, the Mini-Mental State Examination, the clock-drawing test, and the Trails Making Test.[1,2,4] However, despite their widespread use in clinical practice, single screening tests do not reliably predict driving risk.[13–15] A toolkit comprising a composite battery of tests correlates better than any single test with the on-road driving assessment.[13–16]

A toolkit validated for use in general practice is needed. Such a toolkit would not replace the occupational therapist on-road assessment, but could support GP clinical judgement in differentiating older drivers in need of on-road testing or driving cessation, and could be used as a communication tool to support a recommendation for further assessment or driving cessation while preserving relationships ("the test says …"). A toolkit used regularly, say annually, might demonstrate change over time, which could guide discussions about the need to plan for eventual driving cessation.

Several toolkits have been developed and tested internationally, but their uptake in general practice has been limited, sometimes by the need for special equipment or input from family members.[11,14,17] To be feasible in the Australian general practice context, any toolkit would need to be easy and quick to administer and require no expensive equipment or special training. Ideally, a toolkit would assess across all three functional domains and have face validity with older drivers, as some older drivers may, for example, consider memory tests irrelevant to their driving ability. A toolkit developed and tested by a Belgian group looks promising.[18] This toolkit comprises visual acuity using the Snellen chart, the Functional Reach Test,[19] and a road signs recognition test (a component of the Stroke Drivers Screening Assessment[20]). These tests assess across all three functional domains and are potentially readily accessible in general practice. When tested in Belgian drivers aged ≥ 70 years, the three tests together correctly classified two-thirds of drivers compared with the on-road driving assessment.[18] Preliminary use of the toolkit in three Australian GP practices (JM, GS) suggests that the toolkit is acceptable to both patients and practitioners, and that the tests can be completed in a timely fashion.

No toolkit is likely to be perfectly sensitive and specific — there will always be a need for GPs to use clinical judgement. Nevertheless, an objective measure could support GPs' clinical judgement and aid discussions about the need for on-road testing or driving cessation. Work remains to validate and test a toolkit for use in Australian general practice.

Competing interests: No relevant disclosures.

Provenance: Not commissioned; externally peer reviewed. ■

References are available online.

1 Scott TL, Liddle J, Pachana NA, et al. Managing the transition to non-driving in patients with dementia in primary care settings: facilitators and barriers reported by primary care physicians. *Int Psychogeriatr* 2019; https://doi.org/10.1017/s1041610218002326 [Epub ahead of print].

2 Jones K, Rouse-Watson S, Beveridge A, et al. Fitness to drive: GP perspectives of assessing older and functionally impaired patients. *Aust Fam Physician* 2012; 41: 235–239.

3 Wilson LR, Kirby NH. Individual differences in South Australian general practitioners' knowledge, procedures and opinions of the assessment of older drivers. *Australas J Ageing* 2008; 27: 121–125.

4 Lipski PS. A survey of general practitioners' attitudes to older drivers on the New South Wales Central Coast. *Australas J Ageing* 2002; 21: 98–100.

5 Thompson JP, Baldock MRJ, Dutschke JK. Trends in the crash involvement of older drivers in Australia. *Accid Anal Prev* 2018; 117: 262–269.

6 Li G, Braver ER, Chen L-H. Fragility versus excessive crash involvement as determinants of high death rates per vehicle-mile of travel among older drivers. *Accid Anal Prev* 2003; 35: 227–235.

7 National Road Safety Strategy. Road deaths by age group. 2019. https://www.roadsafety.gov.au/performance/road-deaths-age-group.aspx (viewed Nov 2019).

8 Austroads, National Transport Commission Australia. Assessing fitness to drive 2016 as amended up to August 2017: medical standards for licensing and clinical management guidelines. Sydney: Austroads Ltd, 2017.

9 Wiggins N. Death of 6yo girl on Sunshine Coast reignites debate over rules and testing for elderly drivers. *ABC News*; 19 June 2018. https://www.abc.net.au/news/2018-06-18/6yo-death-sparks-debate-about-elderly-drivers-qld/9881044 (viewed Nov 2019).

10 Chihuri S, Mielenz TJ, DiMaggio CJ, et al. Driving cessation and health outcomes in older adults. *J Am Ger Soc* 2016; 64: 332–341.

11 Lee L, Molnar F. Driving and dementia: efficient approach to driving safety concerns in family practice. *Can Fam Physician* 2017; 63: 27–31.

12 Sawada T, Tomori K, Hamana H, et al. Reliability and validity of on-road driving tests in vulnerable adults: a systematic review. *Int J Rehab Res* 2019; 42: 289–299.

13 Rashid R, Standen P, Carpenter H, et al. Systematic review and meta-analysis of association between cognitive tests and on-road driving ability in people with dementia. *Neuropsych Rehab* 2019; https://doi.org/10.1080/09602011.2019.1603112 [Epub ahead of print].

14 Stern RA, Abularach LM, Seichepine DR, et al. Office-based assessment of at-risk driving in older adults with and without cognitive impairment. *J Geriatr Psychiatry Neurol* 2016; 29: 352–360.

15 Joseph PG, O'Donnell MJ, Teo KK, et al. The mini-mental state examination, clinical factors, and motor vehicle crash risk. *J Am Geriatr Soc* 2014; 62: 1419–1426.

16 Dickerson AE, Meuel DB, Ridenour CD, et al. Assessment tools predicting fitness to drive in older adults: a systematic review. *Am J Occup Ther* 2014; 68: 670–680.

17 O'Connor MG, Kapust LR, Lin B, et al. The 4cs (crash history, family concerns, clinical condition, and cognitive functions): a screening tool for the evaluation of the at-risk driver. *J Am Ger Soc* 2010; 58: 1104–1108.

18 Urlings JHJ, Cuenen A, Brijs T, et al. Aiding medical professionals in fitness-to-drive screenings for elderly drivers: development of an office-based screening tool. *Int Psychogeriatr* 2018; 30: 1211–1225.

19 Duncan PW, Weiner DK, Chandler J, et al. Functional reach: a new clinical measure of balance. *J Gerontol Med Sci* 1990; 45: M192–M197.

20 Devos H, Akinwuntan AE, Nieuwboer A, et al. Screening for fitness to drive after stroke: a systematic review and meta-analysis. *Neurology* 2011; 76: 747–756. ■