In developing countries, it is acknowledged that people are living longer and generally healthier lives - the Organisation for Economic and Co-operation and Development OECD (2001) states that for many member countries, one in every four persons will be aged 65 or over in 2030. It is also acknowledged that generally, Australians are highly reliant on vehicles for their primary source of mobility, due to the spread of urban and rural environments.

SO, the question presents itself...can all people continue with driving independence for their full life span? To answer this question, we need to consider:

1. **The driving environment.** We have heard many presentations today on improved road and vehicle design, but consider also the increased population and traffic density, and cases of road rage and poor driver behaviour.

2. **The driver.** Vision, hearing, cognitive abilities, physical strength and flexibility are four major areas of driving related functions in which older drivers may experience loss of capability (Shaheen & Niemeier, 2001)

Jim Langford from Monash University Accident Research Centre MUARC (2008) identifies in his paper “Older drivers: What Risk do they pose to other road users?” that “transport jurisdictions have a legitimate concern to manage the safety of their transport systems, which includes the development of policies and programs aimed at producing safe road users. When any particular road user group is perceived as posing an unacceptable crash risk, there is often the push for greater control of this group. This may include an expectation that individual users demonstrate at regular intervals their continued fitness to drive, regardless of what empirical evidence might be about their overall safety. Authorities need to respond to this concern, be it through licensing policy or otherwise”. This can be evidenced by the traumatic experiences of Sophie Delezio, involved in 2 vehicle incidents in NSW where the age for mandatory medical checks was reduced from 80 – 75 years.

“On the other hand, authorities also need to weigh up other factors when deciding on licensing policy. A licensing policy that threatens the mobility of older drivers needs to be carefully considered, particularly if the policy cannot be associated with safety benefits.” In his conclusion, following a review of crash statistics from the US, he reports that “older drivers do not pose a substantial threat to other road users. Once involved in a crash, they are likely to be the ones either killed or injured. There is
some (but not consistent evidence) that older drivers pose some excess threat to other road users especially when death and casualty outcomes on the basis of driver miles: even here however, the excess deaths and injuries to others typically account for only a minute proportion of the total road crash casualties, given the older drivers low driving distances.”

Across Australia there is a diverse approach to aging and driving:

WA: 75, 78, 80 and annually from 80yrs years – medical fitness form to be completed by GP. Every year from 85 years – medical fitness form to be completed by GP + on road seniors driving test conducted by licensed assessor.

NSW: from 75 years - annual medical check from 85 years –practical driving assessment every 2 years** **option of assessment from home – fees charged **option to discuss with RTA manager for modified license – this decision can be made at the office and no PDA is required if this is granted.

Tas: 75 – 84 years – annual medical examination from 85 years - medical examination and practical driving test.

QLD: from 75 years -medical certificate required – may be granted for up to 5 years or for only 1 or 2 years on medical practitioner discretion.

SA: Self reporting for driving cessation or licence downgrade.

Vic: Based on ability to drive safely. No retesting based on age. Decision to decrease or stop is made by the driver or on recommendation from family member/friend. Driving restrictions can be implemented:
  - distance restrictions (5-10km radius)
  - daylight hours
  - no peak hour

The Victorian approach has been developed following legal opinion to VicRoads by Sisley in 2006, that in consideration of the Victorian Equal opportunity Act 1995, a requirement that all people over the age of 75 need to undergo annual driver licence checks, was deemed as constituting unlawful indirect discrimination (Langford J, 2008).

So, SAFETY vs MOBILITY becomes the issue to weigh up.

Research on older drivers has shown that driving independence is a key factor for the continuation of activities of daily life, (Siren, Heikkinen & Hakamies-Blomqvist, 2001) and decreased demands for Societal support. (Hakamies-Blomqvist, Henriksson & Heikkenen, 1999). Thus the older person with driving independence is more likely to be happier, healthier, more socially engaged and placing less demand on health and associated services.
Jim Langford 2002 highlights in his paper “Older Drivers and the Greying of Australasia”, that there are countermeasures to consider, which will compensate for the increased number of older drivers on the road. These include:

- many older drivers adequately compensate for any diminution of driving skills
- assessment procedures should target only those sub-groups of older drivers suffering from conditions that place them at high risk of a crash
- it is important that the older drivers be able to maintain maximum mobility consistent with acceptable safety level.

If we are going to have checks on older drivers, how is this to be done fairly? As Jim Langfords 2002 paper mentioned, assessment procedures should target only those sub-groups of older drivers suffering from conditions that place them at high risk of a crash.

Mandatory reporting of medical conditions is now legislated in all states of Australia, with WA being the last state to adopt in 2008. This requirement enforces individuals to report any medical conditions likely to impair driving performance. It also puts protection on family members or health professionals to report individuals of concern.

Once mandatory reporting is undertaken, how do medical practitioners define the “acceptable safety level” to enable older drivers maintain their maximum mobility? Driving is a multifaceted task which is difficult to evaluate effectively in the medical practitioners rooms. General practitioners are also charged with the difficulty of maintaining the client relationship and making a valid decision in regards to driving safety. This is where OT Driver Assessment can assist with informing fitness to drive decisions.

Driver Trained Occupational therapists complete further postgraduate training related to the task of driving. The World Federation of Occupational Therapy (WFOT) defines the profession as being “concerned with promoting health and well being through engagement in occupation.” Driving is defined as an occupational role of adults in society. Occupational therapists use careful analysis of physical, environmental, psychosocial, mental, spiritual, political and cultural factors to identify barriers to occupation. Occupational therapy draws from the fields of medicine, psychology, sociology, anthropology and many other disciplines in developing its knowledge base.

Postgraduate training in the occupational task of driving provides a broad, expansive knowledge of driving components such as assessments, driver education, novice driver education, equipment prescription, installation, and training, which supplements the undergraduate training of functional impairments associated with medical conditions. Therapists are then able to establish protocols to determine driving competence and appropriate training as well as provide information and counselling for pursuing transportation alternatives.

In fitness to drive assessments of people with medical conditions likely to impair driving, a driver model indicated in Occupational Therapy Driver Assessment is the Gadget/Guide to Driver Education (GDE) matrix (Hatakka, Keskinen, Gregersen, Glad & Hernetkoski, 2002), which was developed through an EU research project. It
acknowledges that motives and attitudes of the driver impact on their performance and operational skills of driving. Skills for manoeuvring and mastery of traffic situations can be well learned in driver training and further developed through driving experience, but for example, their skills for dealing with social pressures during a trip can impact how they use these learned skills.

Under this matrix, older drivers faced with age related decline in several physical and cognitive functional capacities needed for vehicle manoeuvring and mastering of the traffic situation, may compensate with higher order knowledge and self control to remain safe on the road.

Occupational Therapy Driver Assessment uses a combination of clinical tools combined with on road assessment to determine safety in the onroad environment. The assessment is typically 2 hours, including:

1 hour clinical screen:

- Interview regarding medical and driving history and driving needs.
- Physical sensory screen, including vision, hearing, sensory awareness, movements and coordination
- Cognitive perceptual screen. We are currently using the DriveSafe/Driveaware protocol established through the University of Sydney, which provides information on visual attention, divided attention, insight, awareness, problem solving and knowledge of road rules. Other tools may be incorporated as needed.

Feedback is provided to the client throughout clinical assessment so awareness of identified difficulties and their impacts is encouraged. We then proceed on road with a driving instructor experienced in rehabilitation in a dual control vehicle for the:

1 hour on road assessment:

Commences in carpark environment to allow vehicle familiarisation phase and check of basic vehicle handling and instrument activation. Approach to correctly adjusting mirrors and seat to prepare for the drive are observed and recorded. Trial then proceeds onroad through a set graded route commencing in light traffic, low manoeuvering environment, then proceeds to moderate then high density traffic. Driving instructor is seated in passenger seat and provides verbal cues for direction, whilst OT sits in rear passenger seat taking observations.

On completion of onroad assessment, verbal feedback is provided directly to the client on performance and the outcomes of assessment. Recommendations may include rehab lessons, the need for additional conditions or downgrading of licence class or where appropriate licence termination. Counselling is required at this stage, with further options for transition to alternative community transport option forwarded with report. The report is then compiled and forwarded to relevant bodies including the Department of Transport.
Occupational Therapy Driver Assessment is conducted in a supportive environment and aims to ensure that people are safe and able to drive where possible. Throughout the assessment process, family members/significant others are invited to sit in and observe, with client consent. This fosters insight for the family member to assist the client to understand assessment outcomes and provide additional support if termination is recommended.

REFERENCES


APPENDIX 1.

The Goals for Driver Education Matrix ("GDE")

GDE MATRIX (Goals for Driver Education
(Hatakka, Keskinen, Glad, Gregerson, Hernetkoski, 2002)

<table>
<thead>
<tr>
<th>Goals and context of driving</th>
<th>Knowledge &amp; Skill</th>
<th>Risk Increasing Aspects</th>
<th>Self Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals for life and skills for living</td>
<td>Lifestyle, age, group, culture, social position etc. vs. driving behaviour</td>
<td>Sensation seeking Risk Acceptance Group norms Peer Pressure</td>
<td>Introspective competence Own preconditions Impulse Control</td>
</tr>
<tr>
<td>Goals and context of driving</td>
<td>Modal Choice Choice of time Role of motives Route planning</td>
<td>Alcohol, Fatigue, Low friction Rush hours Young passengers</td>
<td>Own motives influencing choices. Self critical thinking.</td>
</tr>
<tr>
<td>Driving in traffic</td>
<td>Traffic rules Co-operation Hazard perception Automatization</td>
<td>Disobeying rules Close following Low friction Vulnerable r. u.</td>
<td>Calibration of driving skills Own driving style</td>
</tr>
<tr>
<td>Vehicle Control</td>
<td>Car functioning Protection systems Vehicle control Physical laws</td>
<td>No seatbelts Breakdown of vehicle systems Worn out tyres</td>
<td>Calibration of car-control skills</td>
</tr>
</tbody>
</table>