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# The *Drive Best* Curriculum for Licensed Driving Instructors (LDI) Teaching Older Adults On Road.

Towards Zero Deaths Conference

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## Acknowledgments

- Not grant funded but developed over several years through the joint effort of many collaborators:
- Lisa Kons, Minnesota Safety Council, the principal project advisor
- Twenty-four St. Catherine University graduate students enrolled in three occupational therapy masters project courses on older drivers
- Many experts and stakeholders providing initial input and then feed-back on the curriculum drafts, in particular members of the MMAP consortium
- Chris Claeson and Kathy Doyle from AAA-Minneapolis where the curriculum was first presented and is being piloted

## Objectives

- Describe the risks of driving and risks of no longer driving to explain the reason for the development of the curriculum
- Understand the role that Licensed driving instructors (LDIs) can play with older drivers to help them drive longer safer
- Distinguish that role from that of driving rehabilitation specialists
- Describe the process and product of a curriculum designed to help licensed driving instructors feel prepared to coach older drivers



## Motivation for the Curriculum

- Most older adults have insight in their changing abilities
- They use effective self-regulation strategies such as avoiding driving at night, or in heavy traffic.
- Driving is important for quality of life as it prevents loneliness, depression and cognitive losses
- Need to find ways to help extend safe driving years in older adults.



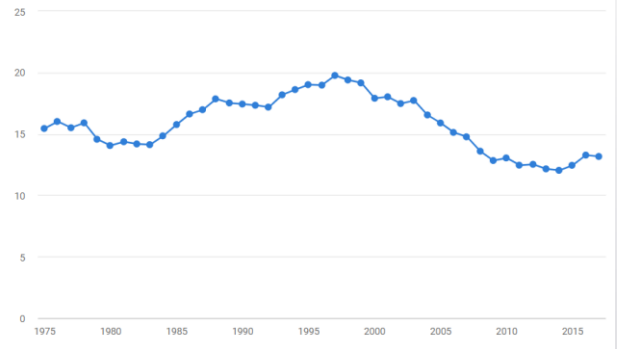
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## Age and Fatality Risk

- Graph shows rate of fatal crashes in drivers 70 and older per 100,000 people between 1975 and 2017
- Rates decreased between 1997 and 2014 but have been going up again since then
- Source: Insurance Institute of Highway Safety [www.iihs.org](http://www.iihs.org)

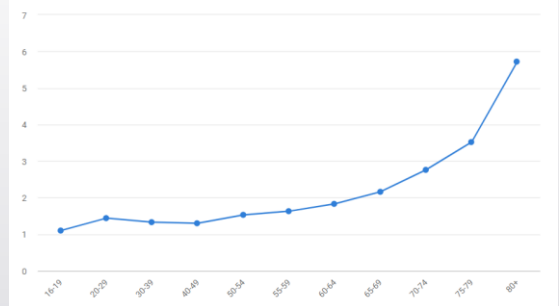
Rate of fatal crash involvements among passenger vehicle drivers 70 and older per 100,000 people, 1975-2017



## Risk to Self vs. Others in Fatal Crashes Drivers 70+

- Older drivers are more likely to die as a result of a crash, mostly due to their frailty (2012- 2016 stats)
- “In 2017, 72 percent of people killed in crashes involving drivers 70 or older were either the older drivers themselves (59 percent) or their older passengers (13 percent).” [iihs.org](http://iihs.org)
- This means that 18% of these fatalities involved others on the road

Number of passenger vehicle driver deaths per 1,000 drivers involved in police-reported crashes by driver age, 2012-16



Source: [iihs.org](http://iihs.org)

## Risk of No Longer Driving

- Driving cessation does not necessarily mean less fatalities on the road for older adults.
  - Research in Denmark found that strict licensing laws result in increase in pedestrian and biking accidents ([Siren and Meng \(2012\)](#))
- Premature driving cessation has many negative health outcomes
  - No longer driving is related to reduced general health, reduced mental health and worsened cognitive status [Chihuri et al. \(2016\)](#)
- The risks of no longer driving on quality of life greater in rural areas ([AAA 2019](#))



## Older Adults Can Improve Driving Skills

- In spite of stigma about older adults, research found that driving skills can be improved with practice and training ([Lavalliere et al 2012](#))
- Classroom education is helpful to raise awareness but not clearly linked to crash reduction. ([Korner-Bitenski, 2009](#))
- Classroom education combined with behind the wheel education found to result in safer driving ([Bedard et al. 2008](#), [Shimada et al 2019](#))
- Licensed driving instructors (LDIs) could play a greater role in helping determine if an older adult is safe behind the wheel and provide opportunities for refreshing driving skills and acquire or regain confidence behind the wheel, so they can drive safer longer.
- But LDI not indicated for all drivers ([Dickerson et al., 2018](#))

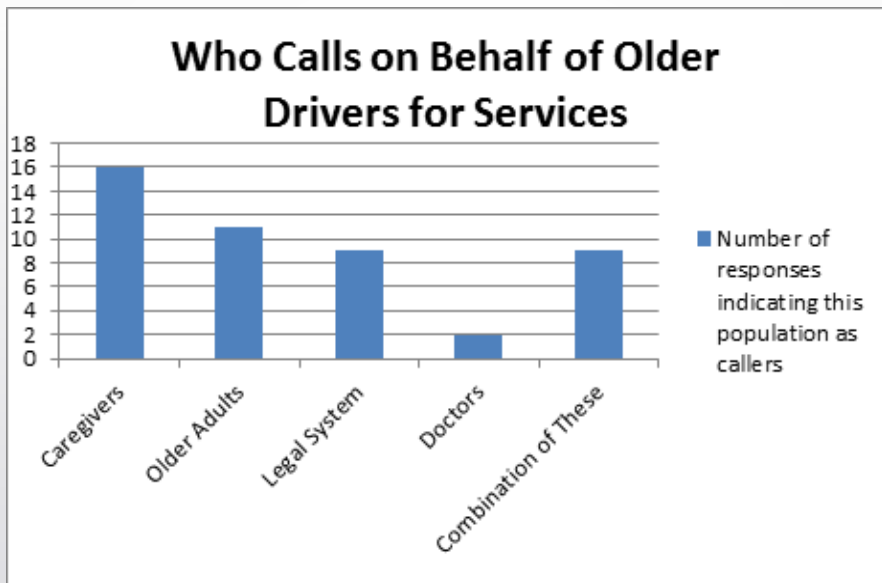


[Michon's](#) Hierarchy of Driving Behaviors Match to Driving Service Need  
Adapted from [Dickerson et al., 2018](#)

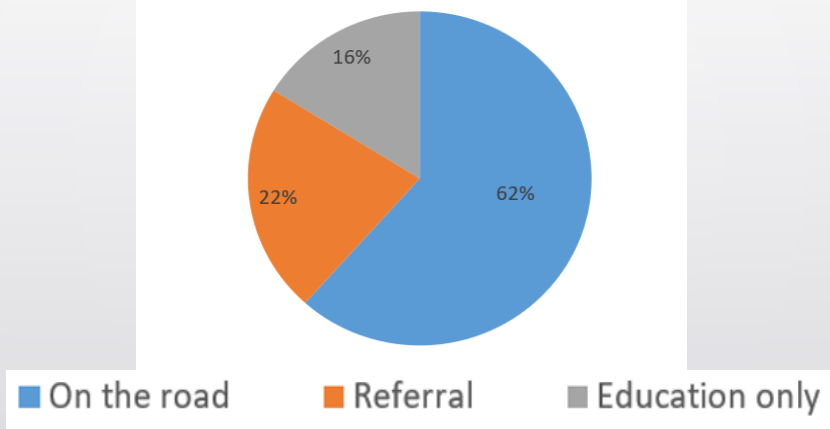
<p><b>Operational level:</b> Controlling the motor vehicle through the physical actions of steering the wheel, moving or shifting gears, pressing the accelerator or brake, or using the turn signals. Largely automatic skills</p>	<p>LDI can observe those skills and retrain habits. Best if DRS involved if issues due to medical condition</p>
<p><b>Tactical level:</b> Executing maneuver control over the vehicle to complete a goal directed trip in response to prevailing conditions; i.e. maintaining lane position, respect speed limit, following distance, turning, passing other vehicles etc. Semi-automatic skills</p>	<p>LDI helpful in assessing and refresh those skills Best if DRS involved if issues due to medical condition</p>
<p><b>Strategic level:</b> Includes general planning of a trip, ability to quickly and effectively adapt plans when necessary such as changing a route due to events such as a crash or construction, needing to make an unexpected stop, reacting appropriately dynamic, fast moving driving environment. High level cognition.</p>	<p>Driving rehabilitation specialist (DRS) is needed to evaluate impact of age-changes and medical conditions on those skills</p>

Development of LDI Curriculum for Older Driver  
Behind the Wheel Instruction (DriveBest)

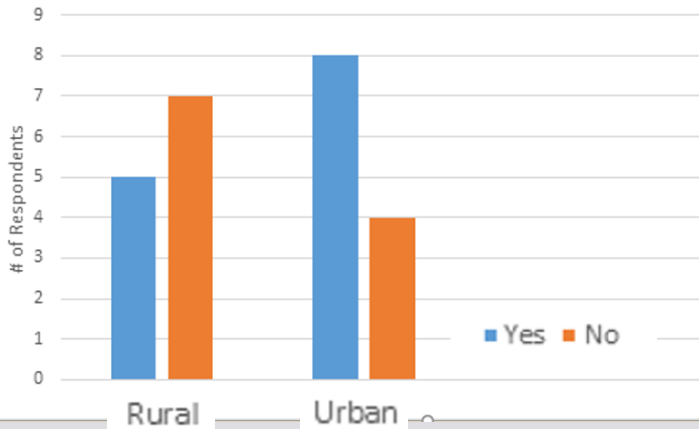
- Conducted needs assessment in 2015 with 34 Licensed driving Instructors, 19 (56%) from rural areas, 15 (44%) from urban areas
- Most of them, (59%) reported having taken older drivers behind the wheel
- Reported that most of the request for service come from caregivers, followed by older drivers themselves (graph)



### Typical Response to a Call



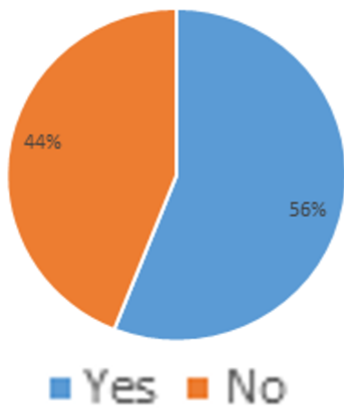
Interest in being Educated on Older Adult Curricula based on Location



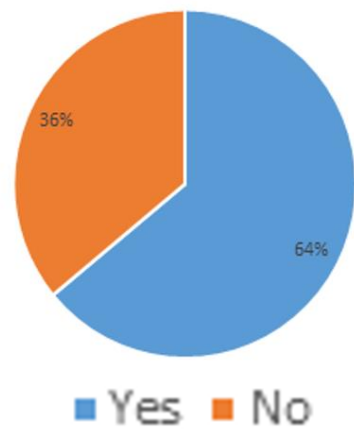
- Anticipated barriers to implementing older driver curriculum:
- Little demand (rural)
- Current business practice does not help with inclusion of older adults (rural and urban)
- Scheduling older adults is difficult (rural and urban)



Would you benefit from additional education about the needs of older drivers?



In favor of combined curriculum



## Development of DriveBest Curriculum

- Objective of curriculum is to provide information to LDIs that complements their existing knowledge about teaching driving skills, to increase their comfort and effectiveness refreshing older clients' driving skills behind the wheel
- Conducted in collaboration between MN Safety Council and St. Catherine University Occupational Therapy Graduate Program.
- Construction of curriculum informed by in-depth review of the relevant evidence from the international research literature.
- Multi-year process in which successive drafts of curriculum are reviewed by experts, including LDI, CDRS, older drivers themselves



## Content of Curriculum Examples

### How To Teach Older Drivers

- Andragogical principles: How older adults learn best
- Techniques to provide instruction and feed-back behind the wheel in way that takes into account age changes
- Repetition for unlearning and relearning

### What to Teach Older Drivers

- Awareness of age changes in physical function and their impact on maneuvers.
- Simple adaptations for safety (CarFit)
- Practicing maneuvers that are greatest source of crashes for older adults
- Resources on maintaining physical and cognitive skills needed for driving
- Suggested outline for 90 min. BTW session
- How to access specialized DRS if needed





## Piloting of the DriveBest Curriculum

- Curriculum was piloted with a group of LDI's at AAA- Minneapolis
- Feed-back was that most found the information in the curriculum to be helpful and most indicated they are very likely to use it.
- Some Areas of concern:
  - Impact of use of instructor's vehicle on performance of older adult
  - Lack of experience taking older adults behind the wheel
  - Determining route
- Key take home:
  - LDIs learned that older adults struggle with divided attention
  - Grateful for learning about latest research.



## Implementation of DriveBest (early 2020)

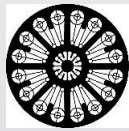
- Kathy Doyle, an LDI specialized in older adult classroom education at AAA Minneapolis is currently piloting DriveBest with older drivers. Her feed-back is helping inform final revisions.
- Other revisions are being done such as including education about in-vehicle technologies and alternative transportation resources to use at times of day when don't feel safe to drive
- Lisa Kons will offer a course at the MM Safety Council educating LDI's on the curriculum to increase readiness in using it with older adults.
- Also exploring option of online training if obtain grant funding.
- When revised, the .pdf electronic version of the curriculum booklets will be made available free of charge.



Questions?

Thank You!

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ST. CATHERINE  
UNIVERSITY

**DriveBest**

Behind-the-Wheel  
LDI Refresher Curriculum  
for Experienced Drivers



Licensed Driving Instructor (LDI) Booklet

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