## Minnesota's Older Driver Safety Project

## Driving, Aging, Road Safety Making it Happen!

Joan Somes PhD, RN-BC (geriatrics), CEN, CPEN, FAEN, NRP



RFP: "Increase older driver safety across Minnesota"

- Required organization with:
  - √ 501c3 status
  - √ knowledge of geriatrics
  - √ invested in injury prevention
  - ✓ willingness to work with other agencies



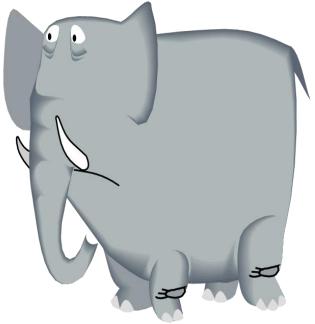


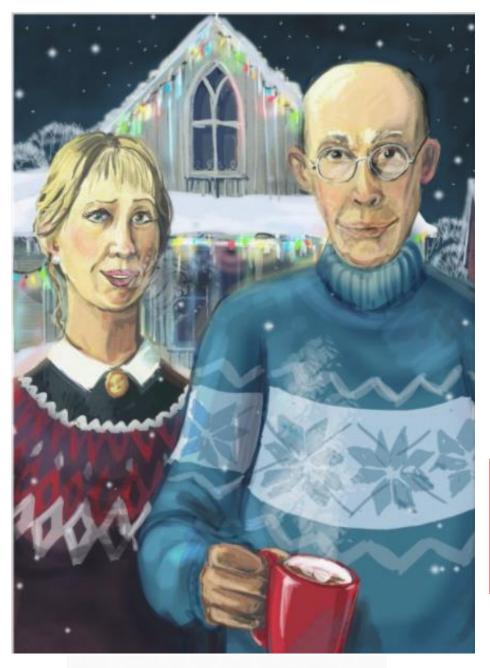
MN Emergency Nurses Association received the grant in Jan. 2019

www.minnesotaena.com

www.minnesotatzd.org

Step 1 - learn more about situation
Older drivers - often seen as
the "elephant in the room"!
Everyone wants
something done,
but...





#### American winter by Julia Frantseva a parody on Grant Wood's "American gothic"

## American drivers are aging!

But we are ALL aging every day!

Ages 60-65 seems to have been deemed "older drivers"!

The number of US licensed drivers 65+ increased by about 14.4M from 2008 to 2020 (32.2M in 2007 to 46.7M in 2020)\*

https://www.fhwa.dot.gov/policyinformation/statistics/2020/pdf/dl220.pdf

## Age of road-related deaths shifted

In 2008, more teens & young adults were dying the in crashes. By 2017, older drive (75+) died in at a simi

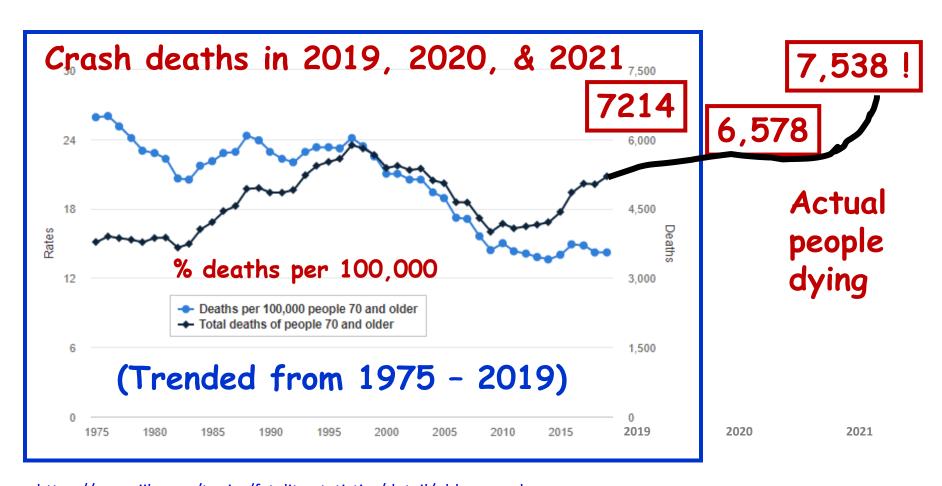


\* https://www.iii.org/article/background-on-older-drivers

\*\*https://www.iihs.org/topics/fatality-statistics/detail/older-people

Institute for Insurance Information (III) report of fatalities by age for 2019

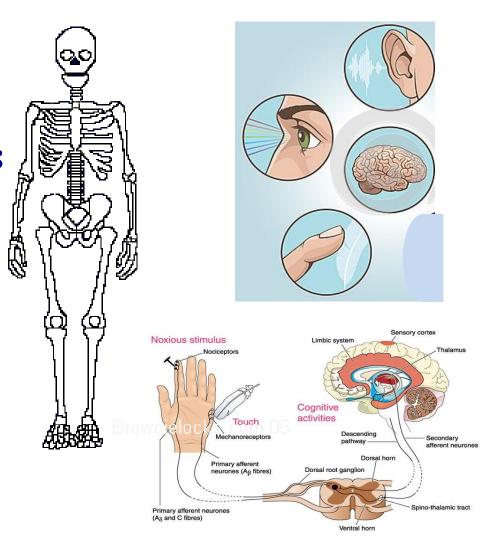
## Increasing number of people, 65 & older, are dying on our roads



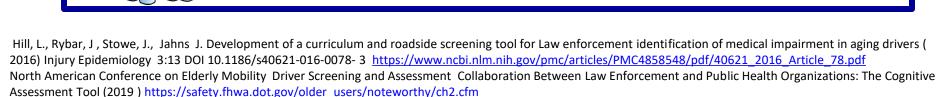
https://www.iihs.org/topics/fatality-statistics/detail/older-people
Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories 2021 (dot.gov)

## How the Body is Affected by Aging

- Muscle strength & flexibility
- The ability to sense feeling in feet/hands
- Eyes (vision) & ears (hearing)
- Brain's ability to process sensory information from eyes, ears, nerves
- Reaction time
- Pain with movement



Physical and cognitive impairment associated with aging can lead to driving errors, or indicators, similar to those seen when someone is driving under the influence of drugs or alcohol!



### Failure to yield more frequently seen in older drivers

Contributing Factors	to Senior Drivers*	to Senior Drivers*	Other drivers
Human Factors			
Failure to Yield Right of Way	1,700	24.1%	888
Careless/Negligent/Erratic Driving	604	8.6%	671
Following Too Closely	584	8.3%	898
Improper Lane Usage	421	6.0%	188

Contributing factors in 12,698 crastles involving senior-drivers (age 65+) in 2016\*

Difficulty seeing, hearing, judging distances/speed of other cars, slower ability to respond

Increased frailty due to aging



Additionally, older adults are more likely to be taking medications which affect the ability to drive safely

- Pain medications
- Sleeping pills
- Seizure medications
- Muscle relaxers
- Anti-nausea medications
- Eye drops
- Blood pressure & heart medications
- Any medication that can cause drowsiness, dizziness, blurred vision, muscle relaxation

Care providers or pharmacist can provide information if medications can cause problems driving!

Px Do not

drive when taking this

medication

## Aging-related conditions that can cause physical & cognitive changes

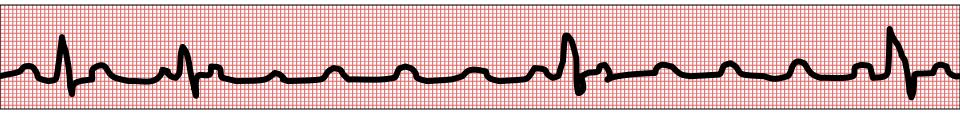
- Stroke
- Diabetes
- Peripheral neuropathies
- Arthritis
- Parkinson's disease
- Alzheimer's disease
- Heart/lung disease
- Glaucoma, macular degeneration, loss of peripheral / night vision



Sudden onset, or change in of any of these may result in a crash!

## It's actually the symptoms of these conditions that can cause unsafe driving

- Irregular heart rhythm
- Low or high blood sugar
- Low oxygen level
- Low blood pressure
- Loss of/decreased sensation or movement in arms or legs
- Pain with joint movement
- Dizziness/altered mental status



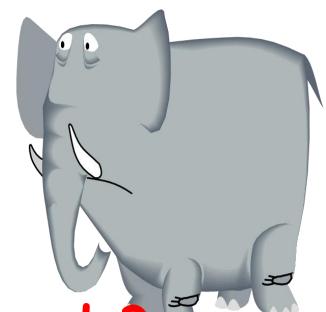
## Frailty leads to increased deaths

 Aging leads to physiological changes in the body making it less able to tolerate a crash and recover from injury

 Complications and underlying conditions often lead to death long after the crash

## Where does one start & who should be made responsible?

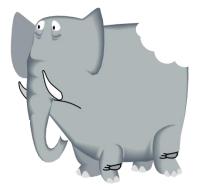
- Nursing? Physicians? Other medical personnel?
- · Law enforcement? Judges?
- Dept. of Transportation/Public Safety/DVS
- · Older drivers?/their families?
- Legislators?
- Insurance companies?
- · Churches? Social programs?
- Engineering?



And what should they do?



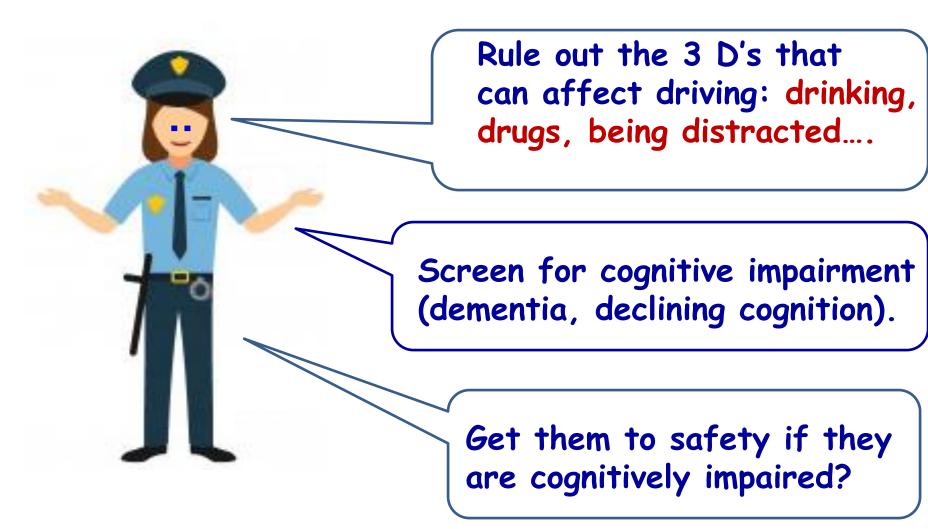
Roadblocks!
Barriers!
Advice!



## Step 2 - create safety net now!

- Find & deploy a simple screening tool that identifies impaired driving due to normal aging process
- Get the unsafe driver off the road (at least for right now!)





Law Enforcement recognizes alcohol or drug-related impairment as part of Standard Field Sobriety Test. The older driver project provided information on "normal aging", use of screening tool, and options. Objectively "measuring" a driver's cognitive ability



## Driver Orientation Screen for Cognitive Impairment - DOSCI\*

RULE OUT

 Intoocation from alcohol, prescription medication, illicit drugs, or other impairing substances

· Urgent medical conditions

#### ASK\_ALL 9 QUESTIONS - EACH INCORRECT RESPONSE IS WORTH ONE POINT

1.	What is your date of birth? [Cual es su fecha de nacimiento? Month, day, and year required; must match document	- 1 PT
2.	What is your full home address? ¿Cual es su dirección (número, calle, ciudad, estado)? Address provided must match document; if not, prompt for address listed on document.	— 1 PT
3.	What state are we in now? ¿En que estado estamos en este momento?	1.07
4.	What city/town are we in now? En que ciudad estamos en este momento?	- 1 m
5.	Without looking at your watch, can you estimate what time it is now?  (Sin mirrar su relo), puede decirine aproximadamente que hora es?  Answer provided must be plus or minus one hour of correct time	- 1 PT
6.	What day of the week is it? ¿Qué dta de la semana es hoy?	— 1 рт
7-9	Cual es la fecha de hújy? Prompt for month, day and year if needed	– 1 m
	- Month (Mes) - Day (Dia)	- 1 pr
	- road front	- 1 pr

#### SCORING CRITERIA

5 OR MORE INCORRECT Unsafe to drive; refer to department procedures for alternative transportation and vehicle removal 3-4 INCORRECT otentially unsafe to drive; consider totality 0-2 INCORRECT NO REFERRAL or RE-EXAM

#### ADDITIONAL QUESTIONS TO ASSIST IN EVALUATION

- 1. Where are you coming from and where are you going? De donde viene y a donde va?
- 2. Will you please spell your name?

- Year (Año)

3. Do you have an emergency contact? What is their name and phone number? (Tiene un contacto de emergencia? ¿Cuál es su nombre y número de

Medical/Vision Unit, Monday -Friday, 8:00am - 4:00pm 785-368-8971

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08/2015

LPT

The original DOSCI was based on California Law & Dept. of Vehicular Services procedure.

Minnesota law & DVS procedure differed. Obtained permission to adjust DOSCI screening tool and card.

Changes included: deleting the questions written in Spanish and adjusting actions. (Minnesota does not have a priority exam.)

<sup>\*</sup>Adjusted because Minnesota does not have a "priority" re-exam and to incorporate Minnesota related resources

## DOSCI adjusted for Minnesota\*

- DOSCI maybe be used for any age pedestrian, bicyclist, or motorist.
- Questions do not need to be asked in order & may be worked into the conversation.
- All 9 questions must be asked to create a score.
- Each answer is 1 point.
- The 3 "bonus" questions provide additional helpful information about the driver's cognition.

#### DOSCI

#### DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS

#### ASK ALL 9 QUESTIONS -

GIVE ONE POINT FOR EACH INCORRECT RESPONSE

- What is your date of birth
- What is your full home address
- What state are we in now?
- 4. What city/town are we in now?
- Without looking at your watch, can you estimate what time it is now? (Answer provided must be plus or minus one hour of correct time)
- 6. What day of the week is it?
- 7 9.What is today's date?
  - Month
  - Day
  - Year

Prompt for month, day, & year if needed

5 OR MORE INCORRECT: Unsafe to drive today; refer to department procedures for alternative transportation and vehicle removal Submit Request for Examination of Driver

3-4 INCORRECT: Potentially unsafe to drive today; consider totality of circumstances/need for re-exam

0-2 INCORRECT: Based on totality of droumstances. Does not need referral for examination based on cognition

Additional guestions to determine orientation

- 1. Where are you coming from and where are you going?
- Will you please spell your name?
- 3. Do you have an emergency contact? What is their name and phone number?

Used, and adjusted with permission TREDS and University of California, San Diego

<sup>\*</sup>From the Driver Orientation Screen for Cognitive Impairment – DOSCI developed by Univ. of CA – San Diego used and adjusted with permission because Minnesota does not have a "priority" re-exam and to incorporate Minnesota related resources

## The Questions

Rule out: INTOXICATION AND URGENT MEDICAL CONDITIONS

ASK ALL 9 QUESTIONS GIVE ONE POINT FOR EACH INCORRECT RESPONSE

- 1. What is your date of birth
- 2. What is your full home address
- 3. What state are we in now?
- 4. What city/town are we in now?
- 5. Without looking at your watch, can you estimate what time it is now? (Answer provided must be plus or minus one hour of correct time)
- 6. What day of the week is it?
- 7 9. What is today's date?
  - · Month · Day · Year Prompt for month, day, & year if needed

Bonus points - spell name, where going to/coming from, phone number of family

<sup>\*</sup>From the Driver Orientation Screen for Cognitive Impairment – DOSCI developed by Univ. of CA – San Diego

### What do the DOSCI scores mean?

Answers all but one or two questions correctly = cognitively intact.

Driver should be able to absorb road information, follow the rules of road, make good decisions, & drive in safe manner.



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5 or more answers wrong = highly confused and this is most likely not new. Driver will likely have difficulty controlling the vehicle, following roadway information, responding to traffic threats, may end up lost/dead.

It is best for all if they don't drive at this time & recommend completion of Request for Examination of Driver Form.

## Instructions to end-users

If unable to answer most DOSCI screening questions - also unlikely to process information to safely drive a vehicle (or remember how to get home!)\*

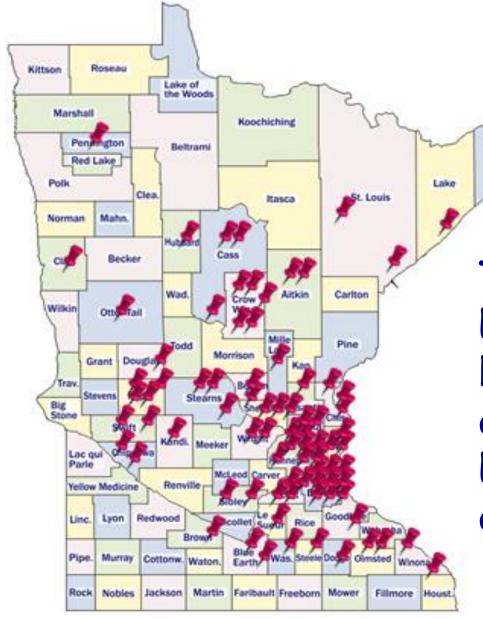
Identify alternative method of getting driver home (call family, EMS, or follow departmental procedure).

Current confusion may only be situational/temporary!
Safer if the driver did not get back behind the wheel.
Not a guarantee loss of license!

<sup>\*</sup> Hill, L., Rybar, J., Stowe, J., Jahns J. Development of a curriculum and roadside screening tool for Law enforcement identification of medical impairment in aging drivers (2016) Injury Epidemiology 3:13 DOI 10.1186/s40621-016-0078-3 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4858548/pdf/40621 2016 Article 78.pdf

DOSCI only deployed if unsafe driving is witnessed. Not intended to be used to "profile" drivers!





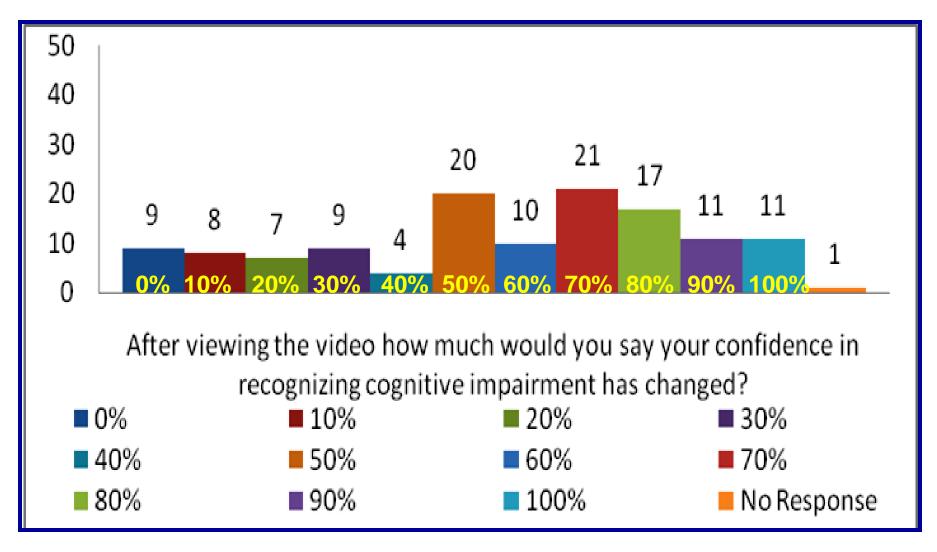
Pins = Locations/agencies requesting DOSCI training

The 4 Regional Law Enforcement Liaisons helped introduce me and DOSCI to Law Enforcement agencies across Minnesota.

Cook

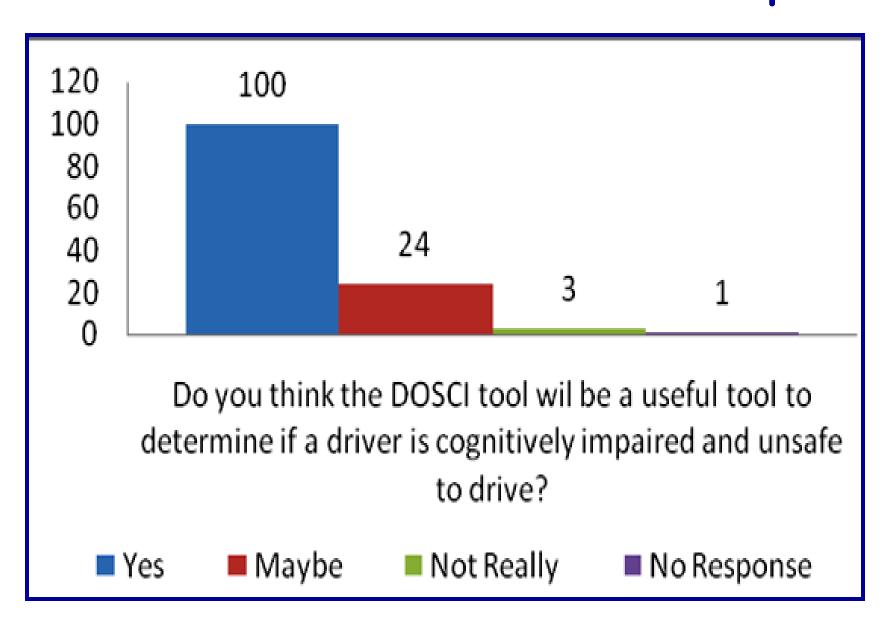
Agencies were sent laminated, pocket-sized cards and link to an on-demand webinar that described changes associated with aging, how to use the DOSCI tool, and information about the "Request for Evaluation of Driver" form.

### Did LEO's find info and DOSCI helpful?

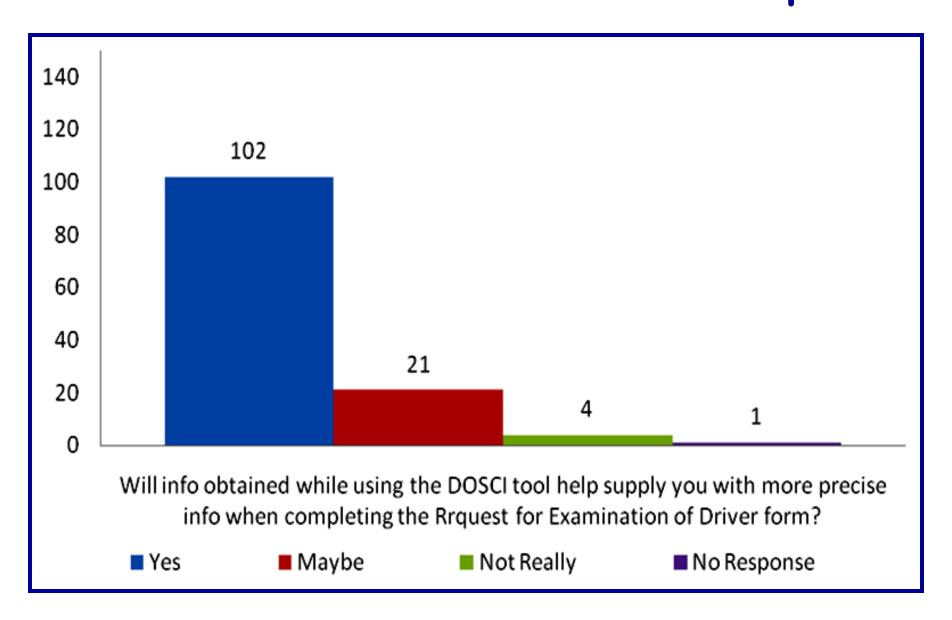


<sup>\*</sup>From the 128 evals returned

## Did LEO's find info and DOSCI helpful?



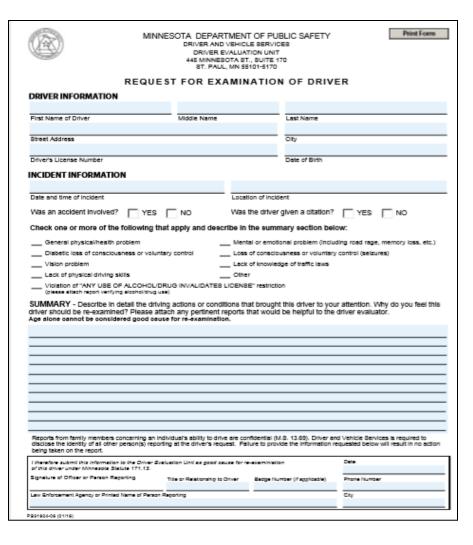
## Did LEO's find info and DOSCI helpful?



# Dispelling a fear & myth



## "Request for Examination of Driver"



## Not an automatic loss of license!

- Cannot be issued based only on age
- □ Submitter's name may, or may not be "protected"
- □ Only first step in process

Forms with most impact were:

- □ Specific
- □ Descriptive
- Citation issued
- □ Legible\*

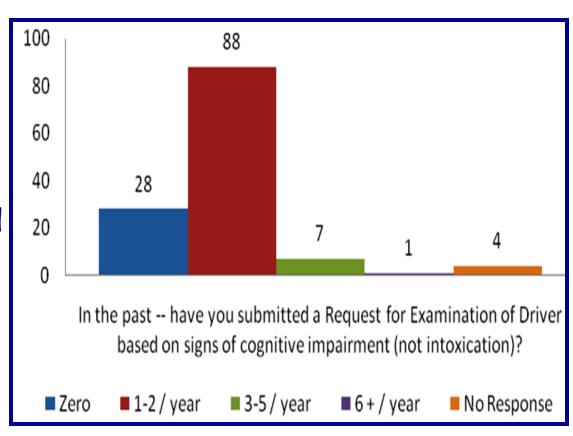
<sup>\*</sup> Per interview with Driver Evaluation Unit personnel

## Responses related to "Request for Examination of Driver Form"

28 had never submitted a form.

Many didn't know what happened if was form submitted

Only 1 had ever submitted more than 6 in a year.



128 responded

From the 2019/2020 MN Older Driver Grant Summary

## Road taken when "Request for Examination" form submitted 1

DVS checks driving Request for Examination record for citations sent to DVS\* by: Law enforcement Physician General public Based on description of incident on form: DVS notes Option 1 already aware of Letter requesting "driver at risk" second brief due to medical

\*DVS - Dept. of Vehicular Services

conditions

1. Per MN state statute

screening of driver with/at DVS Medical Unit office

Option 2

Form "filed"



Dear

privileges

## Brief screening by DVS\* medical unit

Lay-person's perspective of driver's physical & cognitive abilities

- Walk/move
- Respond to questions
- Appear alert
- Recognize road signs

May request a medical evaluation



# MD evaluation if "medically safe to drive" sent back to DV5\*

Pass! Monitor condition may need to re-test



No medical issue - clear to re-test



Consult with Certified Driving Rehab Specialist prior to retesting

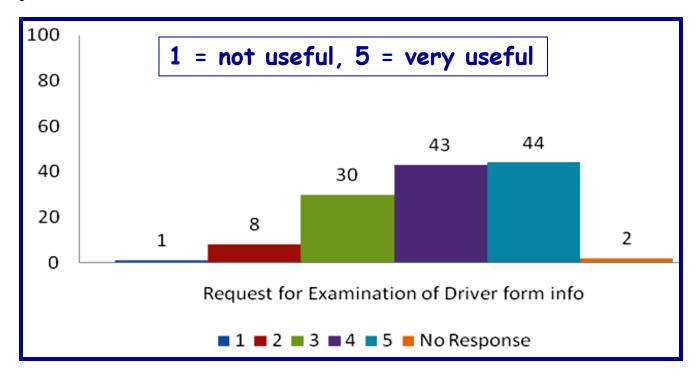


FAIL! MD recommends "no driving"



DVS can over-ride MD's note. Driver can appeal MD's note. DVS determines final type and amount of testing needed.

# Usefulness of education about the Request for Examination of Driver Form



Officers indicated tips on how to complete the form & knowing what happened to the driver as very useful.

Many stated they assumed submitting the form automatically lead to loss of license.

# Step 3 - Reaching for more results

- Healthcare workers
- Drivers & their families
- Legislators & judges
- Minnesota's Toward Zero Death's (TZD) E's\*

\* Engineering • Enforcement Education • EMS • Everybody

Driving is not an "all or none" thing....

it is a balance

of:

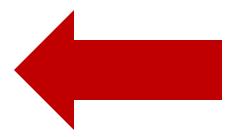


safety versus independence

# Required a different approach\*

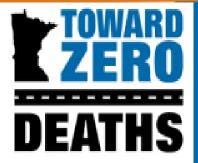
- Awareness education
- Signs of impaired skill
- Ways to improve skills
- Referral to a specialist
- As last resort: Request for Examination of Driver form

No driving



Safe driving

## **Safe Driving for Older Drivers**



As we age, our physical strength and flexibility lessens, we may take medications that can impact our alertness and our reflex reactions slow down. Because we have aged, we need to think about a few extra things before we head out for a drive.



- Cognitive changes
- Medical conditions
- Medications
- Physical changes

# Video & tool kit created for senior centers



## Seven Things to do BEFORE You Drive

- · Plan ahead
- Ask yourself: "Is it safe to drive now?"
- Exercise your driving muscles
- Limit distractions
- Correctly adjust your steering wheel, car seat & mirrors
- Properly use your safety belt
- Ask yourself: "How will my medications or alcohol intake affect my driving?"

# On the road, virtually and in person, promoting awareness & resources





## **Safe Driving for Older Adults**

As we age, our physical strength and flexibility lessens, we may have to take medications that impact our alertness, and our reflexes get slower. As we age, we need to think about some things as we get behind the wheel.

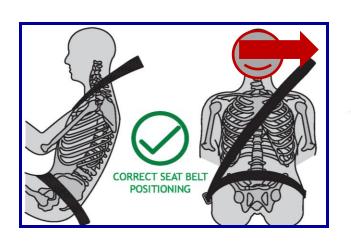
Come join us to learn....
4 things that can
affect your driving
7 things to do before
you drive?

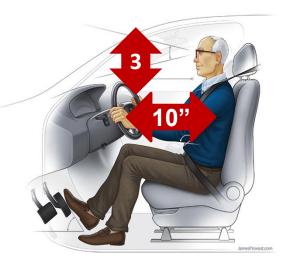
Plus lots of other fun driving safety tips

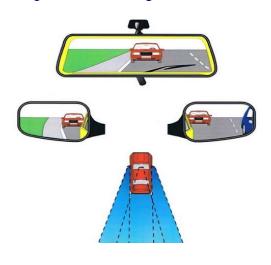




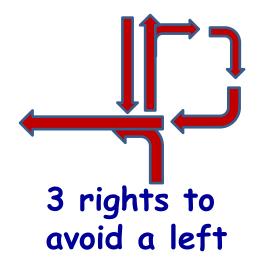
# Share Driving Safety Tips

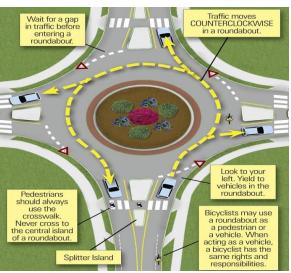












## Increasing Awareness of Risk & Options



### Aging may affect ability to drive safely!

Difficulties: steering/turning seeing/hearing stopping/starting Slower reflexes More easily overwhelmed by traffic/roadways

From January 2021 to June 2021 50 of the 190 deaths were age 60+ (1 out of 4 roadway fatalities in MN!)\*\*

\*\* OTS monthly Preliminary Fatal Crash Numbers https://dps.mn.gov/divisions/ots/reportsstatistics/Pages/monthly-preliminary-fatal-crash-

The number of deaths in drivers over age 75 has almost reached the same rate as drivers in their 20s &higher than teenage deaths.\*\*\*

\*\*\*Insurance Information Institute 5/2019 https://www.iii.org/article/background-onolder-drivers

### Ways to increase safe driving skills

- Strengthening exercises
- Avoid risky roadways
- · Be sure your car is adjusted to "fit" right (car seat, seat belt, steering wheel, mirrors)
- Safe driving courses





Links to these resources & other driver safety resources are listed on the Minnesota ENA web site. www.minnesotaena.com



Do you know someone who should retire from driving?

**Questions, Answers** Suggestions, Resources, Increasing Road Safety **Across Minnesota** 



### **Driving requires:**

- 1. Physical ability Vision, Hearing, Touch Movement of limbs & neck Reaction time Strength & grip
- 2. Cognitive ability Recognize threats to safety Process threats to safety Decisions about safety threats React to threat to safety



### Normal aging affects

- Strenath.
- Flexibility
- Vision
- Hearing
- Sense of touch
- Processing information
- Sorting out distractions
- · Slower reflexes

### With aging comes:

medical conditions medications physical changes cognitive changes

### each can affect safe driving

### Signs of risk of unsafe driving: is hard to.....

- stand
- walk
- answer questions
- iudge distance
- keep car in lane

- Anxiety/overwhelmed when driving

- Searching for words
- Trouble with dates, times, locations
- Difficulty recalling names/numbers
- · Forgetting appointments

- turn head
- see signs

- make safe turns
- · stop emergently

### Signs of cognitive impairment:

- Forgetfulness/Confusion
- · Getting lost easily
- · Unable to find things keys, driver's license, wallet/purse, the car, etc



If you have concerns about an older driver's ability - consider one of the resources listed or have them evaluated by a Occupational Therapist, Driving Rehab Specialist, or submit a request for them to be evaluated by DVS to determine If they should be re-tested.



### Request for Examination of Driver\*

May be completed by anyone and submitted to Dept. Vehicle Services.\* Based on the description of driving behaviors DVS may retest the driver (to find form -Google "MN DP'S Request for Examination of Driver Form")

### DVS may recommend:

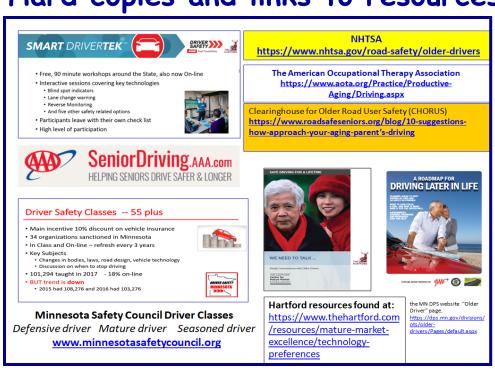
- · Evaluation by physician
- · Referral to Driving Rehab Specialist / Occ. Therapist
- Retesting of driving skills
- Limits on driving . Only as a last resort - they cancel license!

\*Names of family members who request are kept confidential, Physicians are protected by law, other names are released if requested.

Created a flyer that includes info on aging & driving, signs driving is being affected, what to do, what could happen, and links to resources.

## "Virtual" Tool Kit

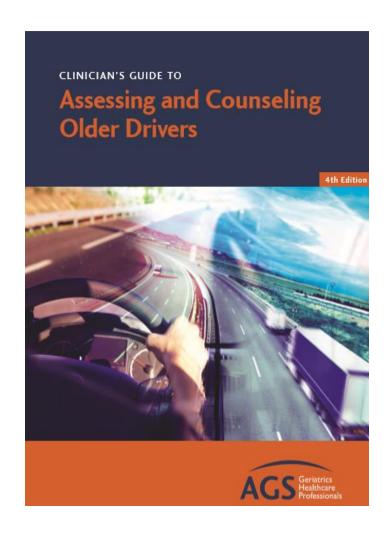
Harford's exercise sheets
Mind exercising sheets
Hard copies and links to resources:



Aging Driver Resources

Link to CarFit to register for events List of Driving Rehab Specialists Road mats with round-abouts & small cars for "practice driving"





Additional screening tools healthcare providers & others can use to judge driving safety

- DOSCI
  Other screening tools
- Get up & go
- > Mini cog
- Mini Mental State Exam
- Montreal Cognitive Assessment (MoCA)

\*Clinician's Guide to Assessing and Counseling Older Drivers, 4th Edition Alice Pomidor – editor New York , 2019 The American Geriatrics Society & NHTSA

# Referral to an Occupational Therapist (OT) or Driver Rehabilitation Specialist (DRS)

- Check physical skills
- Check cognitive skills
- Check driving skills
- Recommends devices to assist safer driving



Lists limitations that would decrease risks when driving

Identifies options to keep drivers safe & independent. Will requires MD "prescription" for insurance purposes.



There is no MN law mandating physicians to report physical or cognitive impairment,\* however they are provided immunity & encourage to report.

EMS & nursing may report; but are not protected from liability & may be in violation of MN privacy laws rather than HIPAA.

Family members, neighbors, friends, and witnesses of unsafe driving behavior may submit a report and would not be in violation of the privacy act.

safety

Only family member's names are kept confidential; other's names are released if the driver asks "who submitted the form?" Public

Each state has different laws!

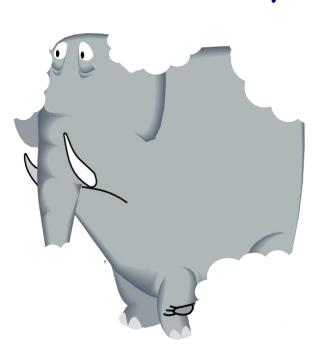
\*Certain medical conditions must be reported

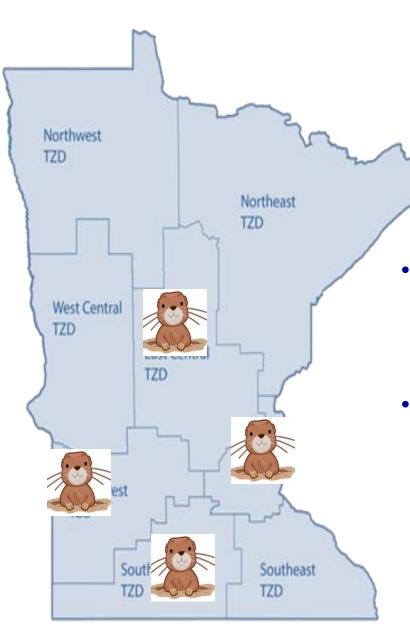
Ethics &

pt. privacy

# Aging driver safety..... who should be made responsible?

- Nursing? Physicians? Other medical personnel?
- · Law enforcement? Judges?
- · Depts. of Transportation/Public & Vehicular Safety
- Older drivers/their families?
- Legislators?
- Insurance companies?
- Churches? Social programs?
- Engineering?
- Everyone!





Leveraged Strategic
Highway Safety Plan
to include older
drivers

Attended 2019 TZD Regional Workshops – kept bringing up DOSCI screening tool during "input" sessions

 2020 SHSP includes section on aging drivers. (Includes: rapid roadside screening tool, CarFit, programs, "awareness" training, and legislation)

# Driving



## It is not:

- an all or none

## It is:

- safety vs. independence

and a careful balance!

# MN Older Driver Safety Project

- Increased awareness of aging factors that can "impair safe driving"

  (changes in vision, hearing, reaction time, strength, sensation, cognition & thinking)

  Most senior drivers are safe & know when to retire/limit driving Some need a nudge
- DOSCI & other screening tools
  Resources & tools available to create safe
  drivers & independent non-drivers

Thanks!

Joanie Somes RN driveroriented@gmail.com



# Joanie being a technician during a Carfit Event