Providing Tools for Professional Responses to Drivers with Functional Declines

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Washington University School of Medicine
Co-Chair, Subcommittee on Elder Mobility and Safety

Missouri Coalition for Roadway Safety
## Disclosures

<table>
<thead>
<tr>
<th>Stowe</th>
<th>Grants: State Farm, Missouri Department of Transportation (MODOT)</th>
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<tbody>
<tr>
<td></td>
<td>Speaker: Trauma Center Association of America</td>
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Missouri Coalition for Roadway Safety

Membership: Federal, State, Local, Public and Private Organizations

Executive Committee
(Chair, William Whitfield, Director of Highway Safety)

~ 10 Statewide Subcommittees

7 Regional Coalitions
7 Regional Coalitions

- Report to the Executive Committee
- Hold regular meetings
- Control formula-based budgets and grant mechanisms
Subcommittee on Elder Mobility and Safety (SEMS)

• Responds to the Missouri’s SHSP older driver section
• Dedicated MoDOT staff member for support/administration
• 36 confirmed members; ~20 regularly attend/contribute
• Statewide quarterly meetings
SEMS MEMBER GEOGRAPHY – STATEWIDE REPRESENTATION
SEMS Member Affiliation – Diverse interests, skills, knowledge
Where are high-risk drivers?

Oftentimes, interacting with the following professionals:

• Law Enforcement
• License Office Staff
• Health Care
Driver Orientation Screen for Cognitive Impairment-Missouri

- Initial Missouri training in 2014
- Missouri smartphone app under development
- OrientationScreen.org under development
- Pilot testing this year
EncountersTraining.org – For license office professionals

- Statewide release May 22, 2015
- Purpose: To identify clear symptoms of possible medical impairment during license renewal
- Offers simple modules and mastery quizzes
Engaging Health Care

DRIVING CONCERN INCREASES WHEN:

- A new condition is diagnosed...
  - Especially, for certain conditions like dementia
  - Especially, if other conditions are present
  - Especially, during advanced older age
  - Especially, if any condition(s) result in great limitations or restrictions to everyday living
Step 1: Screen for Risk

- Health care professionals have requested simple, brief screens to identify patients who need further evaluation by a driving specialist.
- Carr’s fitness-to-drive tool uses results from 3 screening tests that give the probability of the patient failing an on-road test. This patient appears fit – a 4% probability of failing.

**Probability of Failing Driver Test**

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<tr>
<th></th>
<th>Intercept</th>
<th>trlA</th>
<th>AD8TOT</th>
<th>CDTf</th>
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<tr>
<td>coefficient</td>
<td>-1.7594</td>
<td>0.0283</td>
<td>0.5516</td>
<td>-0.3643</td>
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| Observed Value | 26.47 | 0     | 6     |

Change values in box above.

<table>
<thead>
<tr>
<th>score</th>
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<tr>
<td>exp(score)</td>
<td>0.0409215</td>
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<tr>
<td>probability</td>
<td>0.0393128</td>
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Based on this patient’s results, there is a 92% probability of failing an on-road test.

### Probability of Failing Driver Test

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#### Observed Value

| Score | 120 | 4 | 4 |

Change values in box above.

- **Score**: 2.3858
- **exp(score)**: 10.867753
- **Probability**: 0.9157381
Which patients need further evaluation?

- 3 types of results come from screening:
  - 1) Clearly okay, no action needed
  - 2) Clearly unfit, intense rehab or driving retirement needed
  - 3) Unclear

Full evaluation and additional testing is needed for the “unclear” group
Step 2: Try to keep patients driving

- Enhanced Medical Rehabilitation (Dr. Eric Lenze) may improve driving rehab outcomes
- Retirement **process** approach
  - The patient is supported from improving skills to successful driving retirement
- Patient sets the goals
Future prospect: At-home training using game console simulation?

• Auto manufacturers use video game competitions to identify race car driver candidates.

• After a full evaluation, part of driving rehabilitation may be prescribed, at-home gaming to improve certain skills.
Step 3: Driving Retirement

• Voluntary Reporting Law
  • Reporting is necessary for patients who are unwilling to stop driving when needed

• Mobility management/coordination
  • This approach solves the root problem of unsafe drivers...if there was an acceptable alternative, then giving up the keys would not be as painful
What do you drive?

- Due to enhanced crash structures and collision avoidance technology, this question will increase in importance for those wishing to prolong safe driving.

- Can technology lower the functional threshold necessary to drive safely?
Consumer Education

• Picking the safest vehicle is a strategy frequently missed by state-level safety coalitions/advocates.

• Missouri’s Subcommittee is committed to pursuing programs that help drivers choose the safest vehicles, such as those identified by the Insurance Institute for Highway Safety.
Take Home

• Stay behind the wheel, safely, for as long as possible
• Low-hanging fruit for older driver safety: Professionals who encounter medically impaired drivers
• Make/use things (tools, curricula, etc.): Avoid mere educational campaigns
• Form a diverse, committed coalition, and expect them work hard
• Leverage emerging technology
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