Traffic Violations and Risk of Motor Vehicle Crash for Older Adults

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Why Older Adults and Crashes are a Priority?

- After the age of 65, the number of motor vehicle crashes per mile driven increases throughout older age (Williams 2003)

- 2nd Leading Cause of Unintentional Fatal Injury
- 17 older adults killed and 600 injured in crashes every day
Crash Rates – Per Person, Insurance Institute for Highway Safety, 2014
Crash Rates – Miles Driven, Insurance Institute for Highway Safety, 2008
Older Adult Crash Types

Intersections

Changing lanes

Merging from a yield lane

Nighttime Driving

- In-person license renewal requirements
- Older driver fatalities reduced
- Reduce rate of fatal crash during the night

Only policy related to older drivers resulting in a decreased risk of fatal crash vs Medical Reporting, Restrictions, Renewal Cycle

17% Reduction
Iowa Efforts to Reduce Risk

- In-person Renewal
- 2 years for people 72 and older

- “Choices Not Chances - The Road to Driving Safer and Longer”
  - Driving with diminished skills
  - Older drivers and risk
  - Senior Drivers' Workbook
Traffic Violations

Limited evidence suggests that traffic citations predict older adult crash risk (Gebers 1992, Daigneault 2002)
Case-Crossover Study

Case-Crossover Study Design
- Matching on time periods one year apart
- Exposure: Having a Traffic or OWI citation 30 days before the crash from Criminal & Juvenile Justice Planning
- Additional time period of 90 days was assessed

Study Population
Drivers over the age of 50 IDOT crash database 2009-2011
Primary Findings

Day 1-30

50-64
20% Increase

65 and Older
28% Increase

Day 91-120

50-64
No Difference

65 and Older
21% Decrease
Crash characteristics, 2011-2012

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*Weather Conditions, No adverse weather: Clear, Partly Cloudy, Cloudy; Adverse weather: Fog/smoke, Mist, Rain, Sleet/hail/freezing rain, Snow, Severe winds, Blowing sand/soil/dirt/snow

**Drug/Alcohol includes being under the influence of drugs, alcohol, or medication
## Increased risk of crash by crash characteristics

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**Adverse Weather**
- 92% // 71%

**Intersection**
- 14% // 22%

**Nighttime**
- 80% // 90%
Increased risk of crash after receiving a citation by charge

- OWI
- Any Moving Violation
- Failure to Yield
- Loss of Control
- Speeding
Charge Specific Risk for 65 and older

**Traffic**
- 34% Increase

**Speeding**
- 68% Increase

**Any Moving Violation**
- 67% Increase
Conclusions

- Iowa has extensive programs and laws to address problems with elderly drivers
- Moving Violations indicate a higher risk for older adults
- Nighttime and Adverse Conditions increase risk for all drivers over 50
- Long term decrease in risk of crash for older adults