Aging and Driving in Canada: Challenge meets Opportunity

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Co-Investigator, CLSA
Meet Russ....
[Age 99]
## Clinical Decisions & Medical Fitness-to-Drive

<table>
<thead>
<tr>
<th>Medically fit to drive</th>
<th>Not medically fit to drive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medically fit to drive</strong></td>
<td>Correctly determine client is medically fit to drive</td>
</tr>
<tr>
<td><strong>Not medically fit to drive</strong></td>
<td>Incorrectly determine medically fit to drive, but are not</td>
</tr>
</tbody>
</table>
AIM: Develop a scientifically valid method of determining medical fitness to drive (i.e., risk stratification tool)
#1. Health of our participants
#2. Driving Patterns (GPS Device)
#3. Crashes & Violations

<table>
<thead>
<tr>
<th>City</th>
<th>No. of Participants Year 1</th>
<th>No. of Participants involved in At-fault collisions in Year 1</th>
<th>No. of Participants in Year 2</th>
<th>No. of Participants involved in At-fault collisions in Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ottawa</td>
<td>256</td>
<td>3 (1.17)</td>
<td>248</td>
<td>7 (2.82)</td>
</tr>
<tr>
<td>Toronto</td>
<td>124</td>
<td>2 (1.61)</td>
<td>114</td>
<td>3 (2.63)</td>
</tr>
<tr>
<td>Montreal</td>
<td>109</td>
<td>3 (2.75)</td>
<td>99</td>
<td>1 (1.01)</td>
</tr>
<tr>
<td>Hamilton</td>
<td>122</td>
<td>6 (4.92)</td>
<td>116</td>
<td>1 (0.86)</td>
</tr>
<tr>
<td>Thunder Bay</td>
<td>67</td>
<td>1 (1.49)</td>
<td>62</td>
<td>1 (1.61)</td>
</tr>
<tr>
<td>Winnipeg</td>
<td>125</td>
<td>1 (0.80)</td>
<td>123</td>
<td>3 (2.44)</td>
</tr>
<tr>
<td>Victoria</td>
<td>125</td>
<td>0</td>
<td>122</td>
<td>3 (2.46)</td>
</tr>
<tr>
<td>Melbourne</td>
<td>257</td>
<td>0</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1185</td>
<td>16 (1.35)</td>
<td>1126</td>
<td>19 (1.69)</td>
</tr>
</tbody>
</table>
We have over 38,749,316 km of data!
Highlights from the Candrive Study

Significant differences from Year 1 to Year 5 of our data

**Health & Function**
- ↓ Driving comfort & perceived driving abilities
- ↓ to stand on one leg; rapid foot taps
- ↓ Scores on MoCA, & other tests of thinking skills
- ↑ # of medications and medical conditions

**Driving**
- ↓ km driven per day, trip distance
- ↓ Average speed (Km/H), # of trips, trip frequency
To drive or not to drive?
Understanding the influence of the complex relationships between personal and environmental factors on the driving mobility of older Canadians

Driving Only
Volunteer Sample
Health & Function
Perceived Driving Abilities
GPS Driving Patterns
928 Canadians (Aged 70+)

Social Participation
(Social Frailty)
Neighbourhood Social Networks etc.

Driving + other forms of transportation
Random Sample
Health & Function +++
Perceived Driving Abilities
50,000 Canadians!
Age, gender, geography & driver’s license

Driving a motor vehicle is the most common form of transportation regardless of sex and geographic location across age groups.

Fewer Canadians aged 75+ report having a license, particularly among women.

Percentage of Canadians with a current driver's license stratified by geographic location, age and sex.
Prevalence of driving a vehicle vs. other forms of transit

A lower prevalence of women over the age of 75 drive their own, but use all other forms of transportation more.
Transportation Mobility in Older Adulthood

• Specialized accessible transit is seldom identified as a primary mode of transportation, even among persons with poor health and limitations in their activities of daily living.

• A higher proportion of women aged 75 and older mainly use this form of transportation compared to all Canadians.
Men who report limitations in their functional performance:

Driving is the primary mode of transportation among men who report difficulties with everyday activities. The proportion of those using other forms of mobility is different in each age group.
Women who report limitations in their functional performance

The majority of women in each group report having a driver’s license; in the oldest age group there is also a large proportion who report being a passenger.
Understanding the Older Driver
Want to learn more about Aging & Driving?

→ McMaster Optimal Aging Portal – What does drawing clocks have to do with driving cars?

→ Google Search: TVO, The Agenda, Brenda – ~25 min. discussion on our Candrive Research

→ Autonomous Cars in Canada → Google: Senate of Canada, report, Driving Change

Thank you!

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