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Work-related injury and illness among older truck drivers in Australia: A population based, retrospective cohort study

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Older drivers in truck crashes

- In 2014, 3,903 people were killed and approx. 111,000 injured in truck crashes (National Highway Traffic Safety Administration, 2016)
- One group over-represented in fatal crashes is drivers aged 60 years and older (Duke et al., 2010)

 Drivers aged 65 years and older are at 4.3 times greater risk of being killed in crash compared with drivers aged 15-19 years (Chen et al., 2014).



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Background

- The epidemiology of injury and illness in the transportation industry has received limited attention.
- Important to ensure the appropriate allocation of resources to prevention and rehabilitation efforts.



Aim of the research

- This study will explore the landscape of work-related injury and disease in the Australian transportation industry
 - Measuring injury and illness resulting in time loss in truck drivers by age group.

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- Categorised the data by distribution of:
 - Injury types;
 - Mechanism of injury;
 - Body part sustained following the injury

 Calculate the relative risk for older drivers (i.e., 60+) compared to their younger counterparts.



- Population based, retrospective cohort study
- Compensation claim data collected from the National Dataset for Compensation-based Statistics (NDS)
 - Workers' compensation claims data from all nine of the state, territory and Commonwealth workers' compensation systems.
 - Injured worker, their employer, job characteristics, injury or disease details, and claims outcomes.
- Australian workers' compensation schemes do not generally provide coverage for self-employed workers



Analysis

- Claims accepted for payment) lodged by working age adults (≥15 years) between 2004 and 2015 finance year
- Descriptive analysis was performed to characterise the distribution of workers' compensation claims by four time periods (2004-2006, 2007-2009, 2010-2012, and 2013-2015), age groups, and jurisdictions.
- Negative binomial regression was used to determine relative risks (RRs) and 95% confidence intervals (95% CI) for the comparison of claim rates across age groups.
- The 35-44 years age group was set as reference group.
- Older truck drivers were defined as those aged 65 years and over.



- 120,742 accepted
- The mean age of truck drivers was 44.5 years.
- The largest group of claims were from the 35-54 years age group, accounting for nearly 60% of total claims
- 65+ years had the smallest percentage of total claims (2.66%), followed by the youngest age group (i.e., aged < 24 years, 4.04%).



- The relative risk of workers' compensation claims increased with age.
 - Highest rates observed in the older truck driver group (79.53 per 1000 workers per year), with a 26% increased risk compared to the 35-44 years old group (adjusted RR: 1.26, 95% CI: 1.10 to 1.44).
- The median duration of time loss due to work-related injury and illness increased steadily with age.
 - Older truck drivers had a significantly longer median duration of time loss, reaching 6.6 weeks (IQR: 2.0.-19.9, Coef: 3.40, 95%CI: 2.86 to 3.94).



Results, cont.

- Fracture injury: <u>not significant</u> for older vs middle age group (adjusted RR: 1.03, 95% CI: 0.89-1.20),
- MSK injury: the rate was <u>18% lower</u> (adjusted RR: 0.82, 95% CI: 0.72-0.95; adjusted RR: 0.68, 95% CI: 0.60-0.77).
- Psychological injury: the rate was <u>60% lower (adjusted RR:</u> 0.41, 95% CI: 0.26-0.65; adjusted RR: 0.30, 95% CI: 0.21-0.43).
- Neurological injury: the rate reached 19.11 among older truck drivers, which was nearly <u>15 times higher</u> compared to the 35-44 year old age group (adjusted RR: 15.2, 95% CI: 12.31-18.80).
 - Sound and pressure as mechanism of injury



- Older drivers contributed the smallest proportion of total claims
- The relative risk of workers' compensation claims increased with age.
 - Older truck drivers had the greatest risk when compared to the 35-44 year old age group.
- Older truck drivers were not found to have significantly higher rates of MSK or fracture injuries.
 - Self-regulation: adapting behaviour to minimise crash risk
- Claims due to 'sound and pressure' were 15 times greater in older age drivers
 - Noise-induced hearing loss (vehicle, road conditions, policies & procedures)



- Managing decline in functional and/or cognitive performance
 Self-screening within workplace health and safety programs
- Modifications to work environment
 - Selecting vehicles with superior noise controlling measures;
 - Introducing journey planning practices (i.e., quality road surfaces)
- Review and revision of noise related risk controls
 - Workplace health and safety regulation





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