Identifying and Characterising Crashes of Returning Riders – A New Approach

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CARRS-Q is a joint venture initiative of the Motor Accident Insurance Commission and Queensland University of Technology

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Outline

- Defining ‘returning rider’
- Background
- Methods
- Results
- Discussion
- Conclusion

Who are returning riders?

- Riders returning to riding after an extended break
  - not necessarily older riders

- Various definitions
  - Returned last 6 months after 5>year break (Simmons, Mulvihill & Collins 2011)
  - Returned last 3 years after 1>year break (Simmons & Mulvihill 2010)
  - Returned last 5 years after 1>year break (Ormston et al. 2003)



Are they at greater risk?

- Increasing numbers of older riders in crashes
- Limited research
- Deterioration of riding skills
  - Few objective comparisons of returning, continuing & new
  - Relatively few returning riders take refresher training
  - Training involvement similar for returning & continuing (~30%), compared to new riders (90%) (Haworth et al. 2002)
- Unfamiliar vehicle or vehicle type
  - Riders likely return on different motorcycle or motorcycle type
  - Some evidence of increased crash risk (Haworth et al. 1997)

Returning rider crash risk

- No evidence that returning riders less skilled or safe in recent Australian study (N=45) (Symmons et al. 2011)
  - Other studies support this but not all account for amount of riding (exposure) (Sexton et al. 2004; Jamson et al. 2005; Haworth & Mulvihill 2005)

- Increased risk associated with travel & usage patterns
  - Recreational riding, rural riding, weekend riding, motorcycle type

Methods

- **NSW 2005 - 2009 fatal & injury crash data analysed**
- **Active rider = owner of registered motorcycle**
  - **Returning**

    … aged 25+, held full NSW motorcycle licence 10 years prior to crash & were not a registered motorcycle operator 5-10 years prior to the crash
  - Continuing

    … aged 25+, held full NSW motorcycle licence at time of crash, not identified as returning rider in analysis
  - New

    … aged 25+, held a NSW learner or provisional motorcycle licence at time of crash

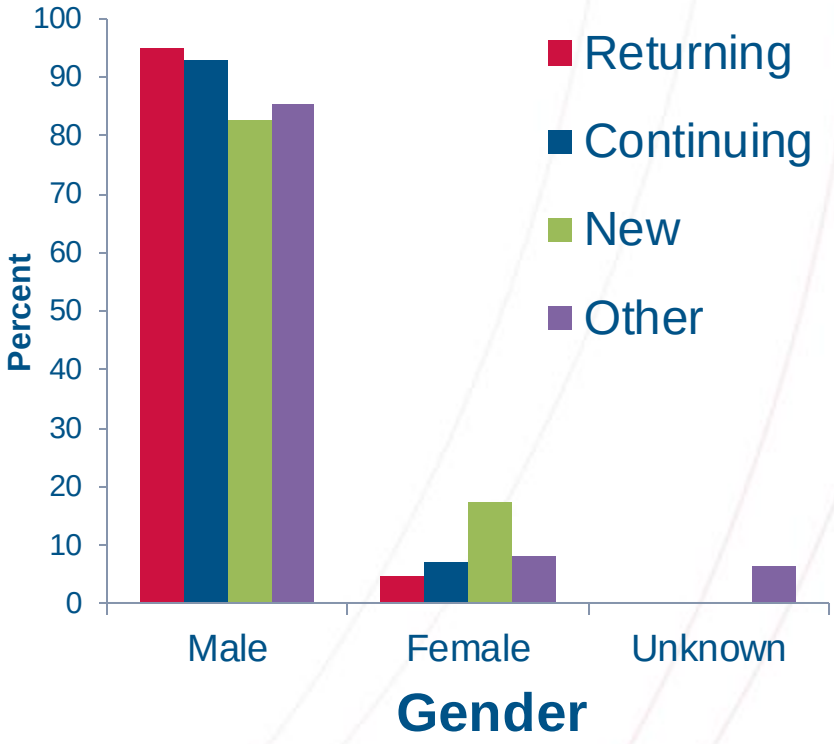
Identifying returning riders in NSW crash data

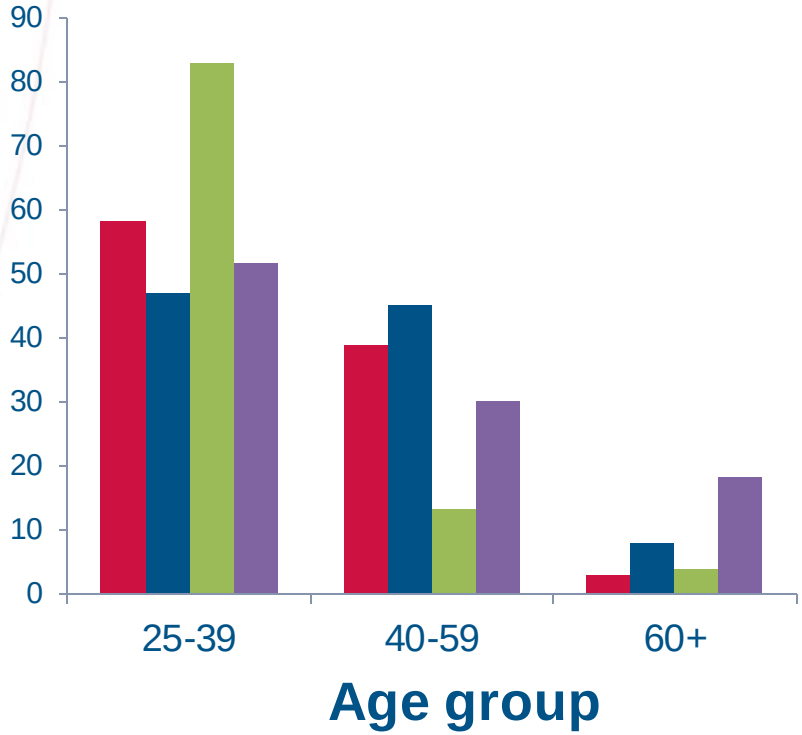
1. Started with all riders in 2005-09 fatal and injury motorcycle crash data aged 25 and over (n=8,909)
2. Excluded those without full NSW licences (leaving 5,983)
3. Excluded riders who could not be found in licensing database (leaving 5,674)
4. Excluded riders who had obtained full licences in the 10 years prior to the crash (leaving 1,351)
5. Excluded riders who were registered operators of motorcycles 5-10 years prior to crash (leaving 472)

Results

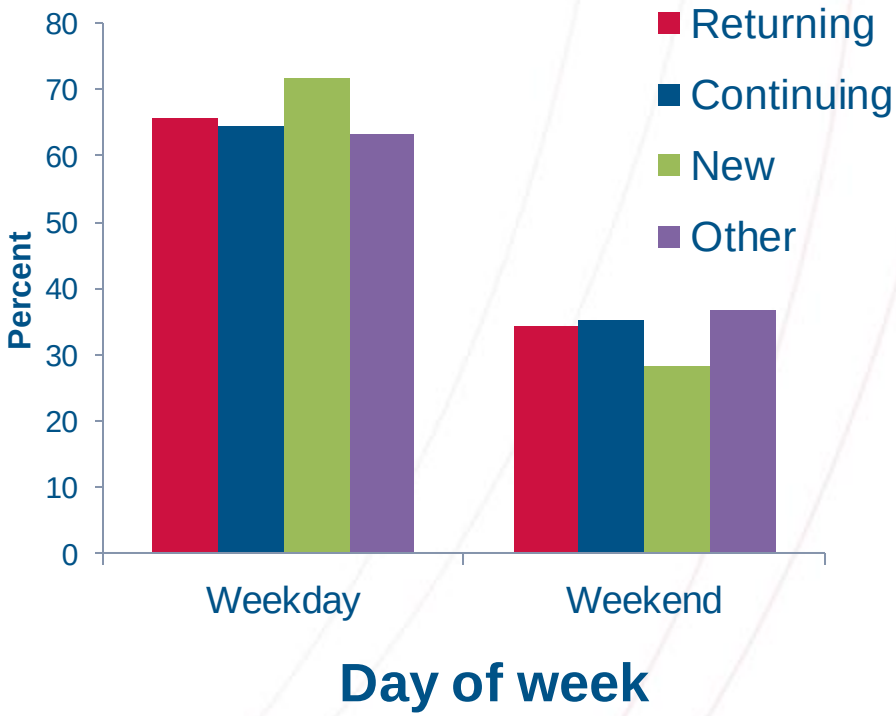
	Returning	Continuing	New	Other
Crashes		8,909 total		
N	472	6,800	709	1,928
%	5.3	76.3	7.9	21.5
Killed %	2.5	3.2	1.7	2.4
Injured %	97.5	96.8	98.3	97.6

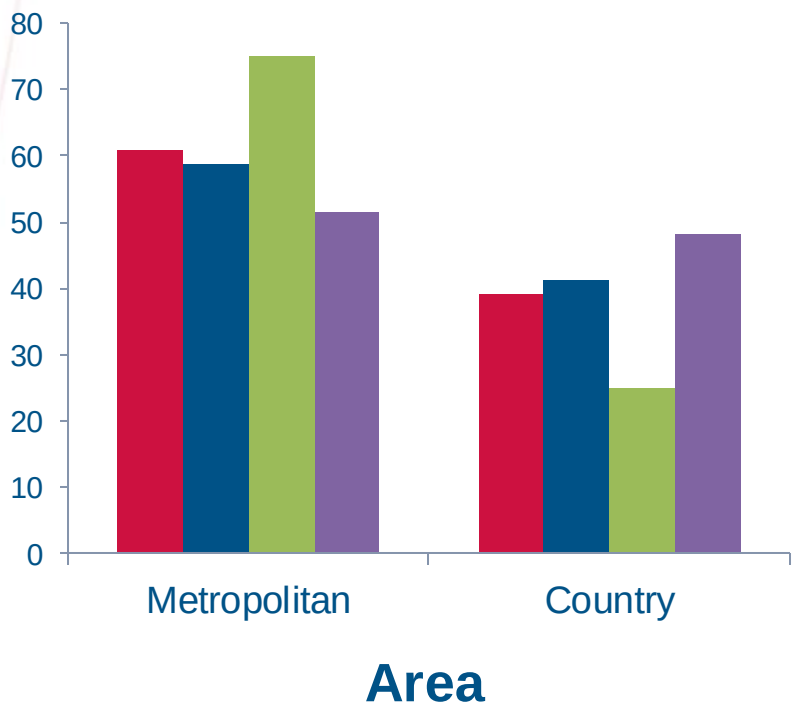
Rider age & gender



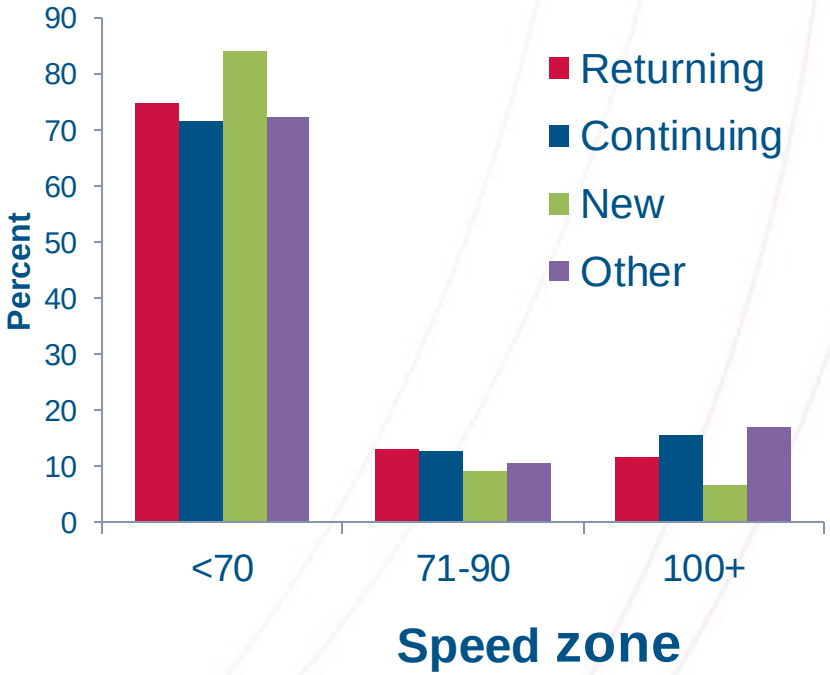


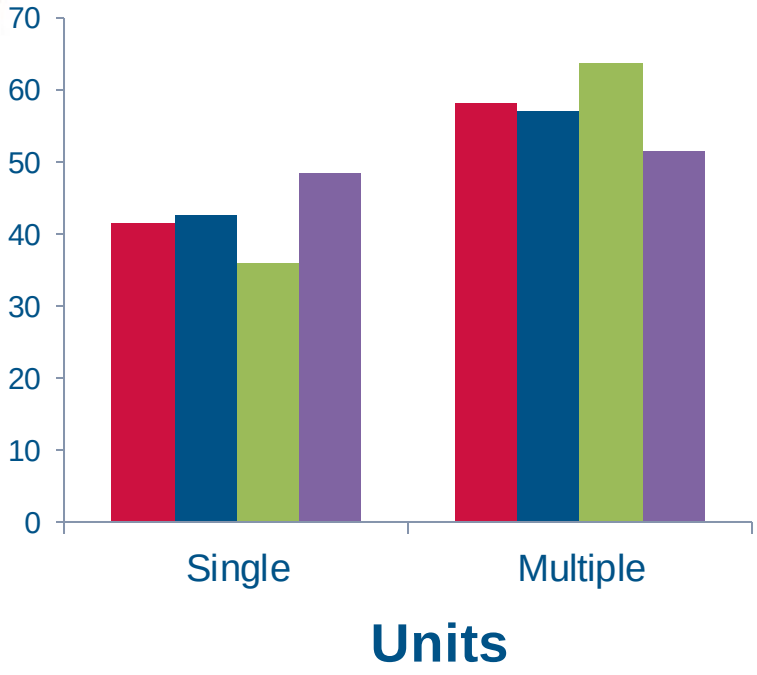
Day of week & urban/rural



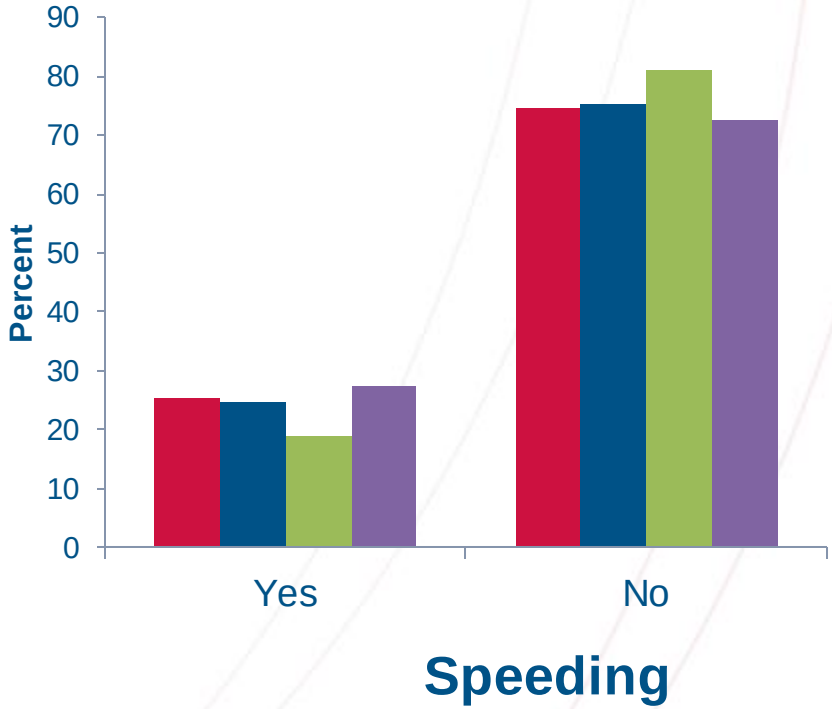


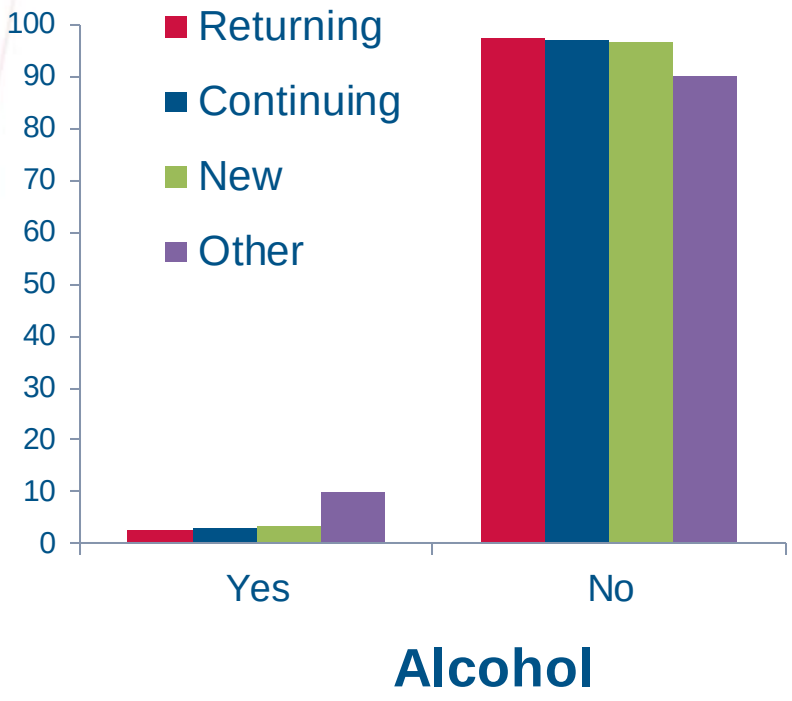
Speed zone & traffic units



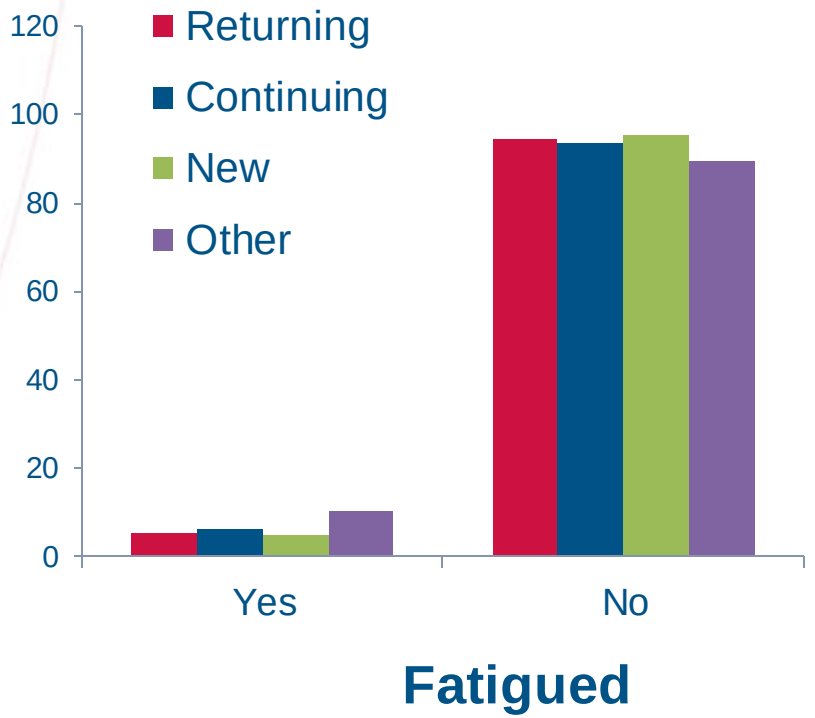


Speeding & alcohol





Rider error & fatigue



Implications

- Similar patterns for returning & continuing riders
  - Crash characteristics
  - Usage
- Analysis unable to identify skill error/deterioration in skill
- Analysis unable to identify rider on unfamiliar motorcycle
- Are specific countermeasures needed?
- Further research may be required

Strategies, policies & programs

- Motorcycle Safety Strategies (Queensland & SA)
  - Noted increase in older riders
  - Perception of greater risk
  - Lack of objective evidence
  - Promotion of rider training
  - Promotion of education
  - Calls for further research

Further research

- Patterns and amount of riding of returning riders
- Effect of dormancy on riding skills
- Number and characteristics of returning riders
- Reach and effectiveness of refresher courses
- Licensing

Strengths & Limitations

- Strengths
  - Enabled analysis of Police-reported casualty crashes of returning riders across an entire state

- Limitations
  - Identifying returning riders depends on definition used
  - Unable to estimate crash rates for comparing risk
  - Unable to identify contribution of skill error, unfamiliar motorcycle

Conclusions

- Operational definition used to identify returning riders in police-reported crashes
  - Aged 25+ years,
  - Licensed >10 years before crash
  - Not the registered operator of motorcycle 5-10 years prior to crash
  - 5.3% of riders aged 25+ in casualty crashes

- Returning riders largely similar to continuing riders
- Refinement of the operational definition has potential to reveal differences concealed in the current analysis

Questions?

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