

# Improving our evidence base: realising the potential of linking Police and hospital administrative data

Kaye Clark, NZ Transport Agency  
Dr Janet Amey, Midland Trauma System

# Today's presentation

1. Why motorcycle crashes
2. What we did
3. What we found
4. What we're doing now
5. What this means for improving the evidence base
6. Questions

## Why we did this research

Road traffic crashes, especially those involving motorcycles, are a significant cause of injury



## What we did

1. Linked Police reports and hospital trauma data
2. Identified hospitalised riders not recorded by Police
3. Compared crash location and hospital care location
4. Identified the cost of acute care
5. Established crash distance from home
6. Explored riders stories about their experiences (by survey)





# Linking Police and trauma data

- 56% of motorcycle trauma patient records could be linked to Police records
- Important factors affecting linkage rates included:
  - Injury severity
  - Age
  - Ethnicity
  - Rurality of crash
  - Self-presenting behaviour
- Police reports possibly underestimated motorcycle casualties across the region by ~18%



## Riders in hospital but not recorded by Police

- 'Missing' riders more likely to be male, <40 years, crashed in urban locations with non-major injuries
- While the demography of missing riders differed from those in CAS, when they crashed did not, with both groups more likely to crash on weekends
- Average length of hospital stay 4.7 days (range 1-39)



# Crash distance from home

- Characteristics of urban (speed limit  $\leq 70\text{km/h}$ ) and rural ( $\geq 80\text{km/h}$ ) crashes at different distances from home
  - Urban crashes - at intersections, straight road, multiple vehicles
  - Alcohol and/or speed - crashes close to home (under 1.5km)
  - Rural crashes - single vehicle, curved road, furthest distance from home
  - Excessive speed - crashes furthest from home
  - Motorcyclists - not at greater risk of crashing close to home once exposure taken into account



## Riders like to tell their story

- Good and bad experiences to understand risk-taking and attitudes to riding
- Themes:
  - Respect for riders with experience
  - Riding provides thrill of danger with potential for some excitement
  - Crashes are “when not if” with constant controlling for risk
  - Pride and status in skill and great value seen in training
  - The right gear is important





## What we're doing now

- We're using the research findings to help design more targeted safety campaigns
- Looking at specifics raised by riders eg training and riding experience
- We're considering our next research steps and whether we have policy questions where further collaboration could be useful for our evidence base



## What does this mean for improving our evidence base?

- Linkage rates and potential under-reporting are of interest from a policy perspective
  - We established under-reporting
  - We counted the un-counted or 'missing' injured riders
- Data linkage provides a wider picture of motorcycle trauma via complementary data
- Crash information and riders stories used to fine tune safety messages
- The cost of acute care for road trauma could be better quantified in our region





Questions?