

# An analysis of changes in mobility and safety of older drivers associated with the removal of a specific older driver on-road licensing test in New Zealand

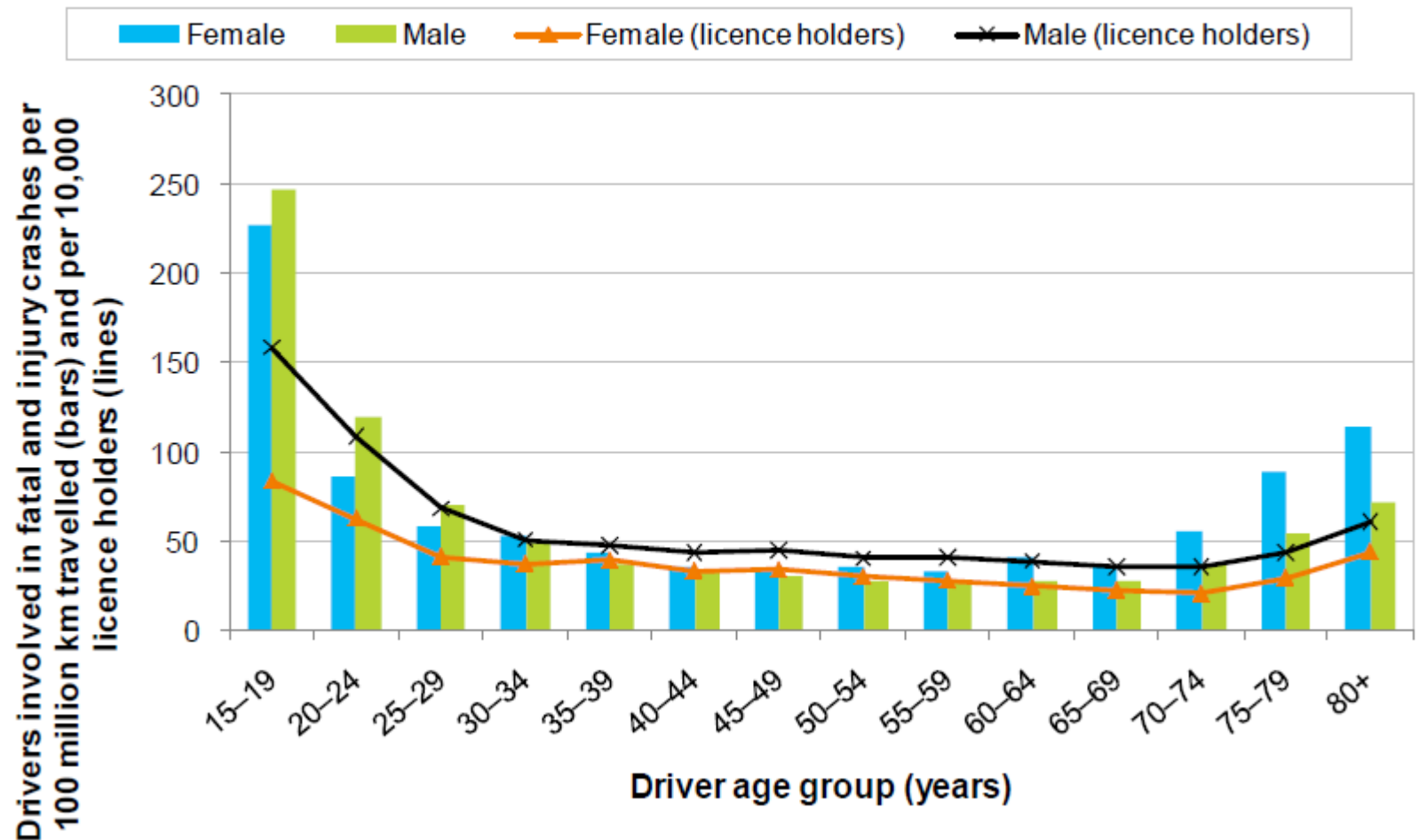
Mike Keall and Esther Woodbury  
Department of Public Health  
University of Otago, Wellington



Michael.Keall@otago.ac.nz

# The “problem“

Figure 5: Light 4 wheeled vehicle drivers involved in fatal or injury crashes per 100 million km driven (bars) and per 10,000 licence holders (lines) by age and gender



# Background

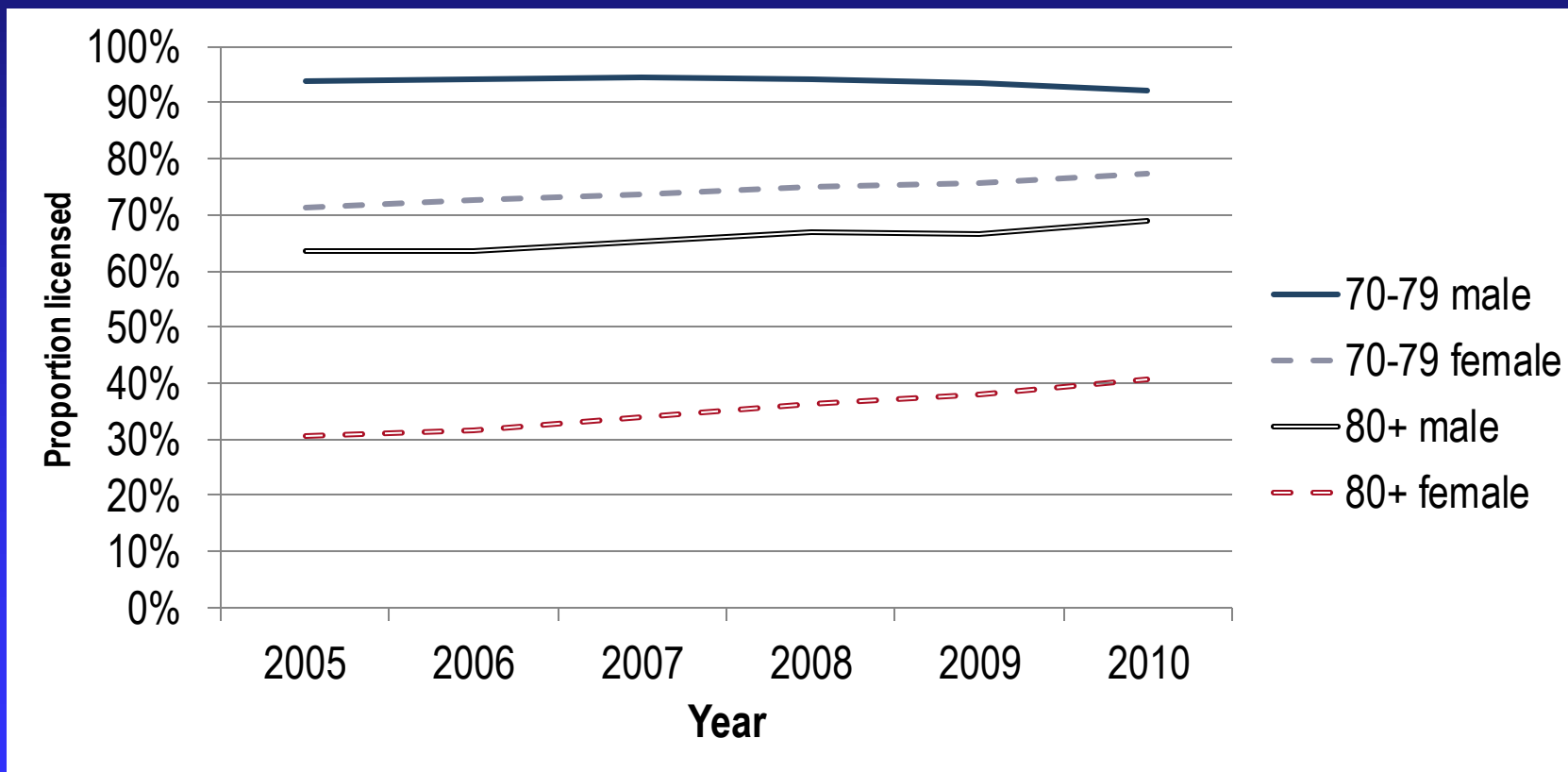
- Licensing systems must balance:
  - ◆ Safety (particularly safety of other road users)
  - ◆ Benefits of mobility
  - ◆ Costs and impositions of administration
- 1999 - 2006, drivers aged 80 plus had on-road driving test every two years
- Each test failure was associated with a 33% increase in the odds of subsequent crash involvement (95% CI 14% to 55%) (*Keall and Frith, 2004*)
- But: very stressful; not suited to ordinary driving demands of older drivers; very costly to maintain
- Consequent reduced mobility for some older people
- The impact of the removal of this test had not yet been studied in terms of potential impacts on the safety and mobility of older people

# Methods

Three main data sources were analysed:

- New Zealand Travel Survey data (driving and walking)
- licensing data (numbers licensed; numbers undergoing on-road test)
- police-reported crash data (totals; rates per person)

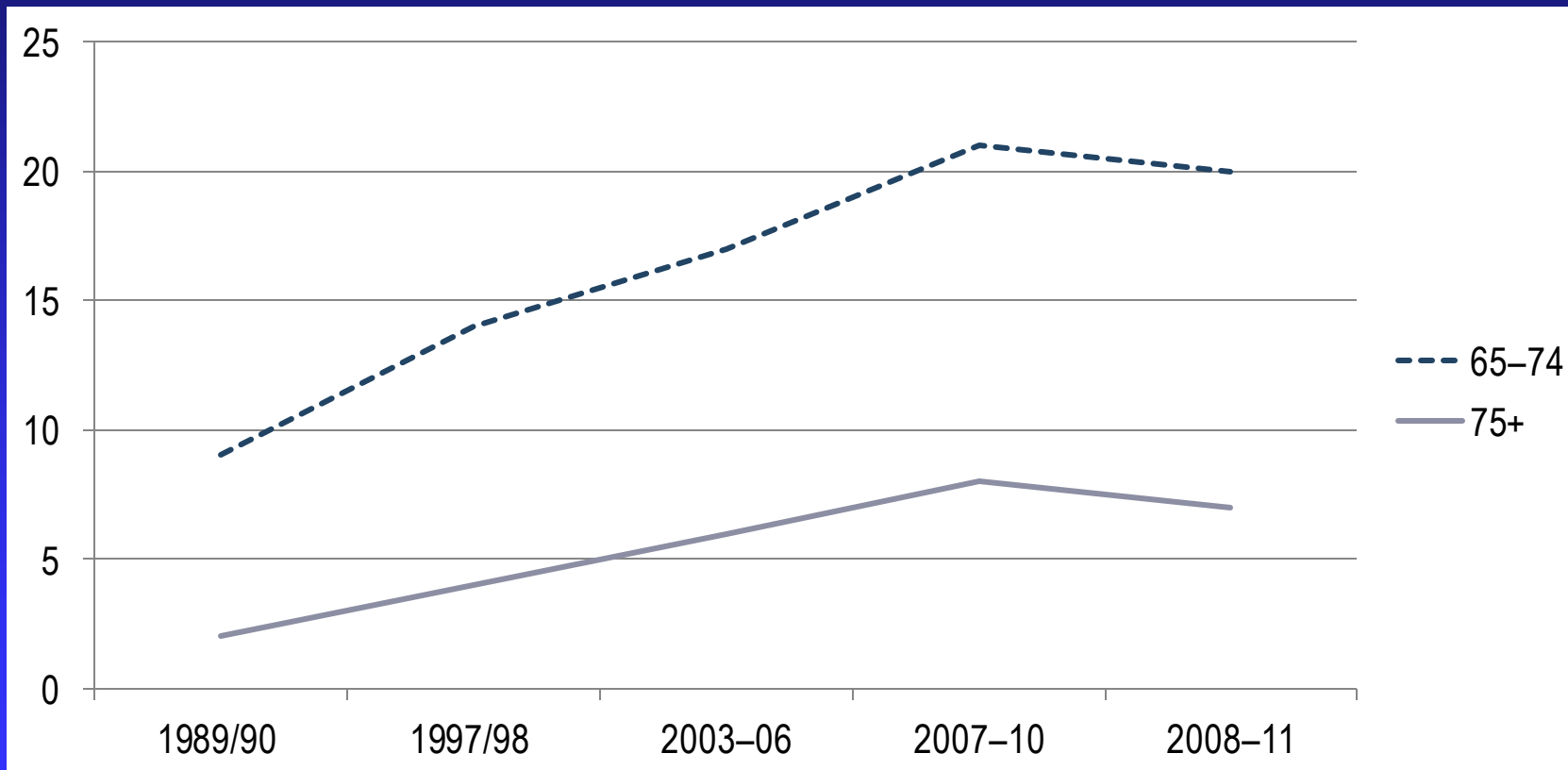
# Proportion of given age and sex group that were licensed by year



# Drivers 80 plus: percentage who underwent an on-road test as a condition of their licensing

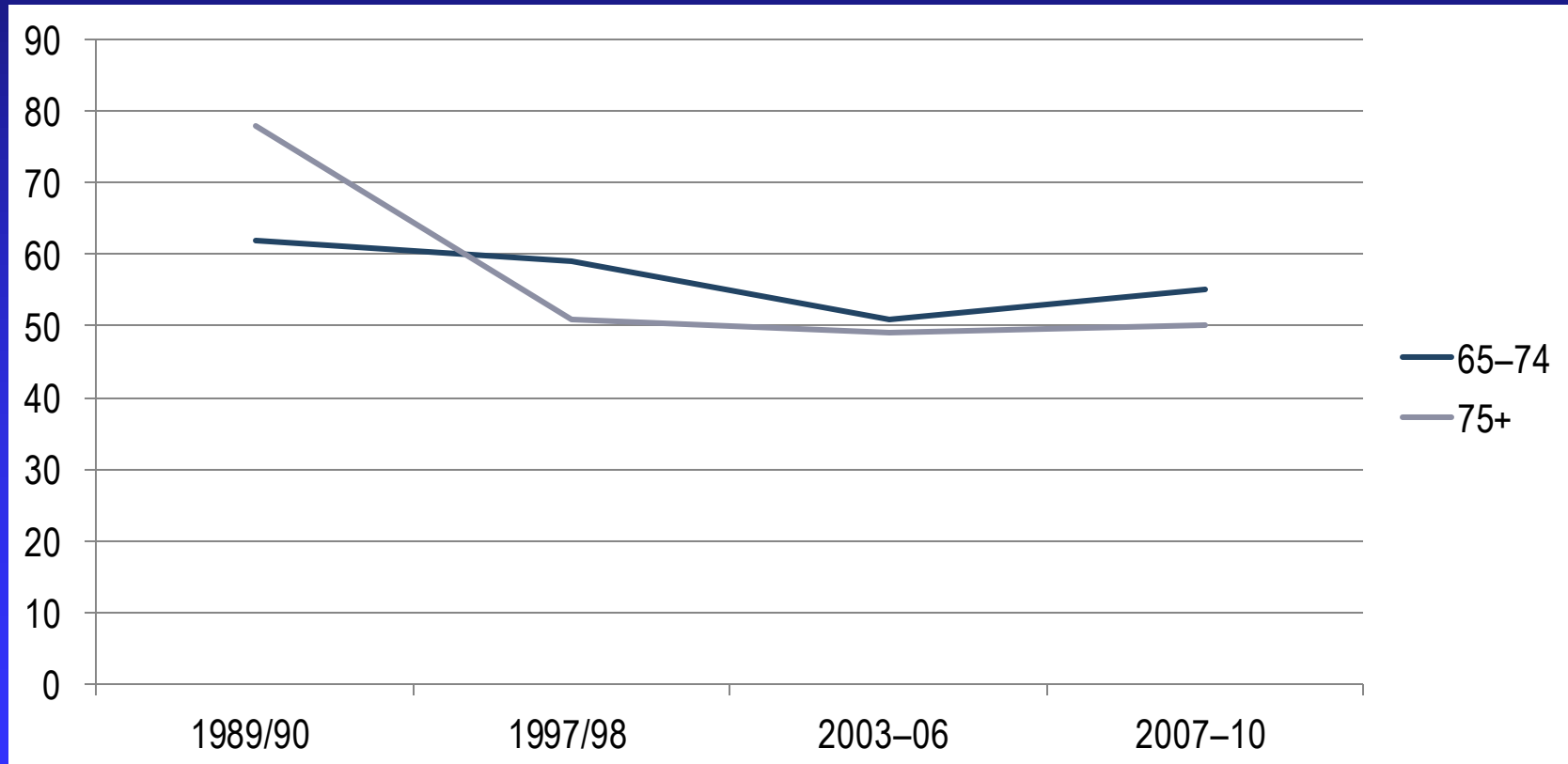
Year	Total licensed	%sitting on-road test
2005	54,335	100%
2006	57,339	100%
2007	62,431	46%
2008	67,756	1%
2009	71,383	1%
2010	77,953	1%

# Annual distance driven (in 100 million kms) Source: NZ Travel Survey



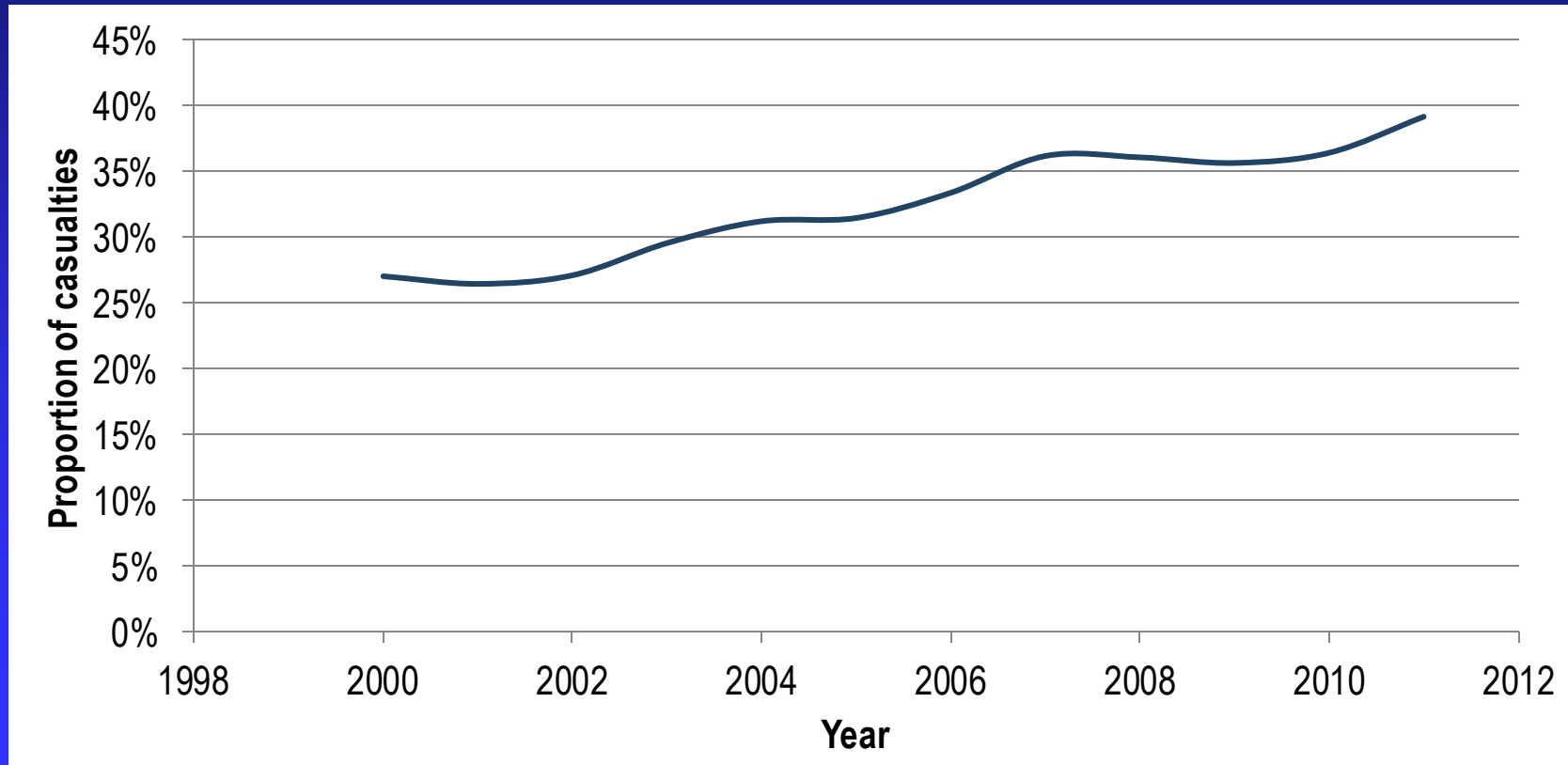
# Number of minutes spent walking each week per person.

Source: NZ Travel Survey





# Proportion of casualties occurring in crashes involving drivers aged 70 plus that involved drivers aged 80 plus



# Discussion

- Licensing data, travel activity estimates and crash data were all analysed.
- People aged 75 plus quadrupled their driving from 1989/90 to 2007/10
- There were no apparent changes around the time that the on-road licensing test was removed
  - ◆ The proportion of the age group affected who were licensed to drive continued to grow
  - ◆ Pedestrian activity did not change
  - ◆ The numbers of casualties from crashes with drivers aged 80 plus compared to drivers aged 70-79 did not change from the time of the licensing policy change

# Limitations in assessing effects of test

- Lack of power to detect change: those aged 80 plus are a relatively small group of drivers, so survey estimates and crash rates are based on small numbers
- From 2007, the GP could make the following five recommendations:
  - ◆ the patient is **medically fit to drive** without conditions;
  - ◆ the patient is medically fit to drive with specified conditions (such as no night driving; only driving within 10km of their home);
  - ◆ the patient is medically fit to drive but must undergo an on-road driving test;
  - ◆ the patient requires further specialist assessment (a medical specialist or an occupational therapist) before they can be deemed medically fit to drive;
  - ◆ the patient is **not medically fit** to drive.

# Conclusions

- The on-road driving test for people aged 80 plus had little impact on mobility or safety at a population level, even though many individuals would have been affected
- The lack of safety effects is consistent with findings comparing jurisdictions with contrasting older driver licence renewal procedures
- This study does not support the generalised use of on-road testing as an assessment mechanism for all older drivers

## **Contact Details:**

Dr Michael Keall

Wellington School of Medicine and Health Sciences, University of  
Otago, Wellington

E-Mail: [michael.keall@otago.ac.nz](mailto:michael.keall@otago.ac.nz)