

Impact of Canterbury Earthquake Damage on Cardiovascular Disease

Andrea Teng, Tony Blakely, Vivienne Ivory, Simon Kingham, Vicky Cameron

Healthier Lives National Science Challenge
Virtual Health Information Network

HEALTHIER
LIVES

He Oranga Hauora

National
SCIENCE
Challenges



Canterbury Earthquakes & CVD

- What was the impact of living in an area with greater housing damage from the Canterbury earthquakes on cardiovascular health?



EQ-CVD Study Background

- EQs have been assoc. \uparrow CVD / MI in short-term
- Few studies have examined impact by level of housing damage
- Canterbury EQ Sequence
 - EQC earthquake damage costs \$30b
 - Ongoing stress, prolonged insurance settlements, 170,000+ building damage claims
- Christchurch studies - psychological disorders and CVD in the first three weeks



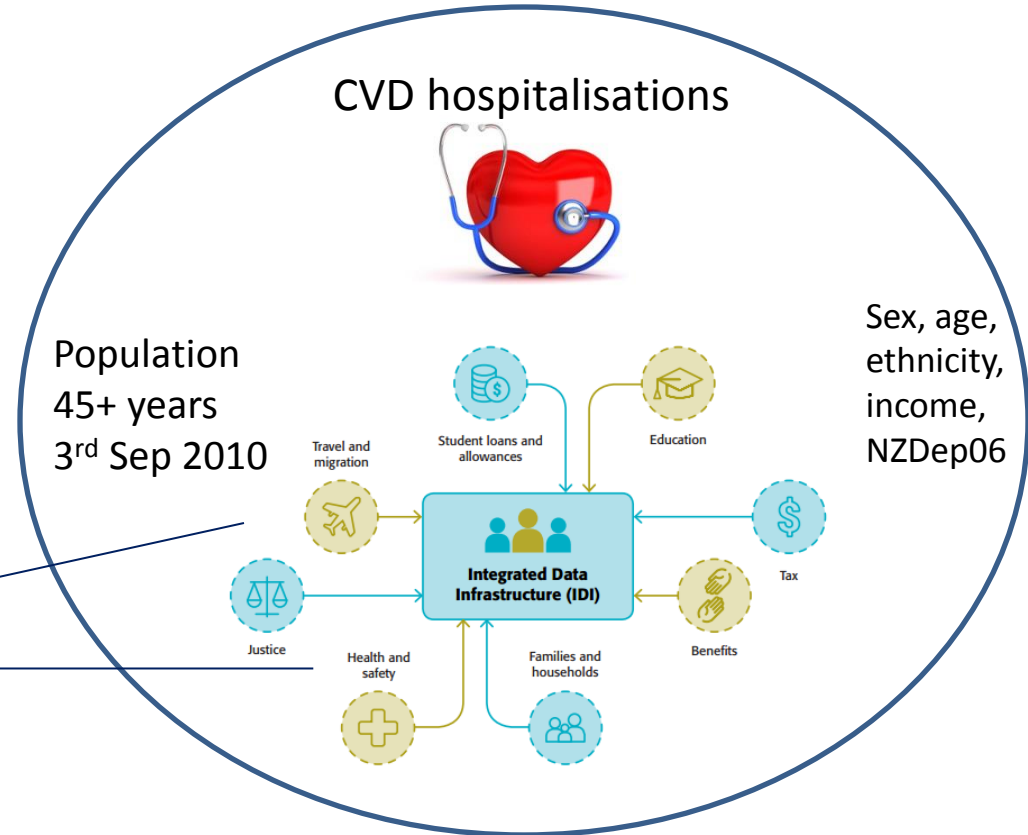
Methods

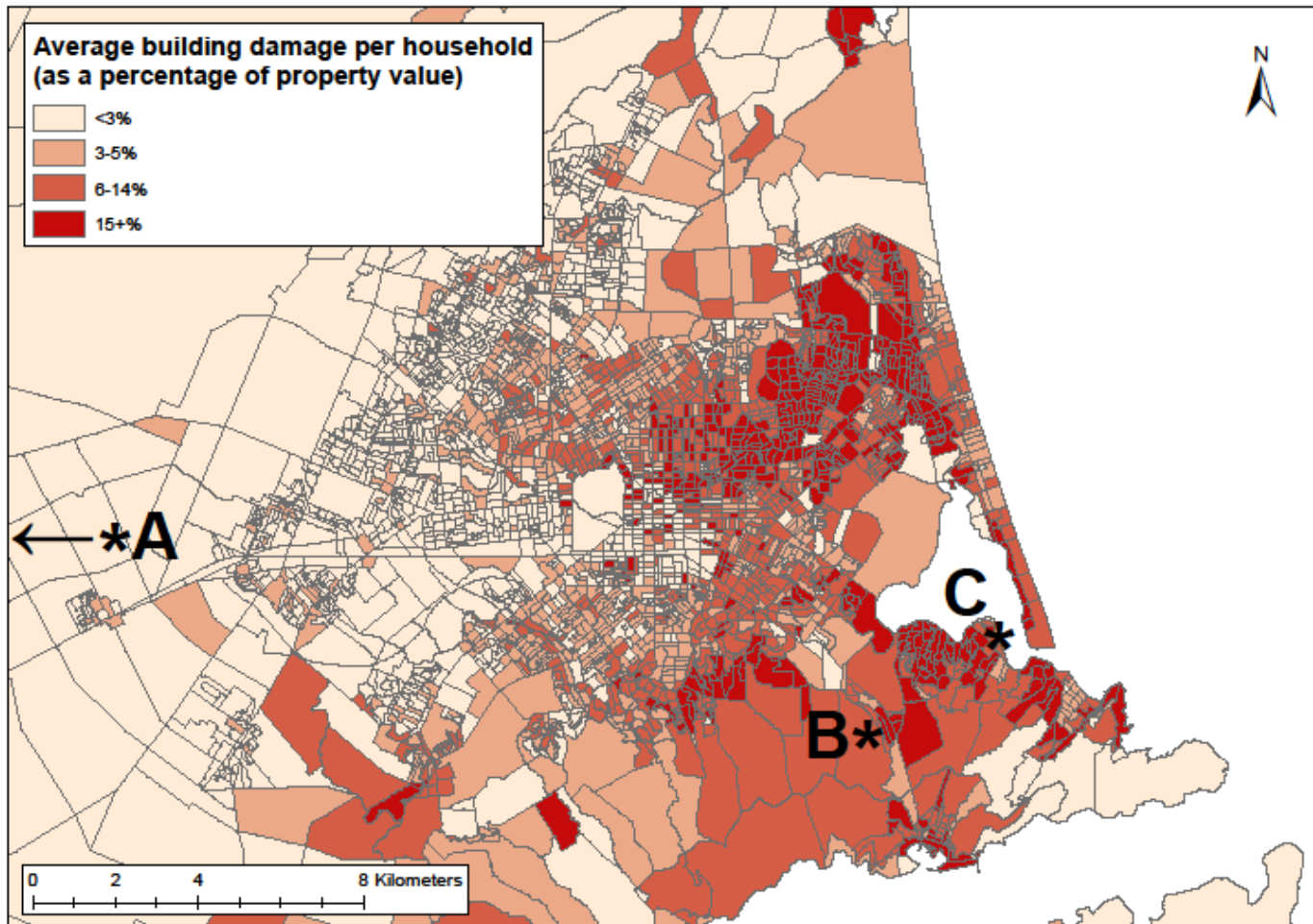


Linked on
meshblock

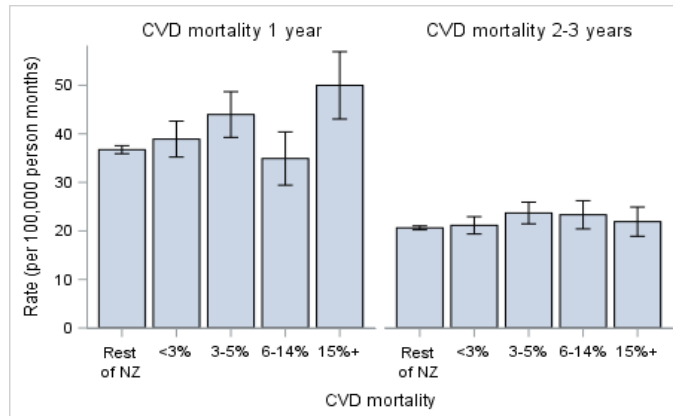
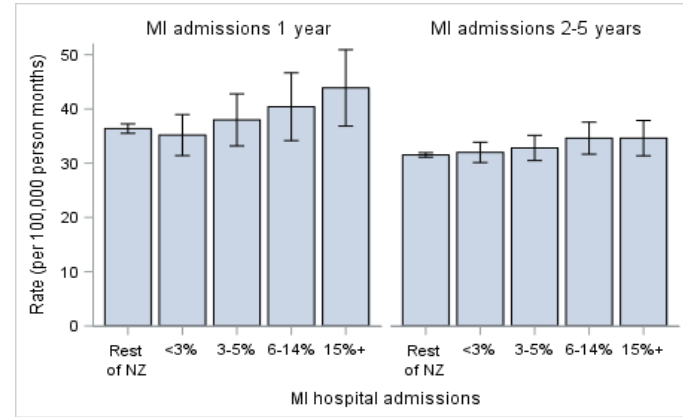
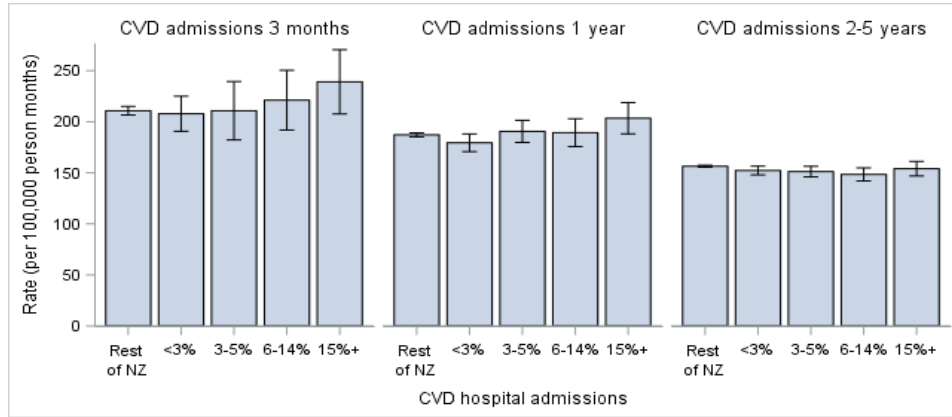


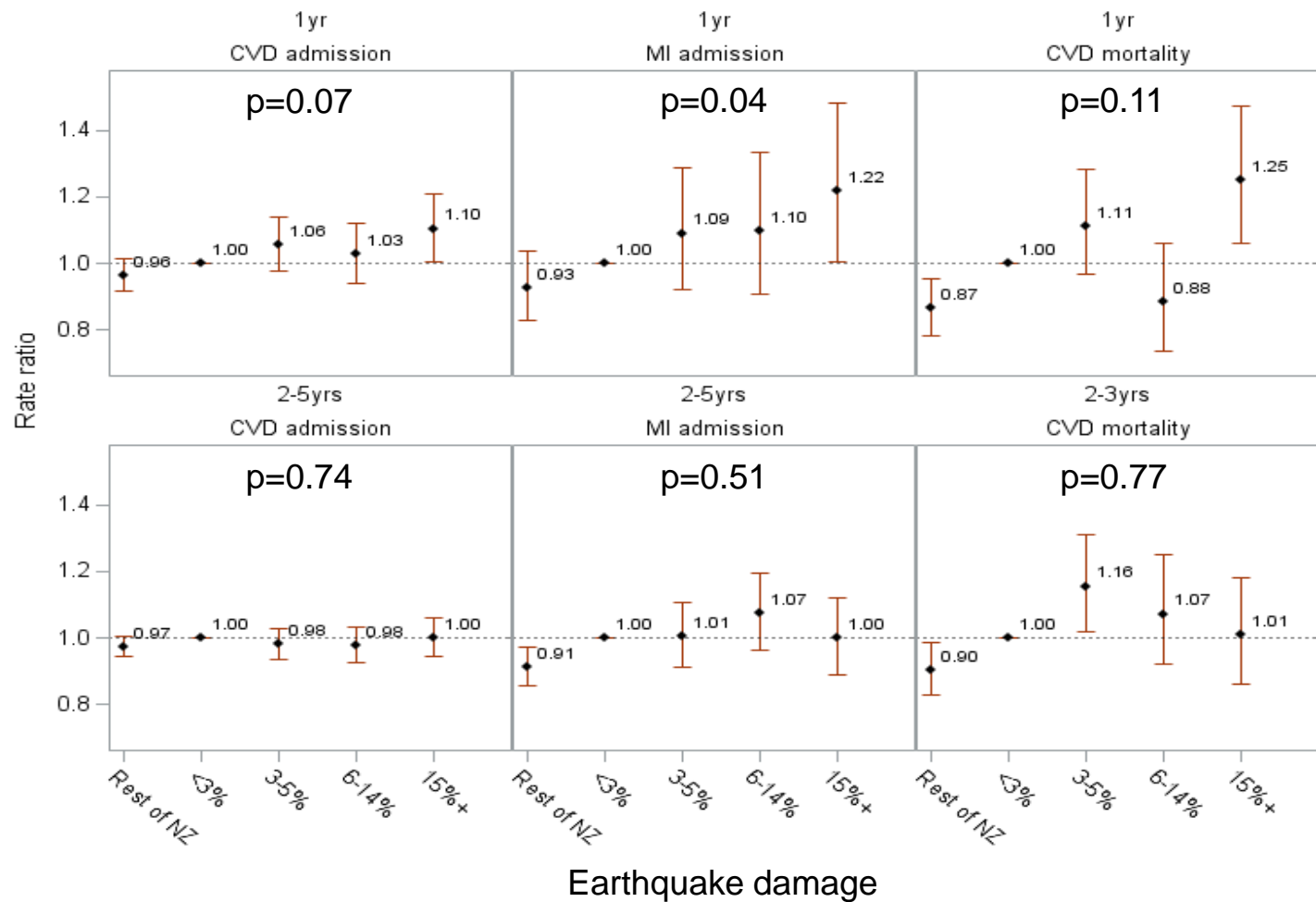
Person time
censored for
migration &
death





CVD rates by damage





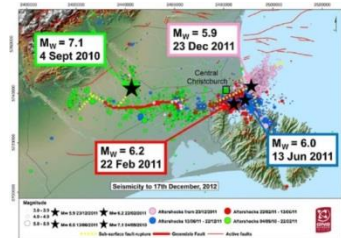
Summary

- Dose-response association between area housing damage and admissions for CVD & MI
- Excess of 66 CVD admissions, including 29 MI - in most damaged areas



Strengths and Limitations

- Collaborative approach
- EQC data used to compare areas with more or less housing damage
- Value of existing VHIN code for identifying the resident population and CVD admissions (anywhere NZ)
- Censored for death and time spent outside NZ
- Misclassification –addresses, building damage costs, meshblock damage
- Limited power
- 84% link rate of health data to the spine
- 81-83% complete data for regression modelling



Implications

- Prevent housing damage eg, land use planning
- Research measures to address earthquake-related stress and promote wellbeing
- Adequate resources for primary care and hospitals for CVD management & prevention



Acknowledgements

- Healthier Lives is funded by MBIE
- Access to the data presented was managed by Statistics New Zealand under strict micro-data access protocols and in accordance with the security and confidentiality provisions of the Statistic Act 1975. These findings are not Official Statistics.
- The opinions, findings, recommendations, and conclusions expressed are those of the researchers, not Statistics NZ, or MBIE.
- Lancet Planetary Health, 7th September 2017