UNIVERSITY OF AUCKLAND /Waipapa Taumata Rau NEW ZEALAND

MEDICAL AND HEALTH SCIENCES

# MULTIMORBIDITY PATTERNS AND AGED RESIDENTIAL CARE ADMISSIONS IN AOTEAROA NEW ZEALAND


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## BACKGROUND

Multimorbidity increases with age, present in up to 82% of individuals aged over 85 years. It is complex and impacts patients' quality of life, health outcomes, and health care utilisation. Healthcare costs are 2.5 times higher for those with multimorbidity than for those with a single disease (Violan C. et al., PLoS ONE, 2014). These highlight the impact of multimorbidity on the health system with the ageing population. Accurate identification of multimorbidity patterns using real-world data is needed to inform cluster-specific interventions transferable to the primary care setting.

## AIMS

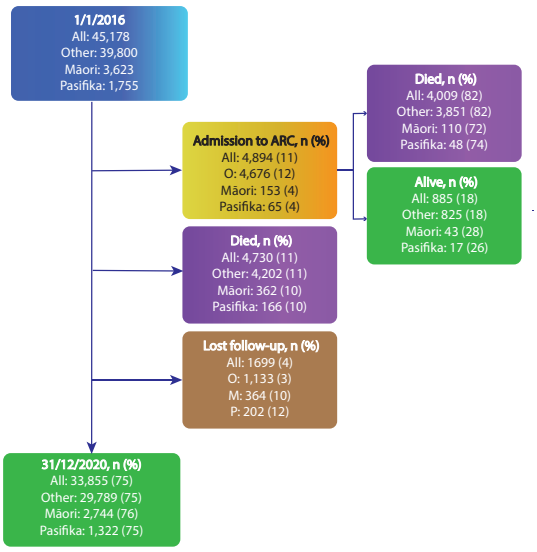
To identify multimorbidity patterns and their impact on aged residential care admissions in community-dwelling older adults.

## METHODS

- Sample: Adults aged 65+ (55+ Māori and Pasifika) registered with Tū Ora COMPASS Health on 1/1/2016. Study duration five years
- Twelve chronic conditions identified: hypertension, chronic obstructive pulmonary disease (COPD)/asthma, ischemic heart disease (IHD), diabetes, osteoporosis, hypothyroid, stroke, cogestive heart failure (CHF), depression, dementia, neurological disease, and cancer*
- Latent cluster analysis is used to identify multimorbidity patterns.
- Cox-regression models were used to examine the association between multimorbidity pattern and outcomes (aged residential care admission ). ARC admissions were ascertained from InterRAI.
- Analyses were completed separately for Māori, Pasifika people, and non- Māori/non-Pasifika.

## Results

| Study sample | n | M : F (%) | Age, mean (SD) |
|---|---|---|---|
| All | 45,178 | 46 : 54 | 73.6 (8.2) |
| non- Māori/non-Pasifika (O) | 39,800 | 46 : 54 | 74.7 (7.5) |
| Māori (M) | 3,623 | 46 : 54 | 64.6 (8.1) |
| Pasifika peoples (P) | 1,755 | 44 : 56 | 65.6 (8.2) |

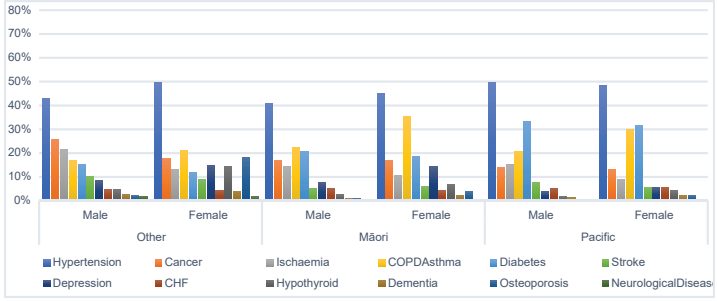



**The average number of condition is 1.6 (median 1)**

30% of the sample had one of the twelve condition; 25% had two, and 23% had three or more conditions.

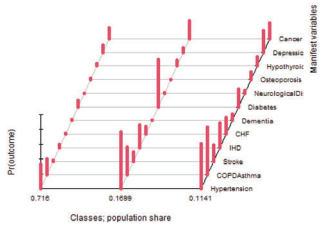
**Prevalence of conditions by ethnic groups**

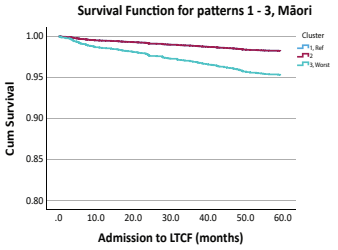
- More than 30% of Māori and Pasifika women had COPD/asthma
- More than 30% of Pasifika sample had diabetes
- One of five nonMāori/nonPasifika women had osteoposis



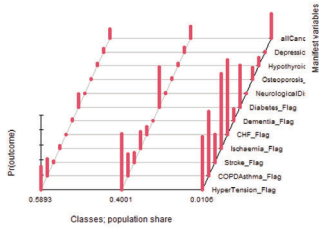

**Patterns of multimorbidity and 5y admission to Aged Residential Care**

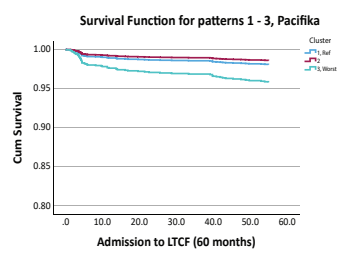
Māori



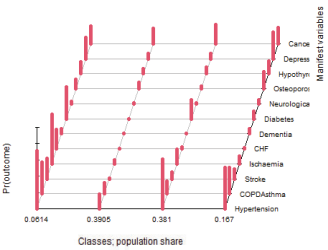



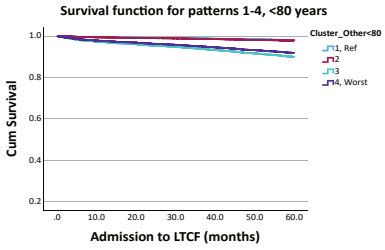

Pasifika



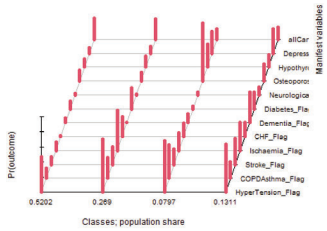



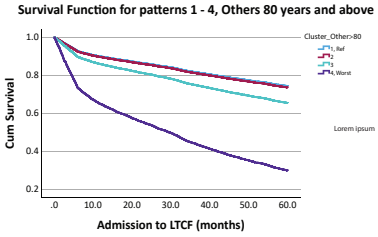

Others <80 vears




Others, ≥80 years




## Summary

- The prevalence of chronic conditions differed between ethnic groups and sex.
- Conditions clustered differently in Māori, Pasifika and non-Māori/non-Pasifika adults.
- Māori in cluster-3 had three times higher risk of ARC admission than cluster-1, aHR (95% CI): 2.96 (1.81-4.36).
- Pasifika in cluster-3 did not have a higher risk of ARC admission LTCF than cluster-1.
- nM/nP <80y in cluster-3 had five and half times higher risk of ARC admission (5.48, 4.68-6.41) than cluster-1.
- nM/nP ≥80y in cluster-4 had the highest risk of ARC admission (4.08, 3.67-4.53) than cluster-1.
- In all ethnic groups, there is a trend that those with complex multimorbidity patterns spents more time in the ARC facilities than in the community.
- This study utilised a real-life dataset with a breadth of data points, but it was limited to 12 conditions with good data quality and absence of functional status data.

## Conclusions

- Complex multimorbidity cluster was associated with an increased risk of five-year ARC admission.
- The clustering patterns of conditions are likely to be useful for a more strategic approach to manage multimorbidity better in older adults in primary care settings.


## Acknowledgement

We thank the funder National Science Challenges: Ageing Well.



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