Estimating Dementia Incidence & Prevalence in Aotearoa

‘Etu Ma’u
Senior Lecturer, FMHS, University of Auckland
Consultant Psychiatrist, Te Whatu Ora Waikato
Repositioning Dementia, Sept 2023

MEDICAL AND
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A global health priority

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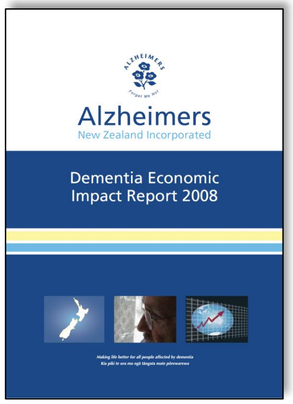
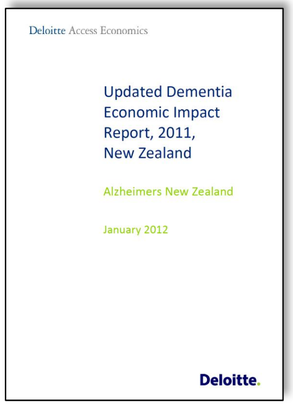
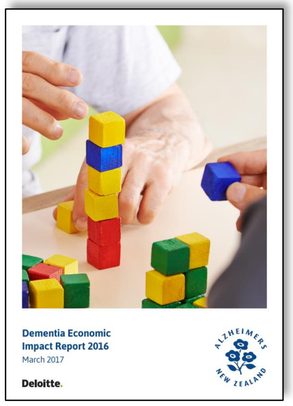


2008



2011



2016

Dementia Economic Impact Report 2020

Prepared for Alzheimers New Zealand
September 2021

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Dementia prevalence

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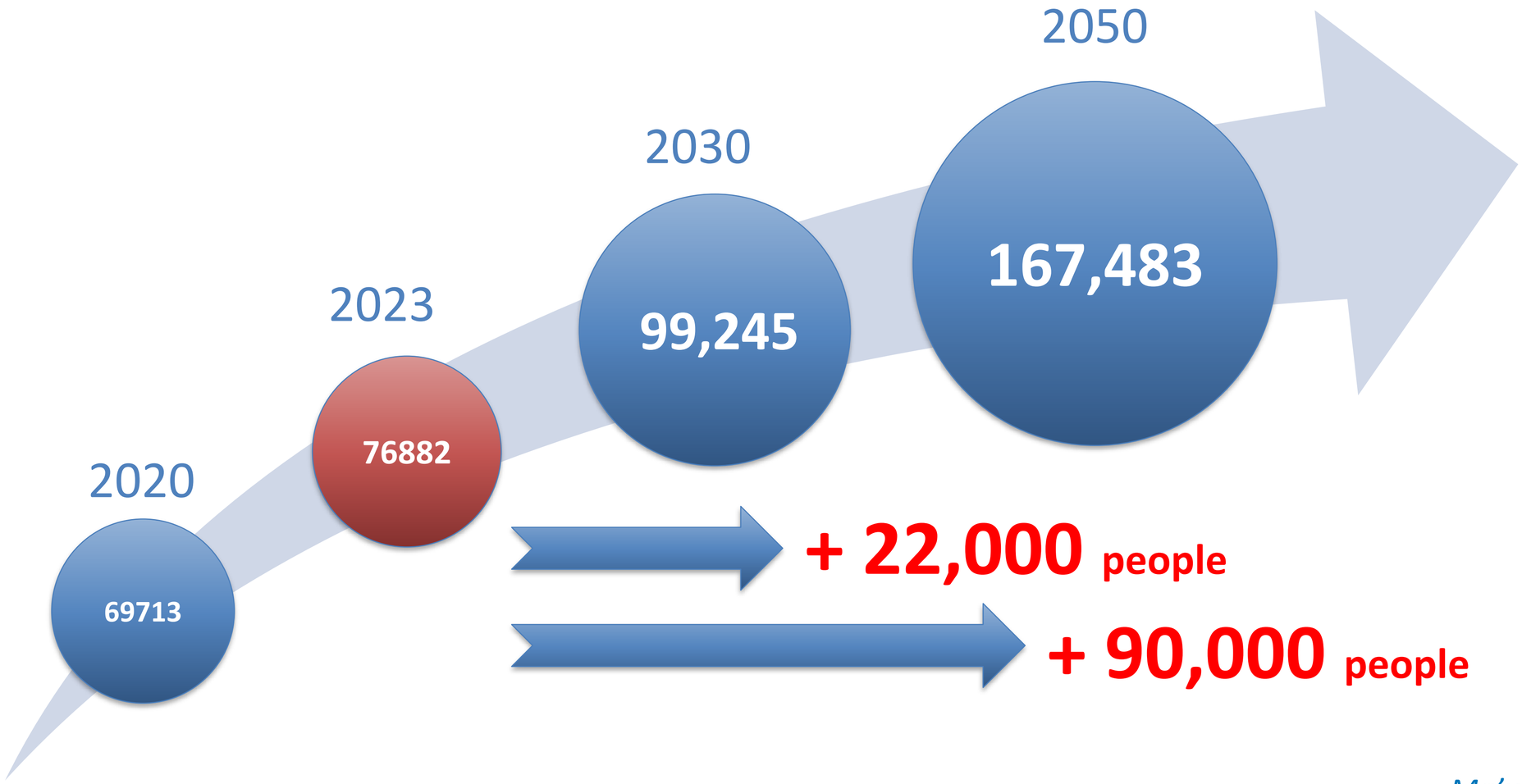
National Projections



Ma'u 2021

Prevalence data for NZ is…sketchy

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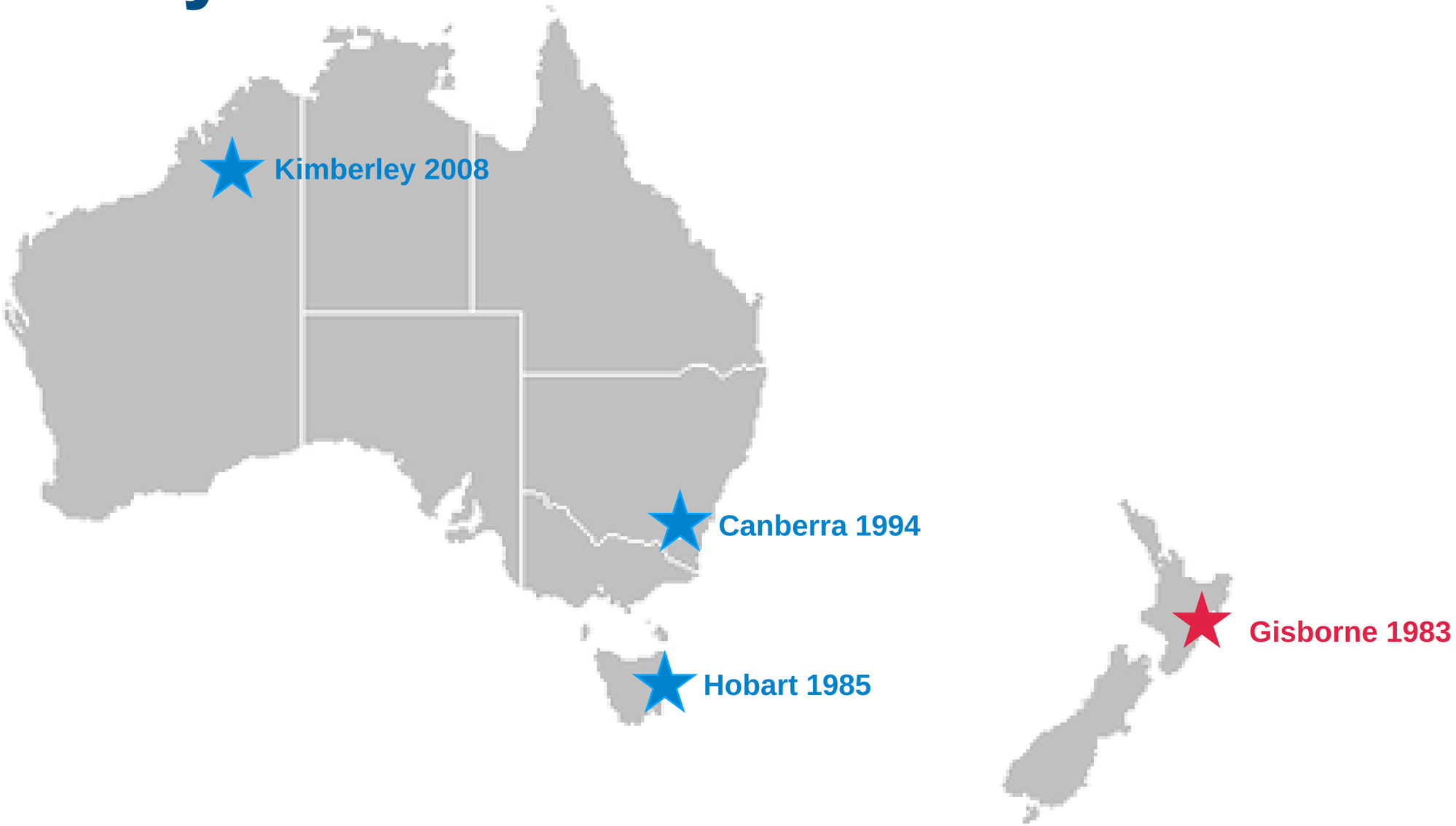

Routinely collected health data - IDI

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Walesby et al 2015

Mortality

Pharmaceuticals

Public Hospital discharges

Cheung et al 2022

Mortality

Pharmaceuticals

Public Hospital discharges

Private Hospital discharges

SOCRATES

interRAI

PRIMHD

NZ Prevalence studies

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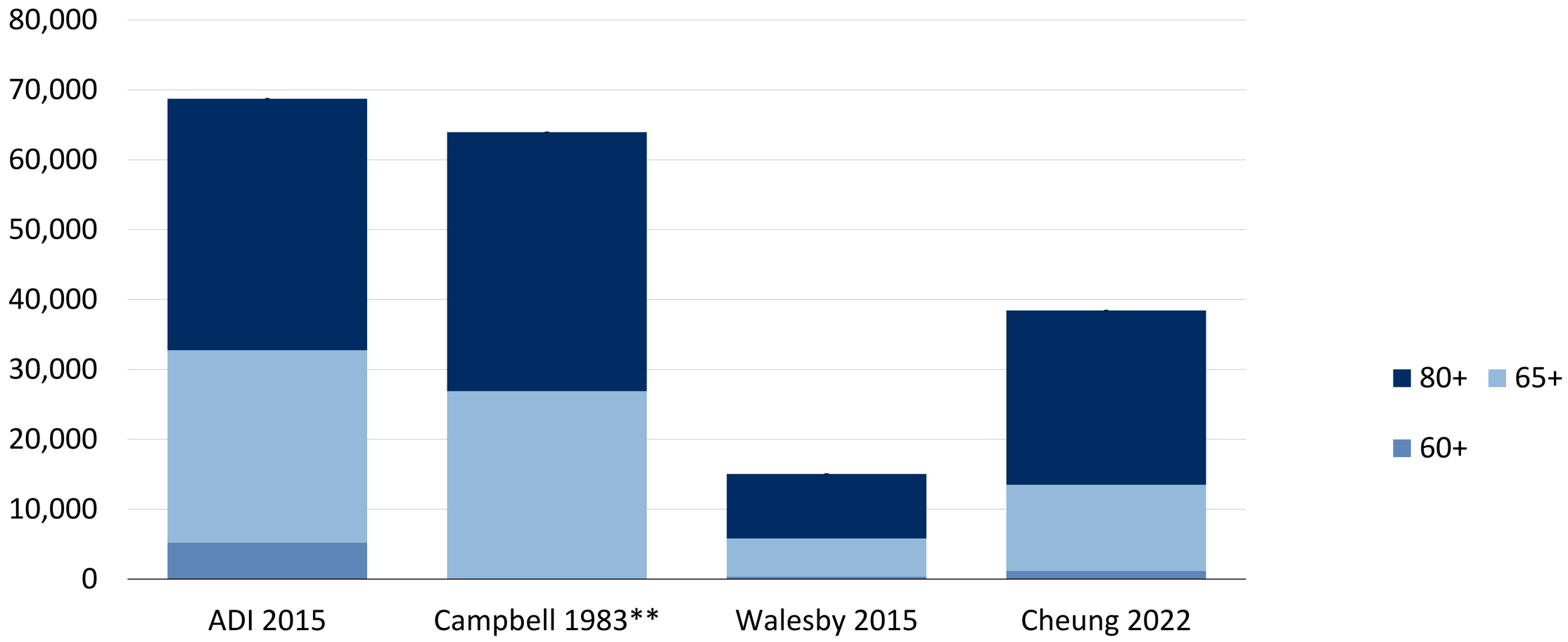

Capture-Recapture

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- ✗ Engage with dataset
- ✗ Diagnosis
- ✗ Coded

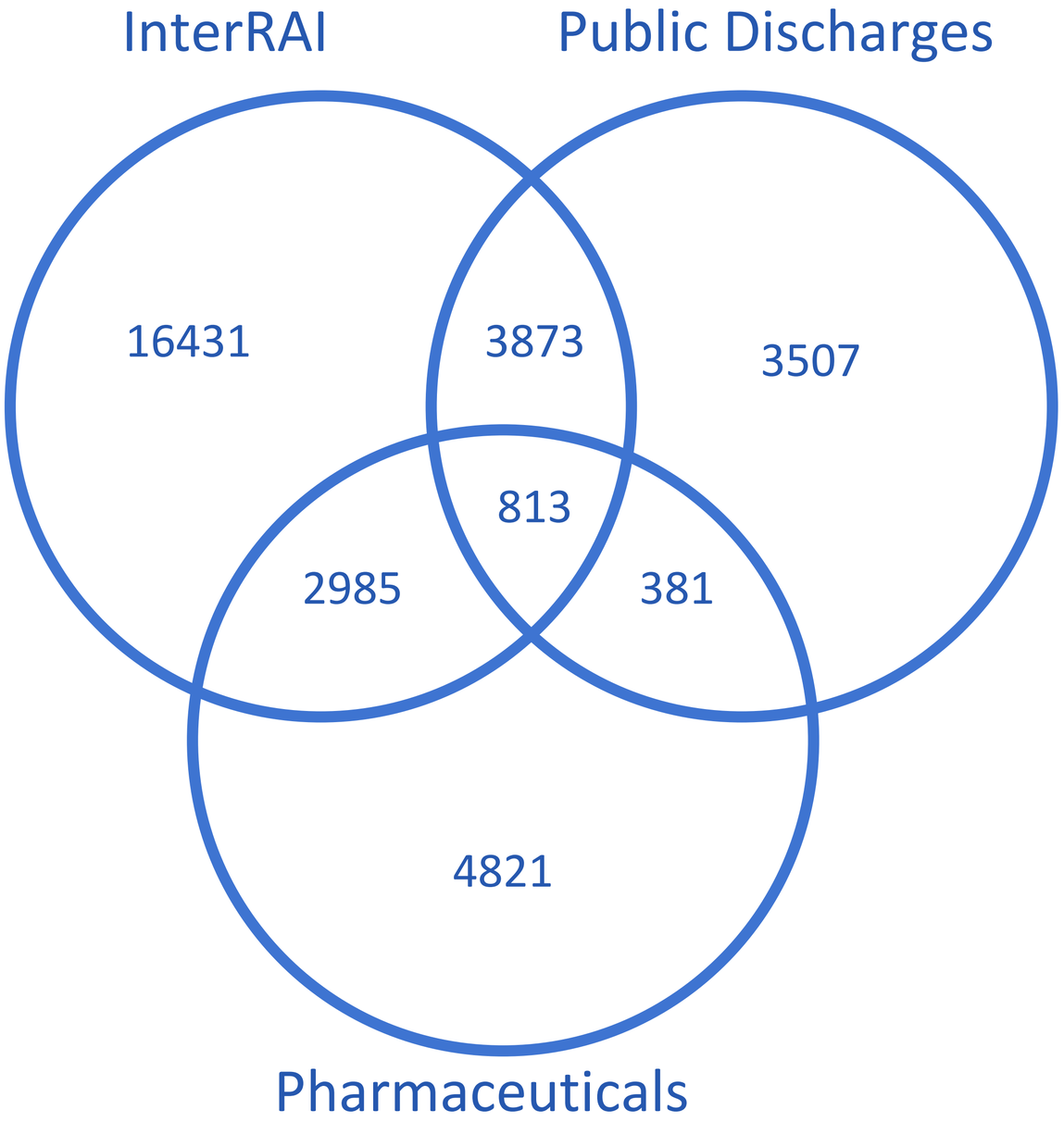
Pharmaceuticals

Public Hospital Discharges	Yes	No
Yes	A	B
No	C	D

Pharmaceuticals

Public Hospital Discharges	Yes	No
Yes	E	F
No	G	H

Who is missing?



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Log Linear Modelling

Capture-Recapture Assumptions

Interactions between datasets

Prevalence by Age band capture -recapture

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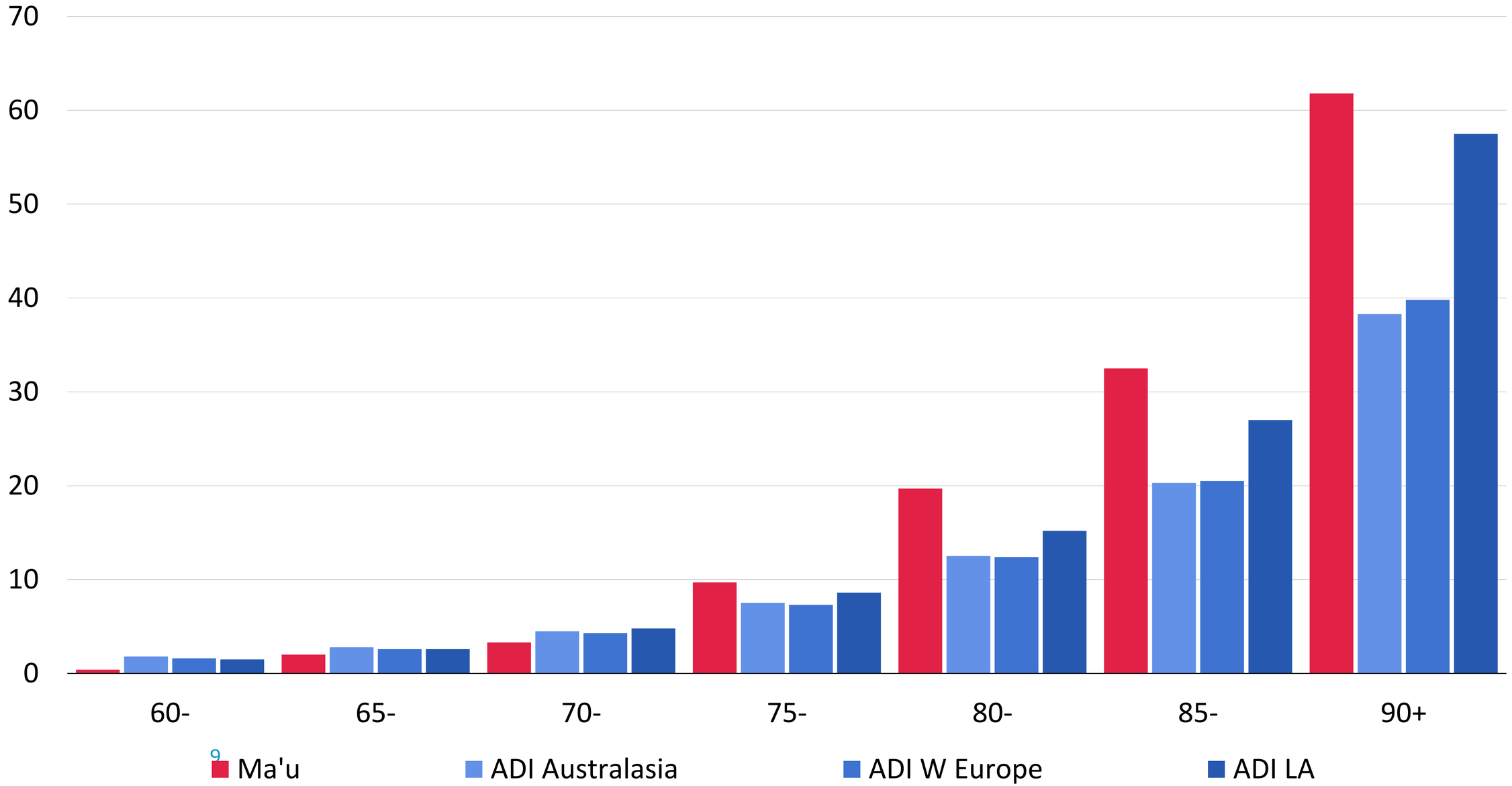

NZ Prevalence (%)

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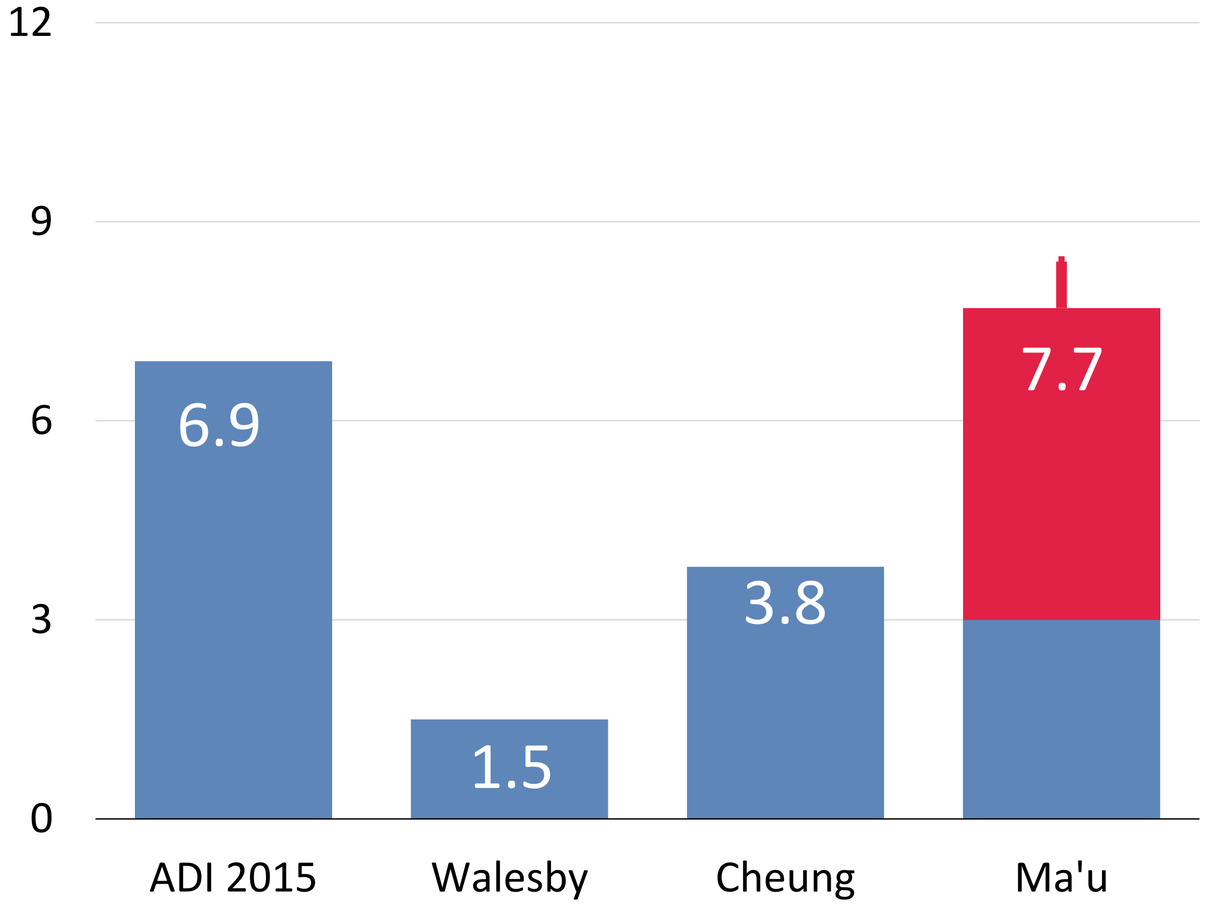
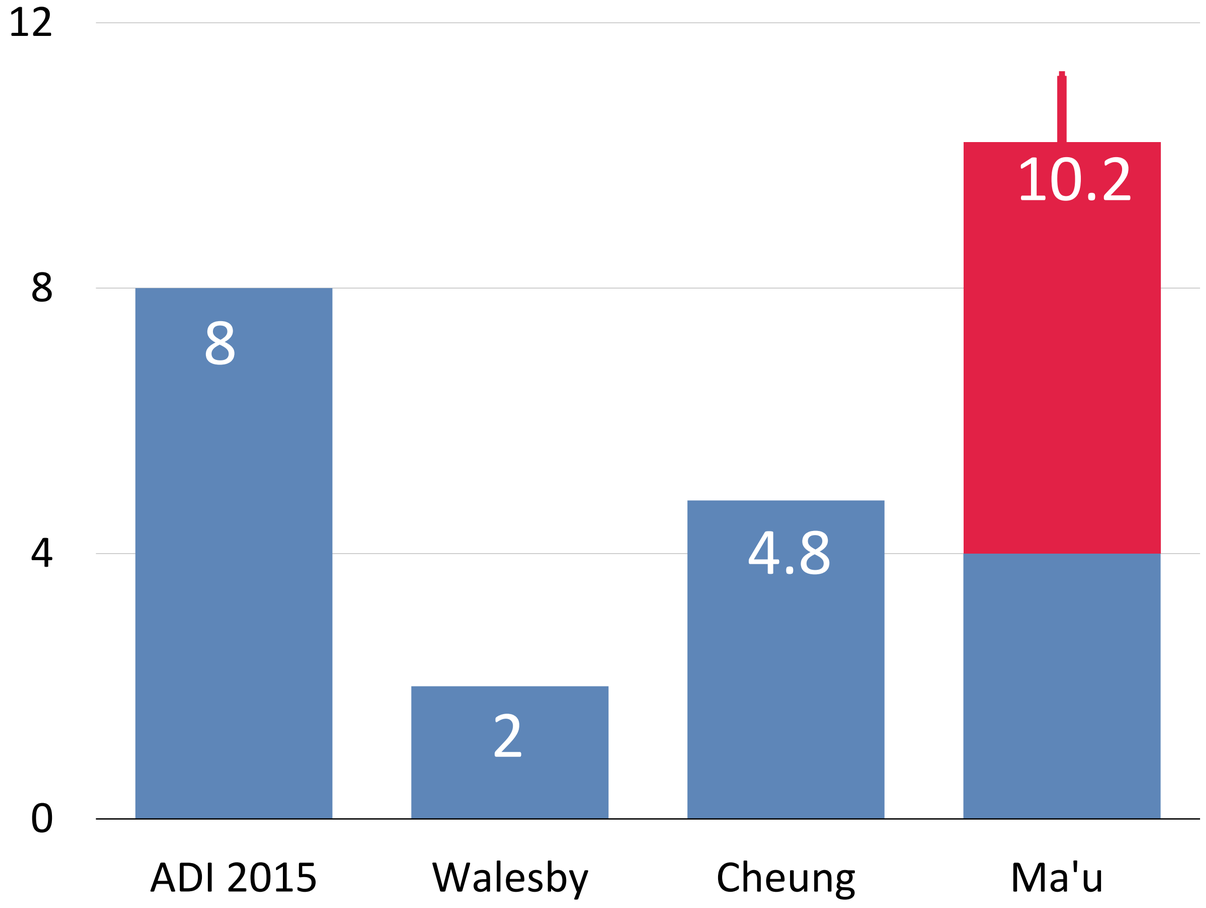
Age 60+



Age 65+



Updated 2023 Prevalence: Capture-Recapture

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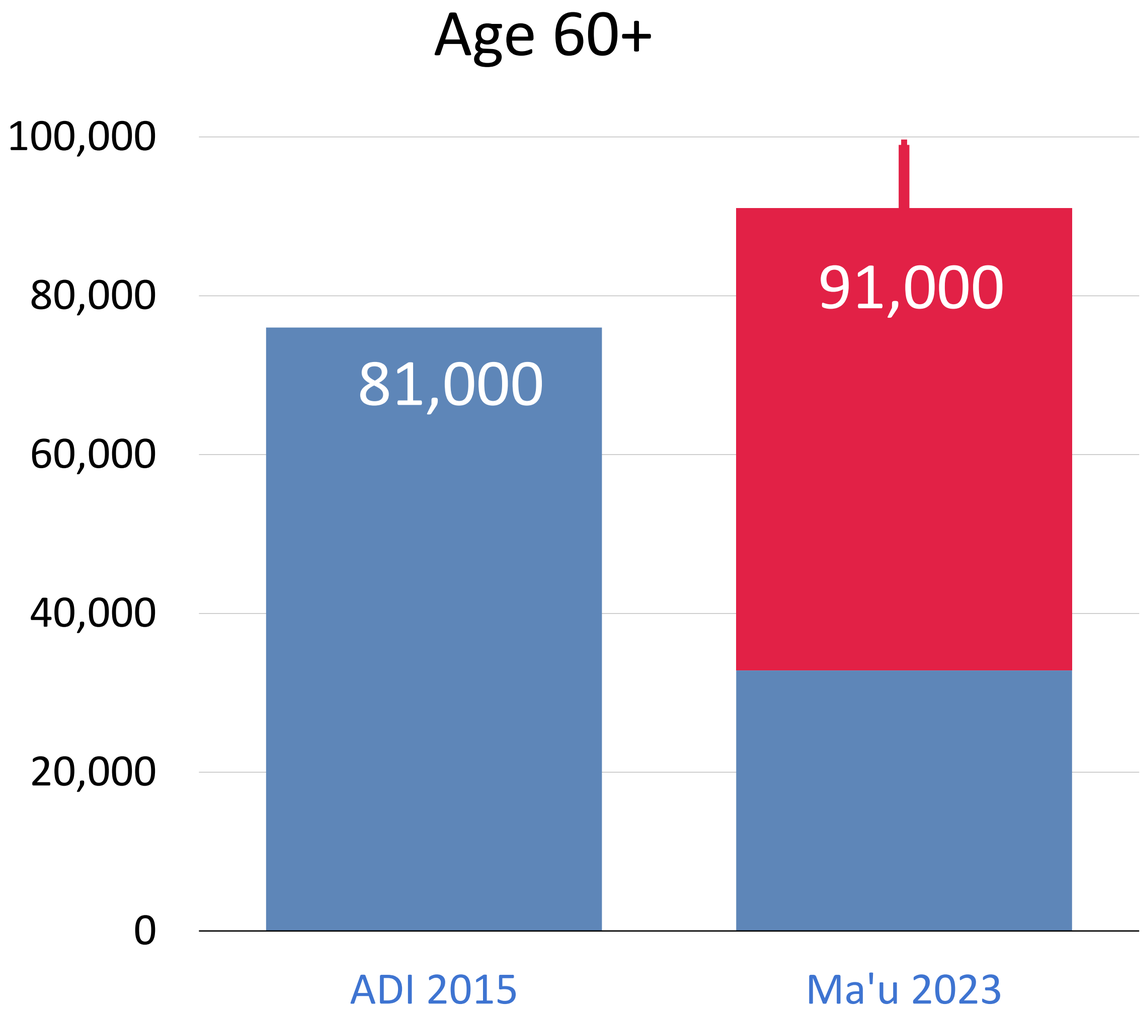

Prevalence projections

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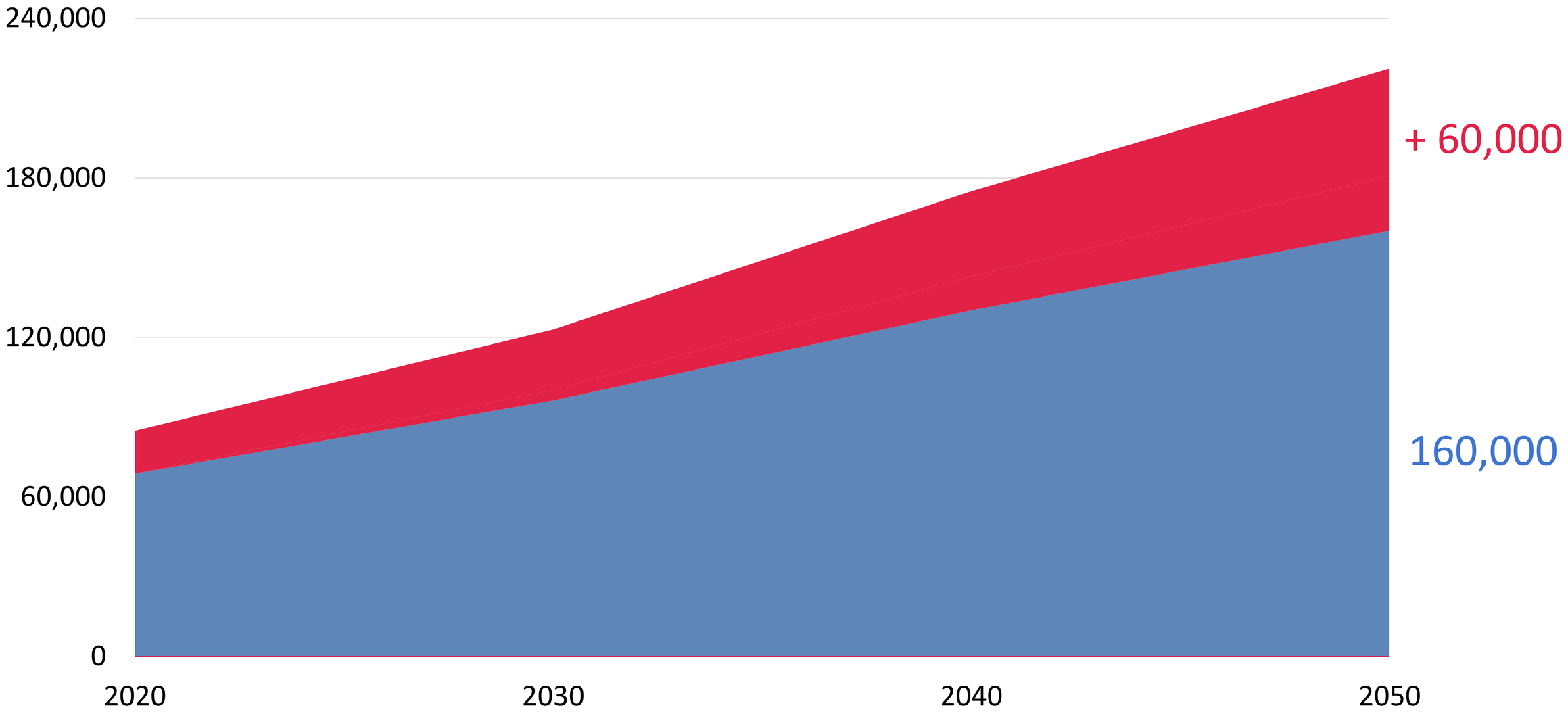

Ma'u 2023

Incidence by age band: Capture-recapture

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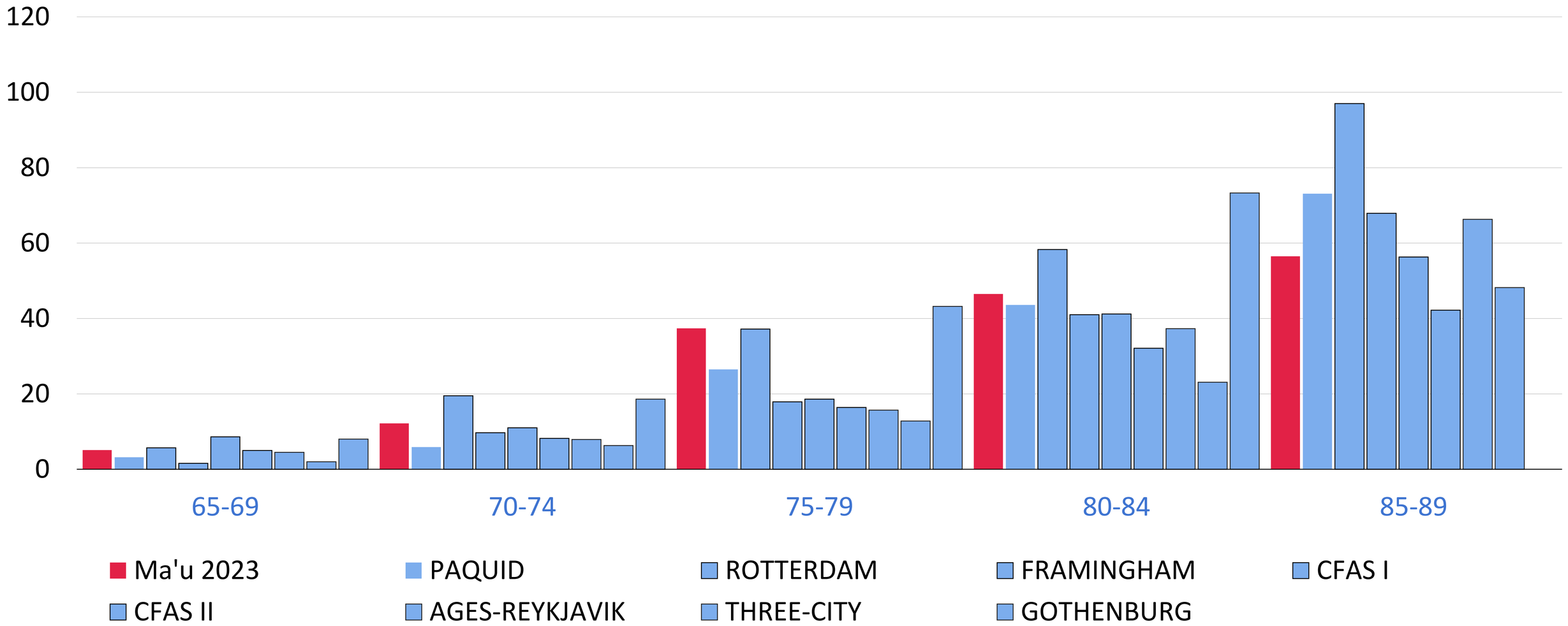

Incidence (per 1,000)

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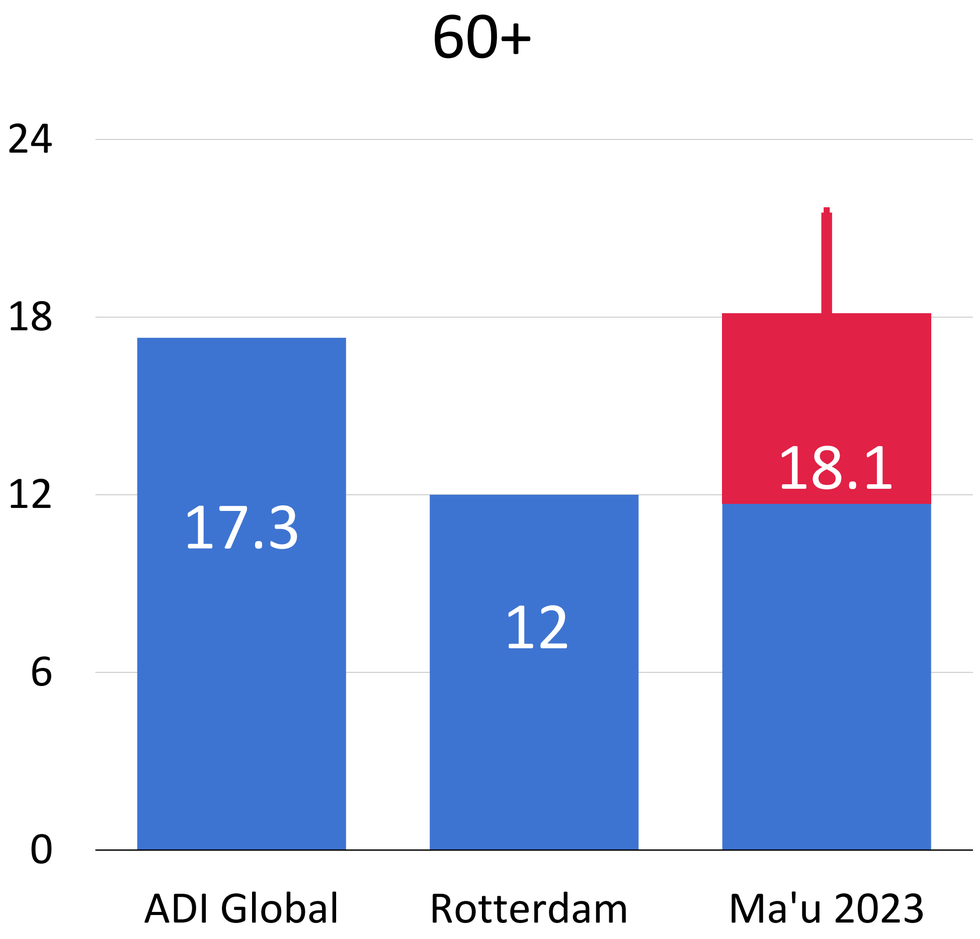

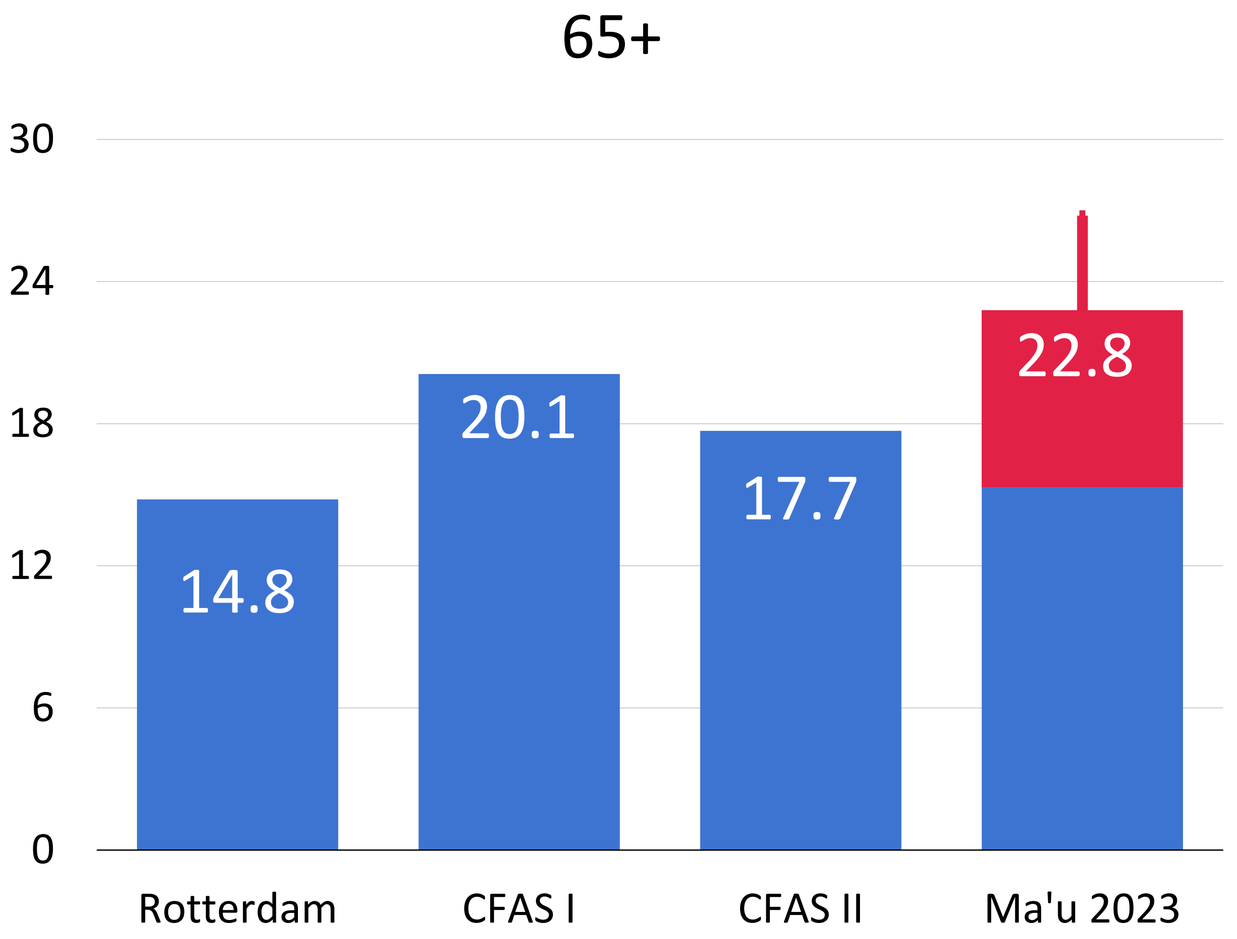

Incidence 2023

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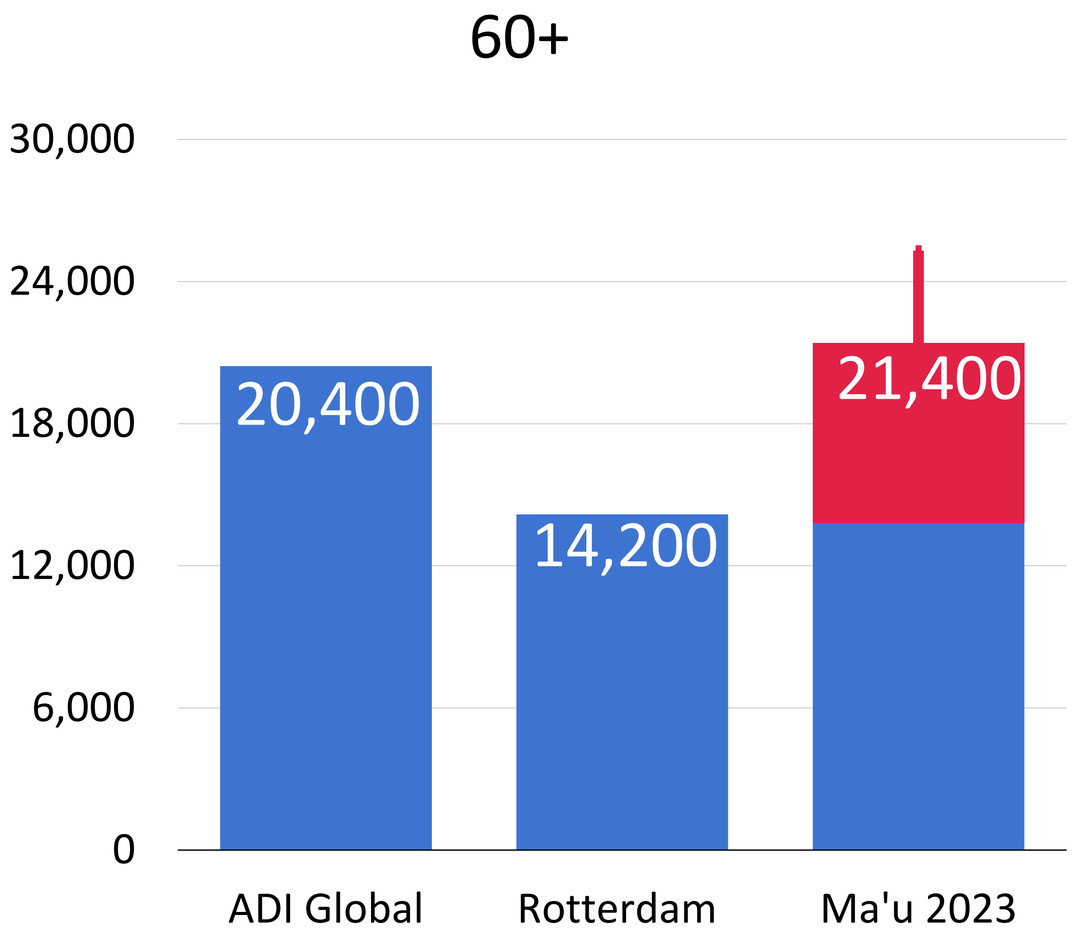

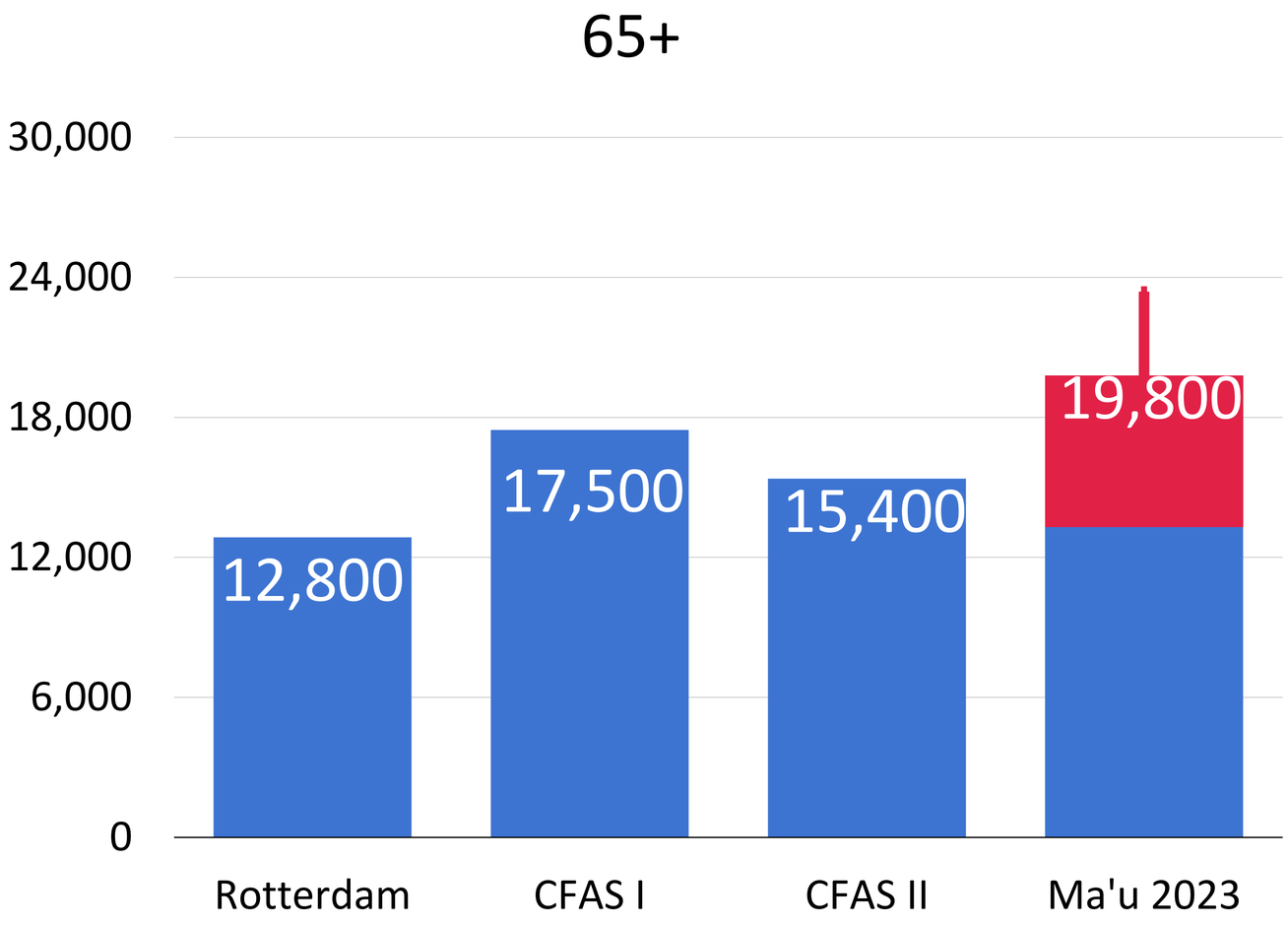

Incidence projections

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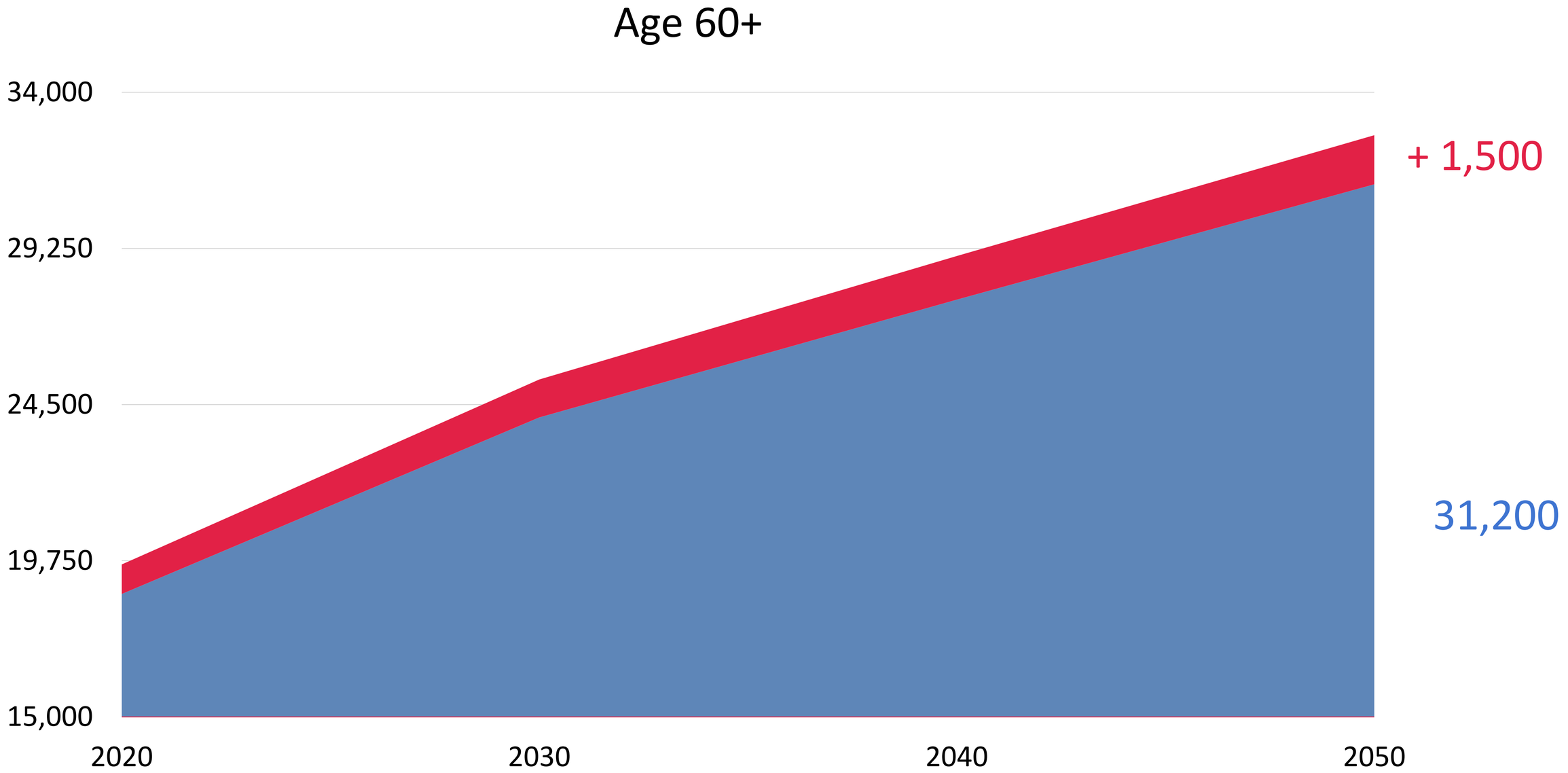

Dementia Prevalence

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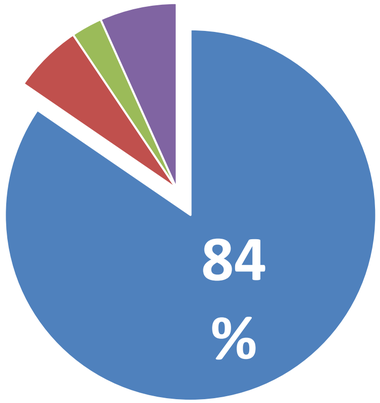
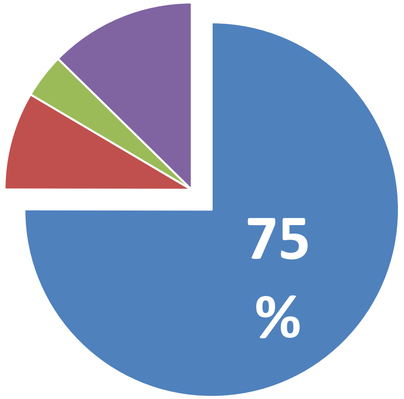
Ethnic projections

2020



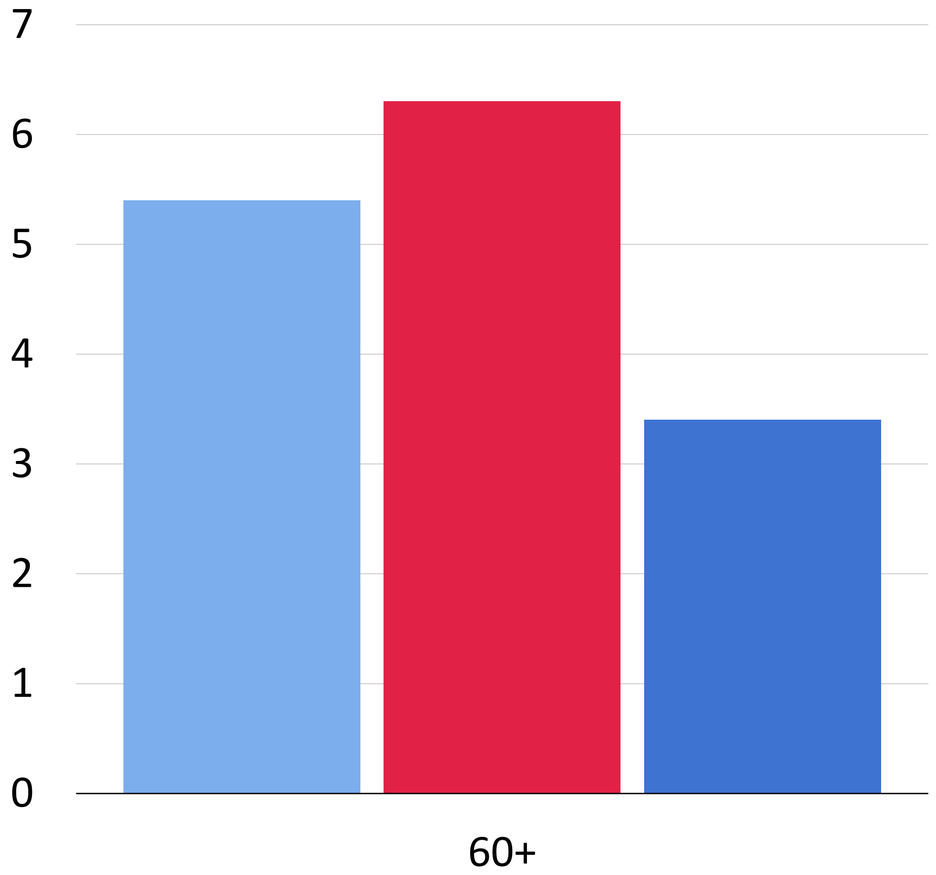
European	>>>	1.8x
Māori	>>>	2.8x
Pacific	>>>	2.8x
Asian	>>>	3.7x

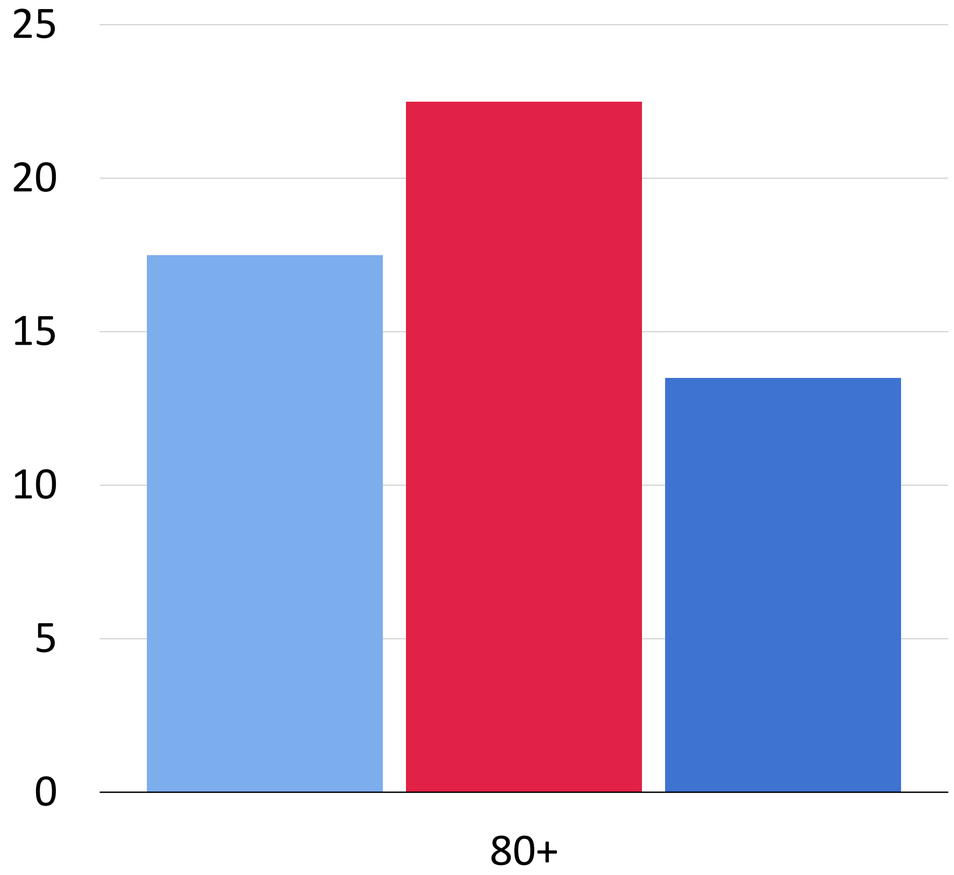
2040



DEIR 2020

Dementia prevalence





Māori Pacific European

Cheung et al 2022

Young Onset dementia

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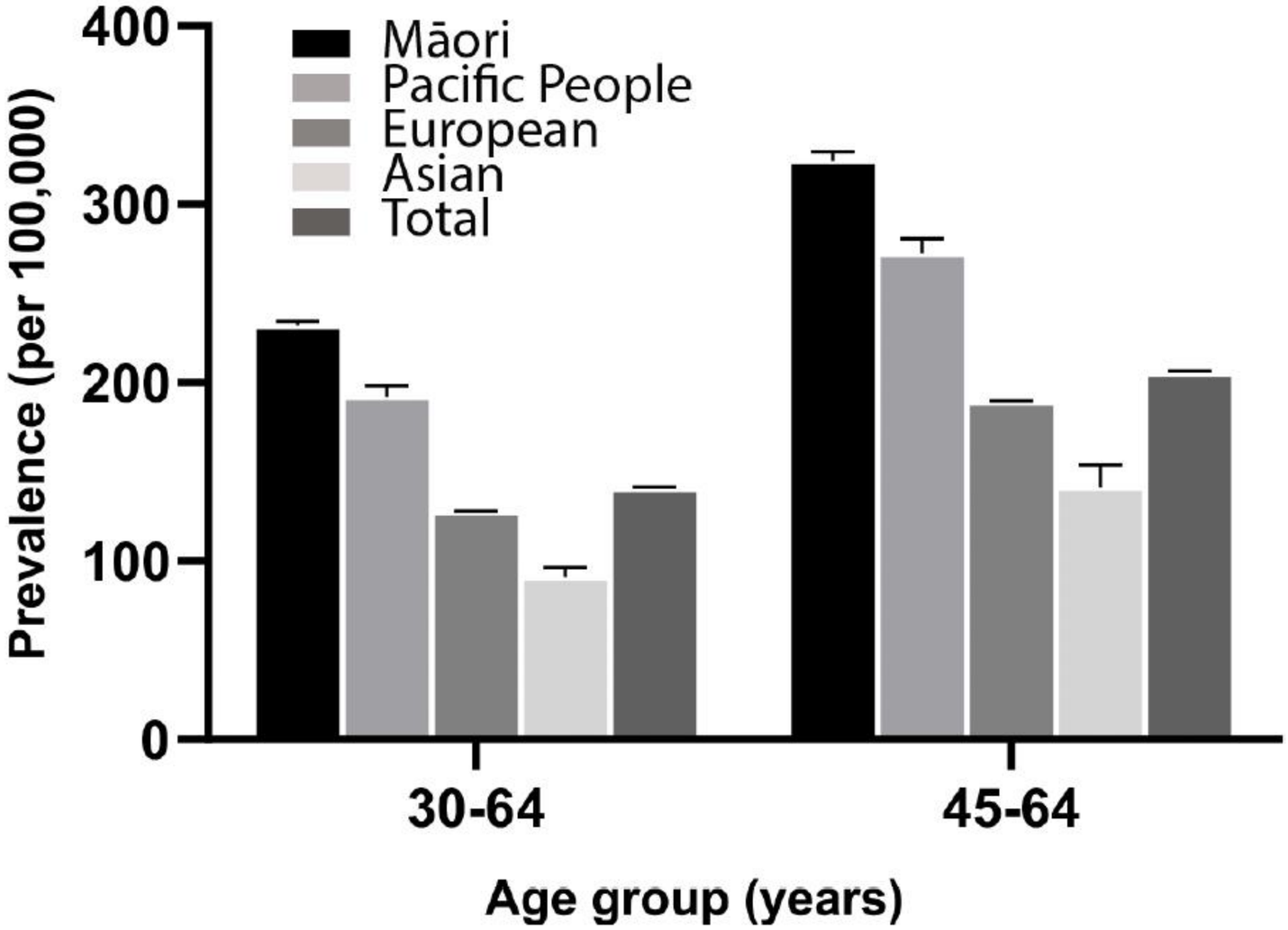
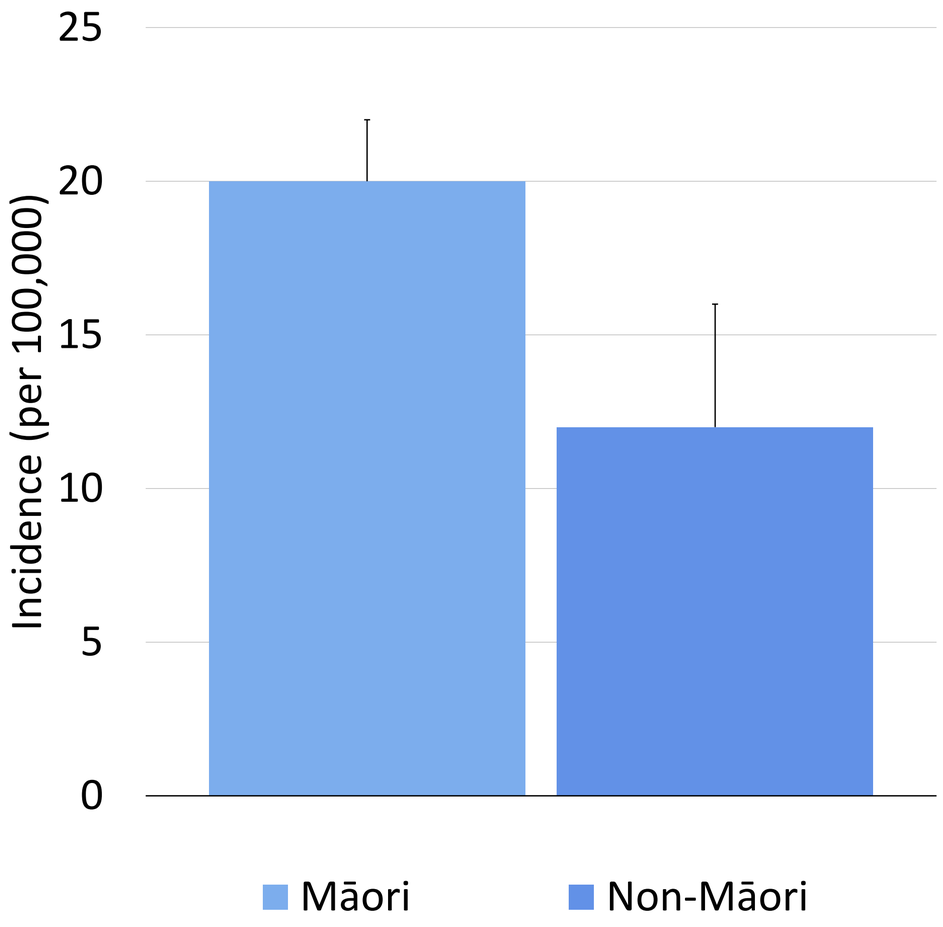
Prevalence



Incidence

p=.09



Ryan et al 2022

Fonseka et al 2022

Dementia prevention potential in NZ

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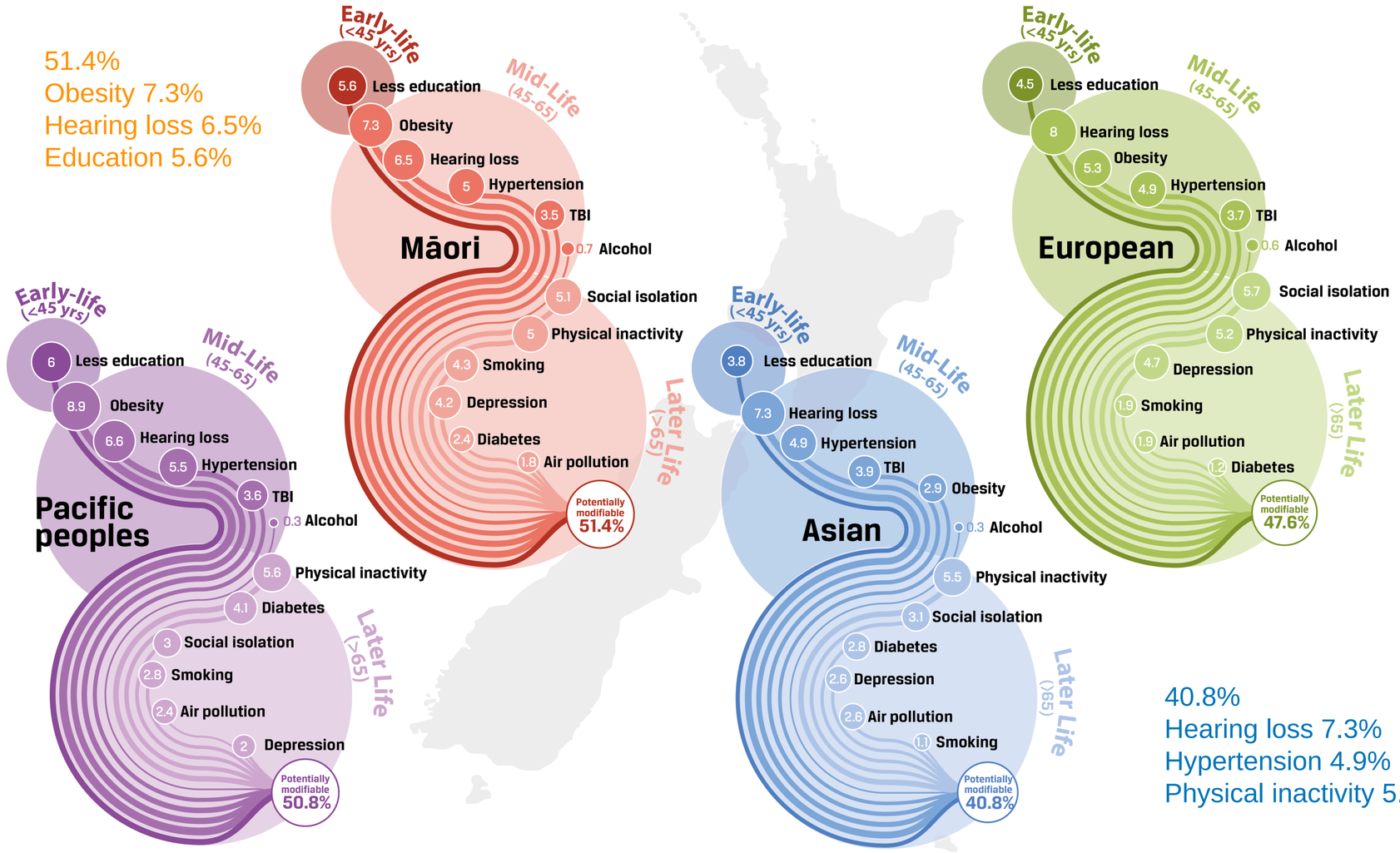
51.4%
Obesity 7.3%
Hearing loss 6.5%
Education 5.6%



47.6%
Hearing loss 8%
Social isolation 5.7%
Obesity 5.3%

50.8%
Obesity 8.9%
Hearing loss 6.6%
Education 6%

40.8%
Hearing loss 7.3%
Hypertension 4.9%
Physical inactivity 5.5%

Ma'u et al 2021

Dementia Incidence

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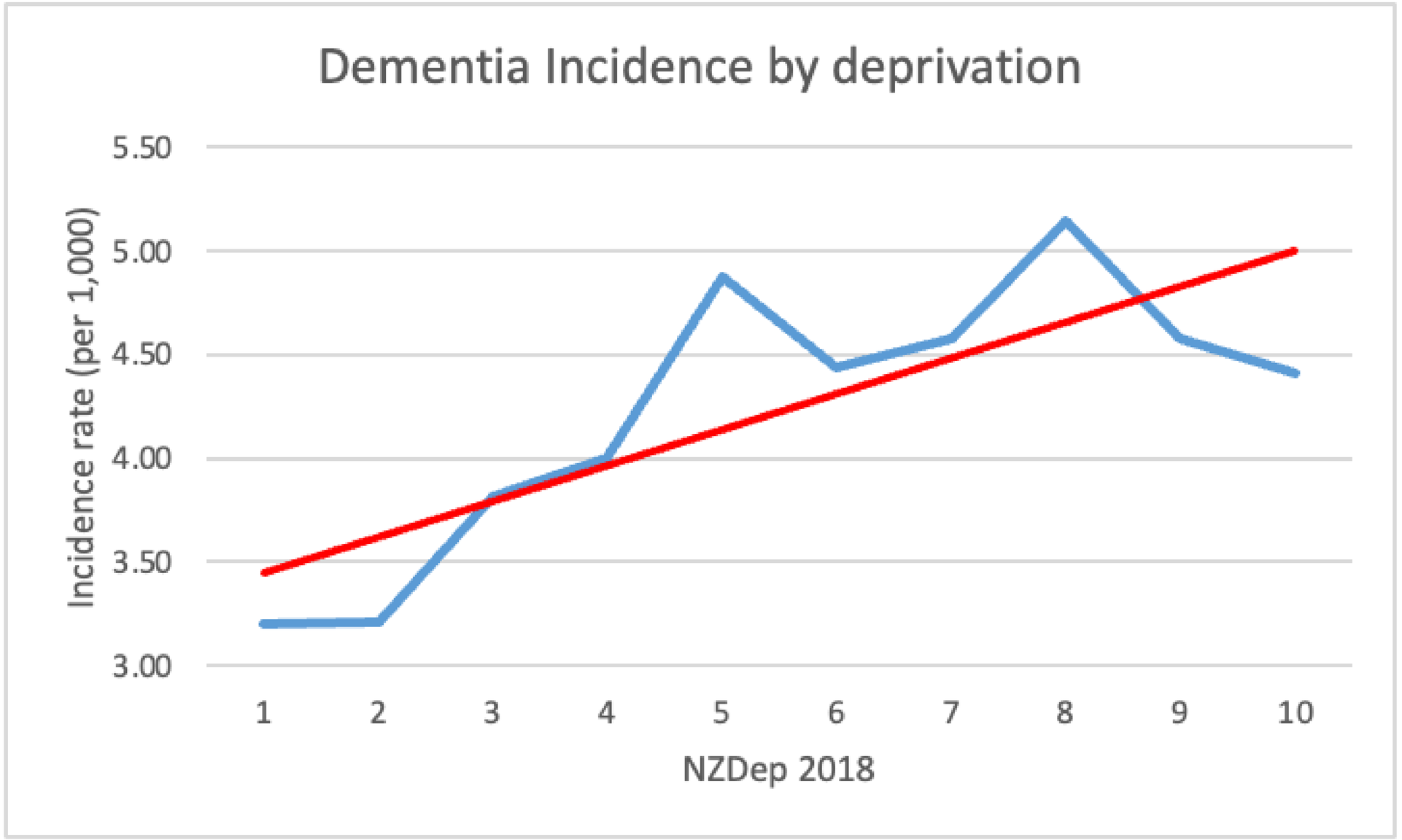

Ma'u et al (unpublished data)

Deprivation

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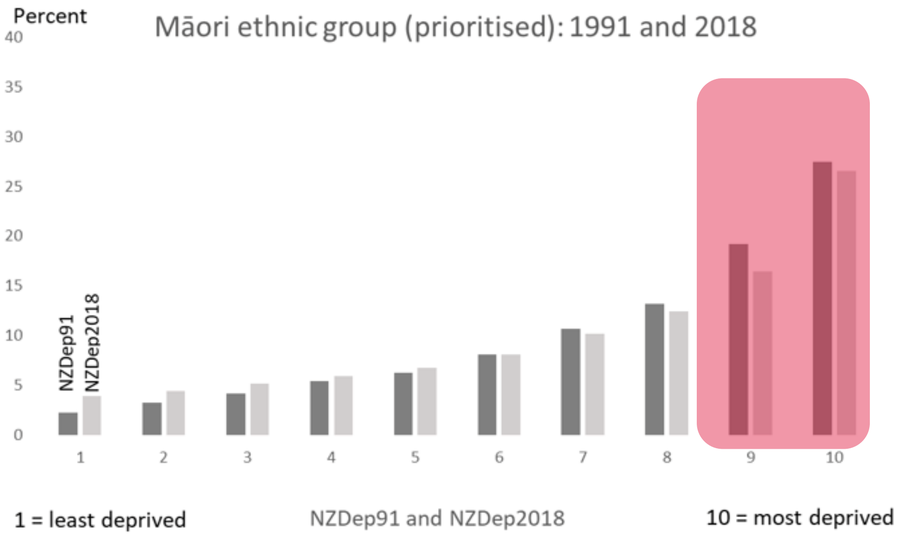

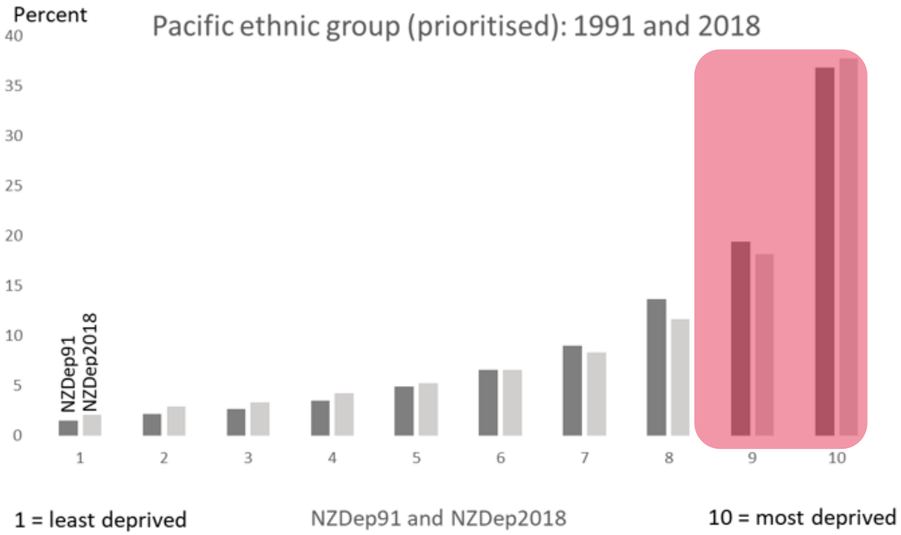

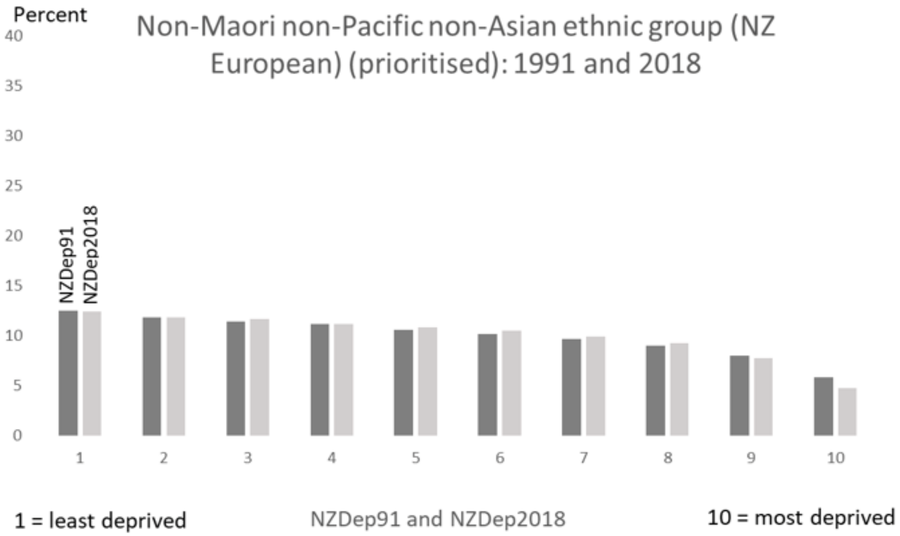

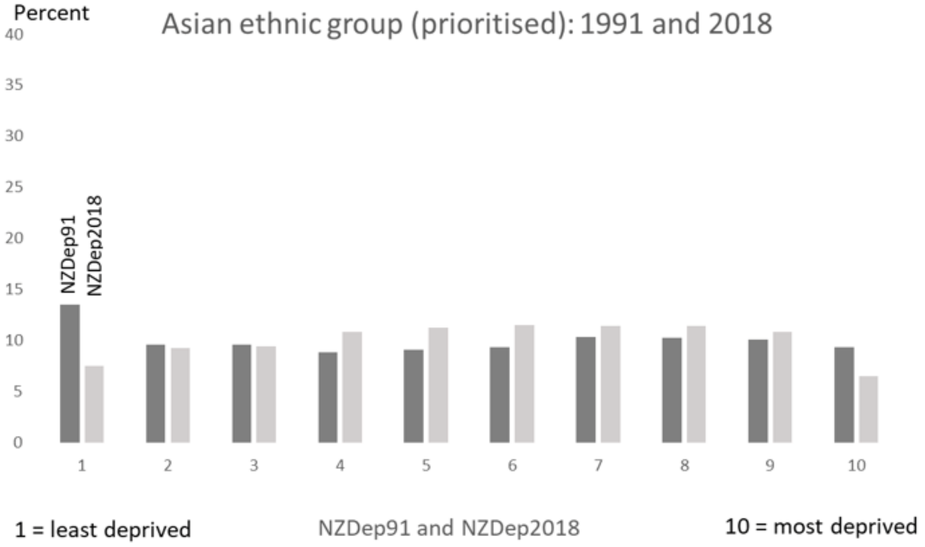

Crampton 2020

RR individual factors

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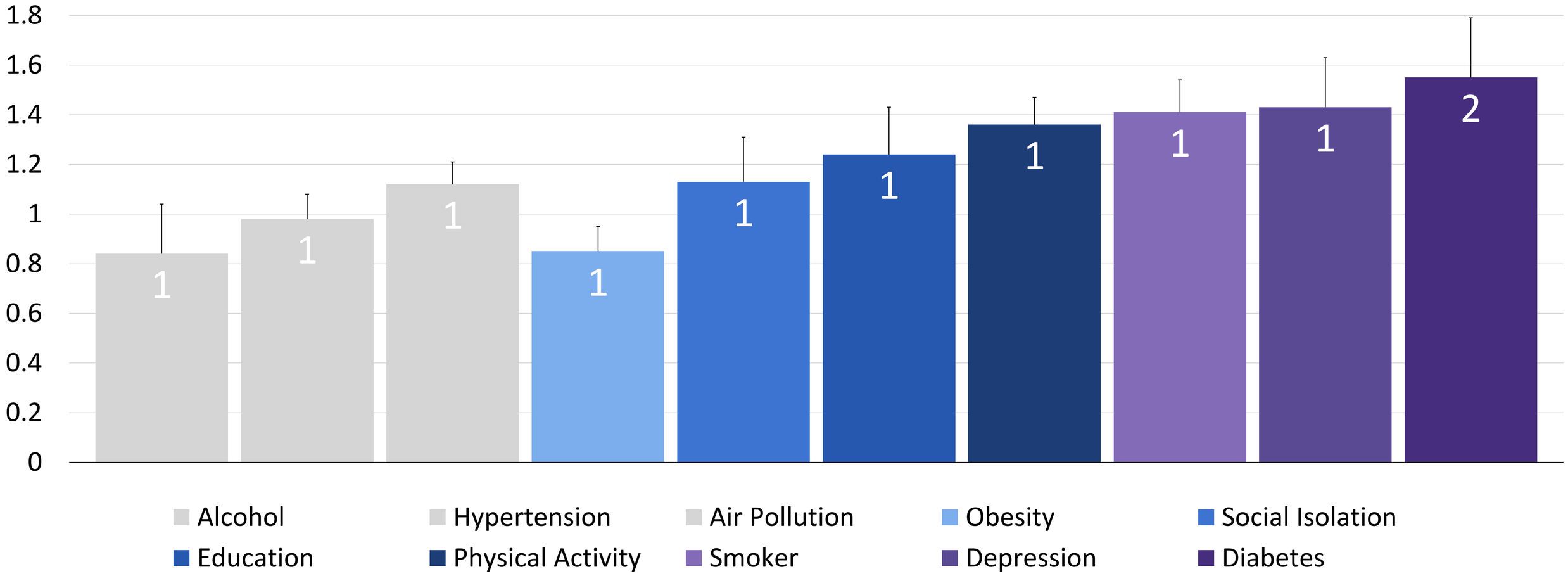

Ma'u 2023 (unpublished data)

NZ vs Lancet

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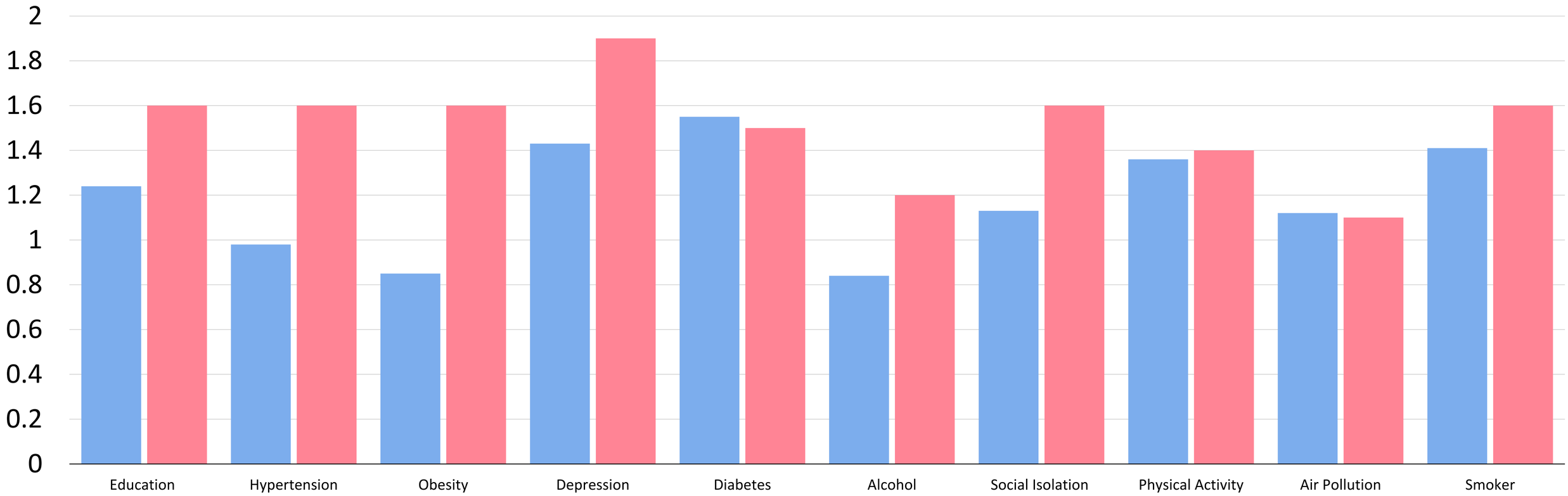

Livingston 2020; Ma'u 2023 (unpublished data)

RR individual factors

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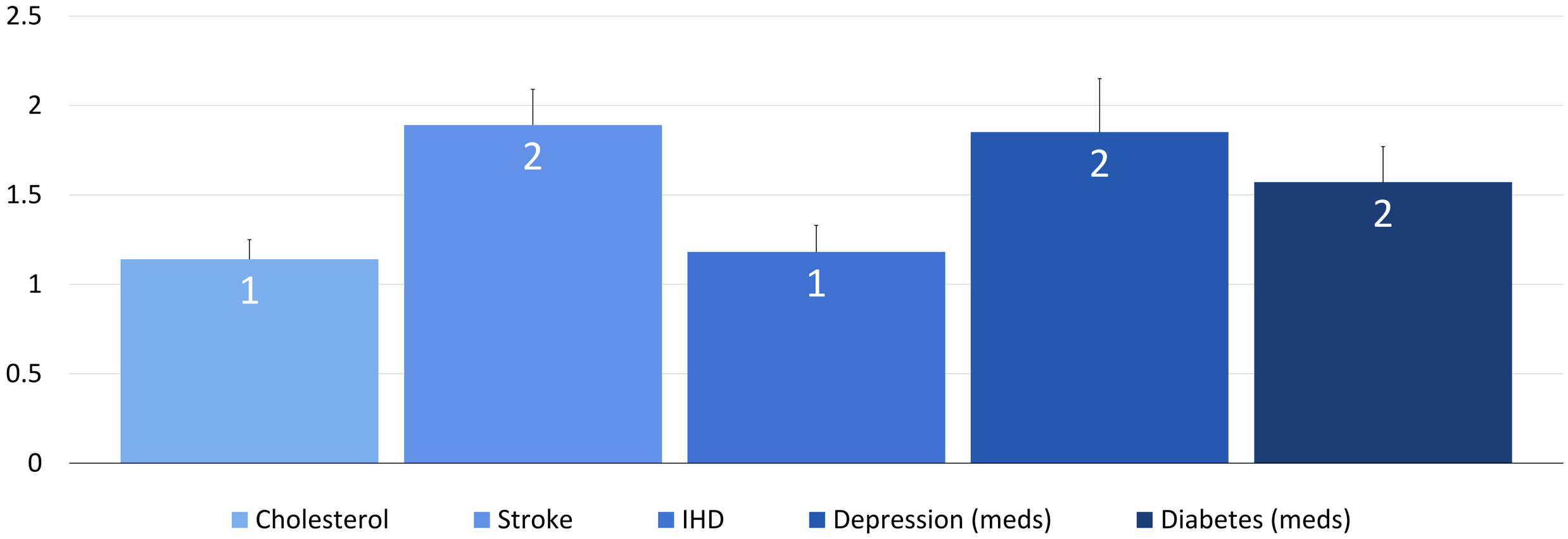

Ma'u 2023 (unpublished data)

RR Full model

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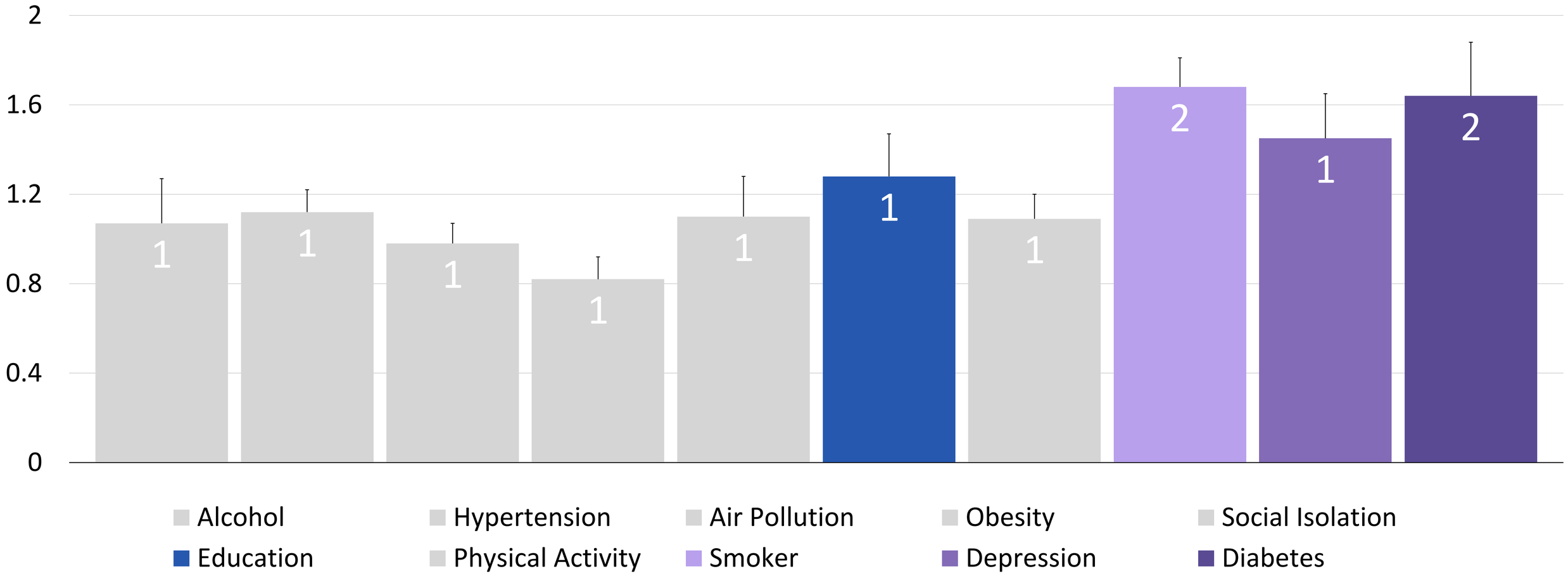

Ma'u 2023 (unpublished data)

Dementia prevalence

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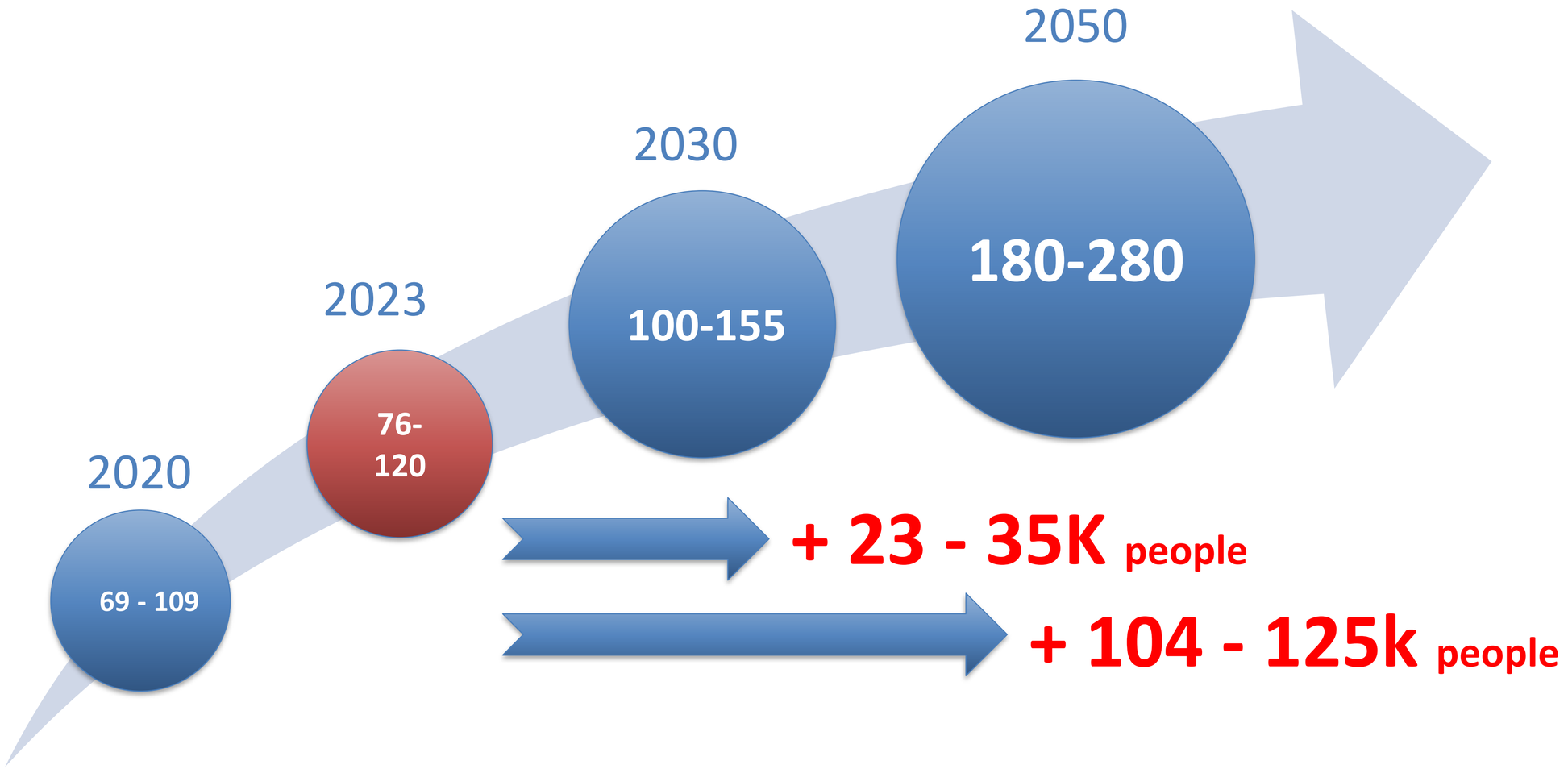
National Projections capture-recapture 95% CI (Thousands)



Ma'u 2023 (unpublished data)

Conclusions

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DEIR 2020 figures are likely underestimated by **12-25%,** which means that by 2025

~100,000 people living with dementia in Aotearoa

~20,000 new cases per year

Risk reduction is a priority

Tailored approaches are needed

We urgently need to address poverty