



**Australian Government**  
**Australian Institute of  
Health and Welfare**

# Exploring the health of culturally and linguistically diverse (CALD) populations in Australia: Using the MADIP

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Stronger evidence,  
better decisions,  
improved health and welfare

# Cultural and Linguistic Diversity

## ❖ Why look at the CALD population?

- Priority population for prevention and management of chronic disease
- Greater challenges when dealing with health system, variations in health risk
- Under-represented in health research/reporting and datasets

Health of CALD populations underreported

## ❖ How do we define CALD?

- No universally accepted definition
- Country of birth (COB) most commonly collected and reported
- COB can not adequately reflect diversity among CALD populations

Challenging to identify cultural and linguistic diversity

# Items for identifying CALD populations

## ❖ ABS recommended data items for determining cultural and linguistic background

<b>Core items</b>	<b>Country of birth</b> <b>Main language other than English spoken at home</b> <b>Proficiency in spoken English</b> <b>Indigenous status</b>
<b>Recommended additional items</b>	<b>Ancestry</b> <b>Country of birth of father</b> <b>Country of birth of mother</b> First language spoken Languages spoken at home <b>Main language spoken at home</b> <b>Religious affiliation</b> <b>Year of arrival in Australia</b>

Items in bold are collected in the Census

## ❖ Data in MADIP:

- Census of Population and Housing: 2016
- National Health Survey (NHS): 2014-15, 2017-18
- Deaths Registrations: 2007-2017
- Migration: 2006-2016
- Medicare Benefits Schedule (MBS): 2011-2016
- Pharmaceutical Benefits Schedule (PBS): 2011-2016

Inclusion of the Census—a more comprehensive investigation of CALD than is possible with the other datasets alone.

# Current CALD project

## ❖ First stage: Technical Paper

- Explore CALD variables in MADIP
- Assess selected health status and outcomes of the CALD populations.

## ❖ Outcomes

- Self-assessed health status (NHS),
- Prevalence of a group of 10 selected long term common chronic conditions (NHS)
- All-cause mortality (Deaths Registrations)

## ❖ Second Stage:

- Informed by the first stage
- A series of analytical products: risk factors, chronic conditions
- Explore differences in health service usage across the life stages for CALD populations

# Conceptual issues

- Challenging to determine exclusion or inclusion criteria to establish a unifying definition for CALD Australians
- Binary classification (e.g. CALD vs non-CALD) can potentially mask health issues of a particular CALD subgroup
- Presenting the data across dimensions of CALD (i.e. specific cultural and ethnic groups) can address the issue
- However, highly disaggregated level of estimates can become impractical (i.e. small population sizes)

## ISSUES

- Present estimates in broad level of aggregations (e.g. Region of birth)
- Where practical, narrow level aggregations (e.g. Country of Birth)
- Supplement estimates with CALD vs Non-CALD (e.g. Born in Australia V Born Overseas)

## SOLUTION

## Analysis file for NHS outcomes

- Restrict Census & NHS to records with a populated Spine ID
- Perform exploratory and validation analyses: Census, NHS, Census vs NHS files & Linked NHS vs Unlinked NHS
- For example, similar proportion of respondents with a particular COB in each of these datasets
- Validation: estimates compared with previous publications AIHW, ABS

### LINKED CENSUS – NHS DATA

- Study population: Adults (aged 18+) who participated in Census + NHS surveys
- High overall linkage rate to Census
- Linkage rates varied by COB (e.g. Higher in residents born in Australia and North-West Europe, lower in residents born in other countries)
- Age-standardisation: (accounting for age structures varying across CALD populations): 10-yr age groupings
- **Outcomes**: Self-assessed health status & prevalence of a group of 10 selected common long term chronic conditions

### STUDY POPULATION

# Analytical issues

- Small number issue particularly apparent when using the linked Census and NHS data for NHS outcomes
- Further disaggregation of the estimates into specific age groups leading to small counts especially within smaller CALD subgroups
- Appending NHS 2014-15 & NHS 2017-18 improved numbers to a certain degree

APPENDING NHS 2014-15 & NHS 2017-18

## ❖ After appending

- Able to report estimates by a considerably greater number of broad level classifications across the CALD characteristics of interest
- Although not as much as the broad level classifications, the number of narrow level classifications also increased
- However, this did not resolve the small number issue completely
- We are still not able to report estimates for all broad/narrow Ancestry classifications

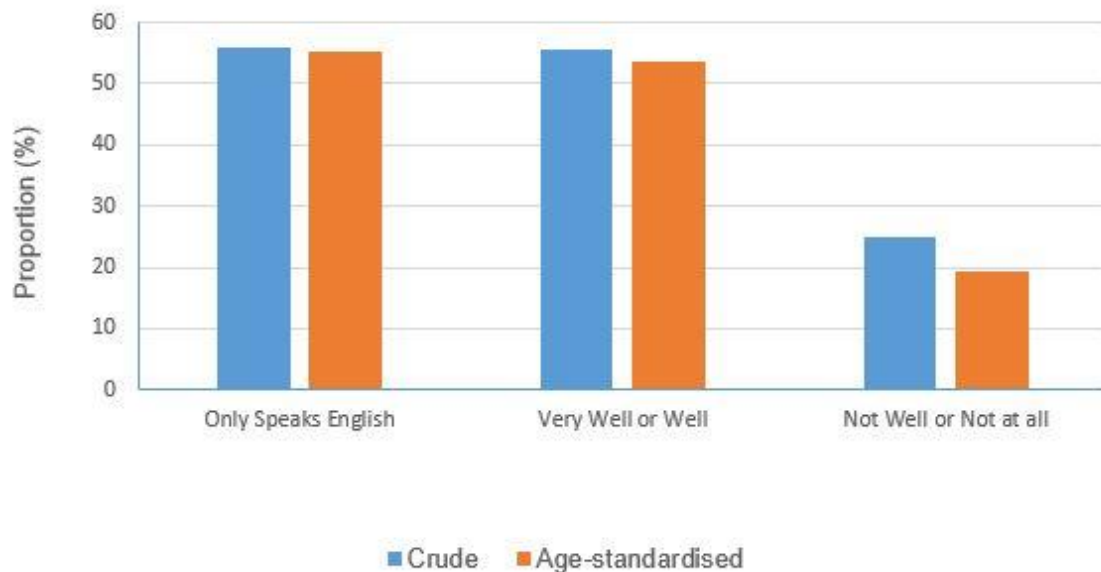
ISSUE NOT COMPLETELY RESOLVED



# PRELIMINARY RESULTS

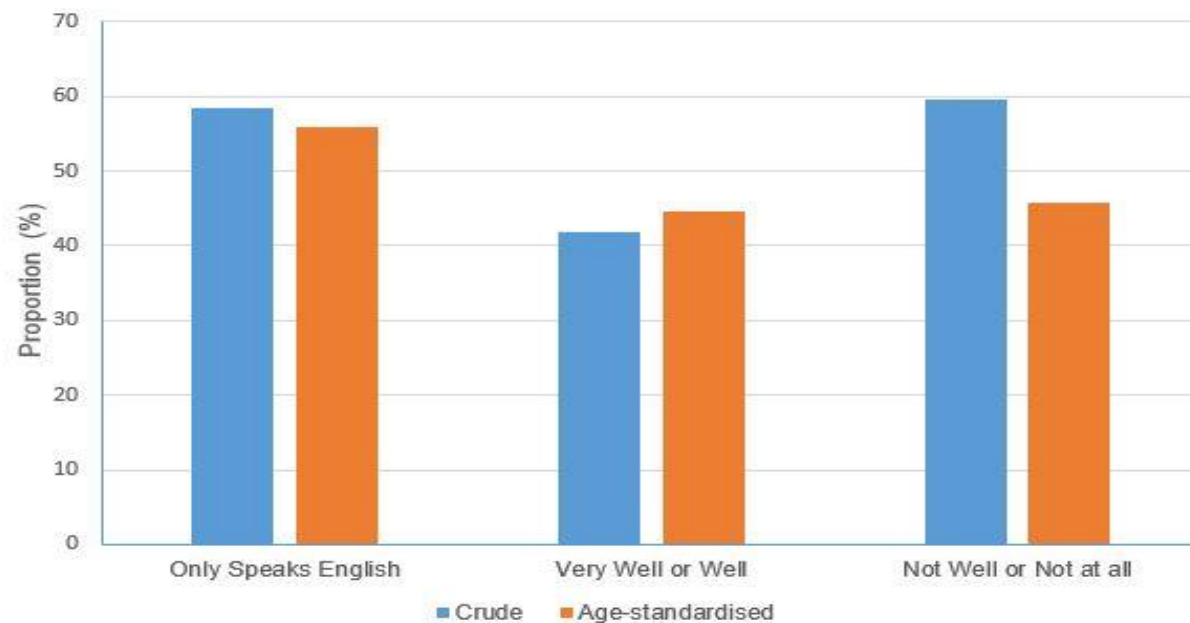
## CALD VARIABLE: PROFICIENCY IN SPOKEN ENGLISH LANGUAGE

Proportion (%) of adults who assessed their health as excellent or very good, by proficiency in spoken English language, persons aged 18 years and over, 2014-15 and 2017-18 combined



Self-assessed health status : Linked Census – NHS (14-15 & 17-18 combined)

Proportion (%) of adults who reported having a long term chronic condition, by proficiency in spoken English language, persons aged 18 years and over, 2014-15 and 2017-18 combined



Long term chronic health condition : Linked Census – NHS (14-15 & 17-18 combined)



# Analysis file for All-cause Mortality Estimates

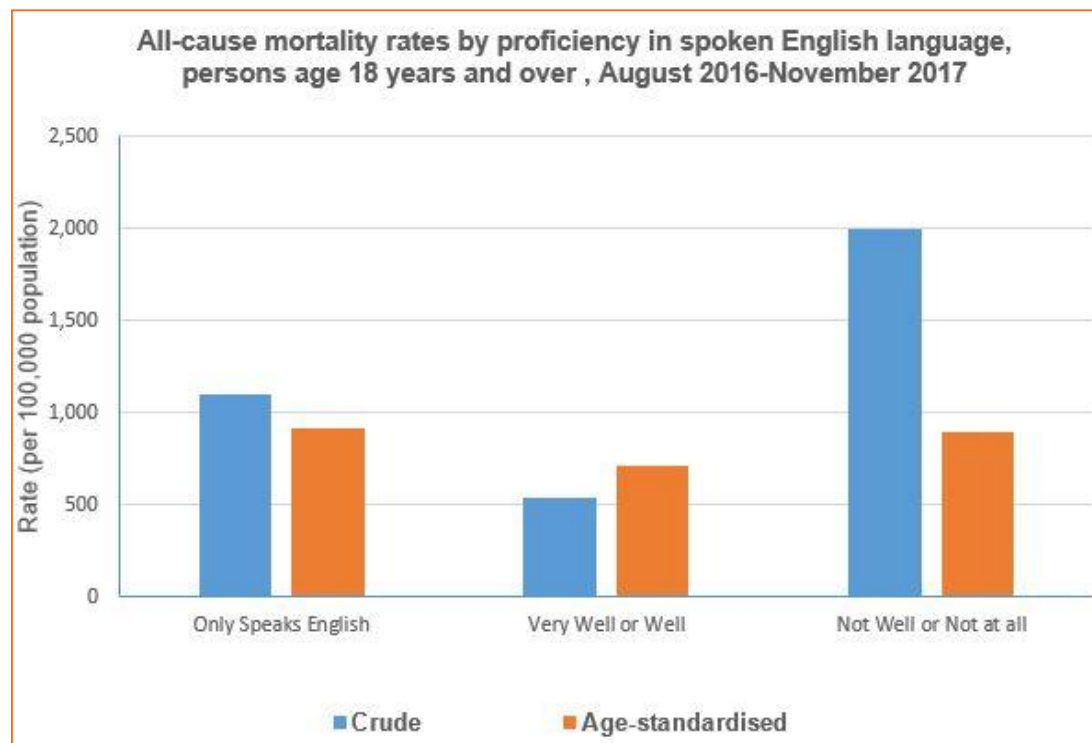
- Restrict Census & Deaths data to records with a populated Spine ID
- Restrict Deaths data based on Year & Month of occurrence of death to August 2016 – November 2017
- Performed exploratory analyses
- Identified a small number of deaths that linked to Census occurring before the Census day (Not included in our study sample)
- Validation: estimates compared with previous publications AIHW, ABS

## LINKED CENSUS – DEATHS DATA

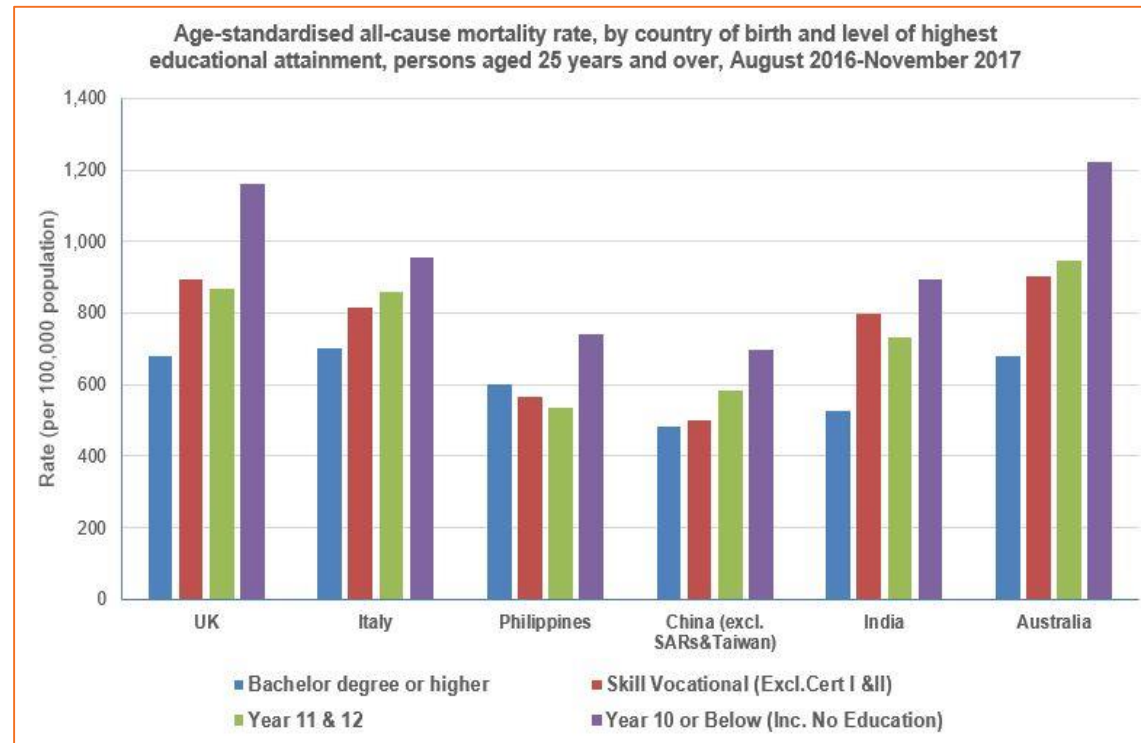
- Study population: All usual residents of Australia (aged 18+) who participated in Census (including those who died August 2016 – November 2017)
- Relatively high overall linkage rate to Census
- Linkage rates varied by COB (e.g. Higher in residents born in Australia and North-West European countries, lower in residents born in other countries)
- Age-standardisation : 5-yr age groupings

## STUDY POPULATION

# PRELIMINARY RESULTS DEATH RATES



All-cause mortality by Proficiency in Spoken English, persons 18+



All-cause mortality by COB & Education, persons 25+



# NEXT STEP

Regression modelling to account for other contributing factors (eg. social determinants of health)