Inequalities in disability-free life expectancy between migrant and non-migrant Australian populations

Population Ageing: Causes, Consequences and Responses

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Background: Why migrant health for Australia?

Rising migrant population (258 million) worldwide (Aldridge, Nellums et al. 2018)

- large migrant intake (Migration Policy Institute 2018, ABS 2021)
- 3 in 10 (30%, or 7.7 million) Australians born overseas (AIHW 2022)
- Heterogeneity in migrant pop. (18% speak language other than English at home, 6% don't speak it)

Need to know health profiles of overseas-born population

- to target prevention and treatment

Contribution underpinned social and economic developments (Renzaho 2016, Migration Policy Institute 2018)

Used as strategy to offset population ageing challenges (Kendig, McDonald et al. 2016)

Background: Why migrant health for Australia?

limited research on migrant health status, acculturation, and ageing

Prior studies quantified overall population DFLE

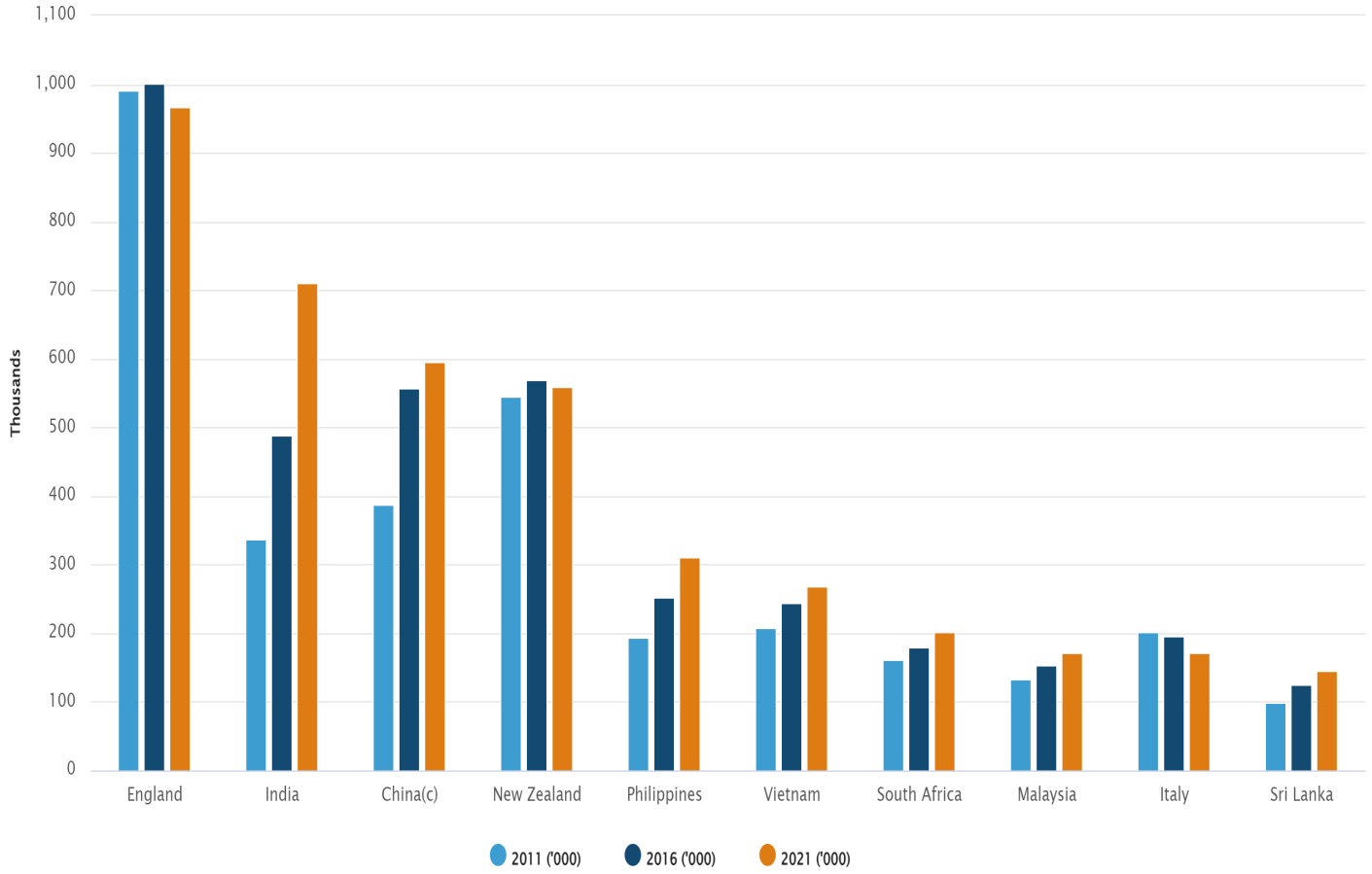
- socioeconomic position and cohort differences (Tawiah et al. 2020, Tawiah et al2021)
- Chronic disease and lifestyle factors (Kingston, Byles et al. 2021)

Only limited studies on migrant population

Unable to disaggregate by sociodemographic and cultural factors (age at migration, language first spoken)

Conflicting evidence on the existence of a 'healthy migrant effect' (Jatrana, Richardson et al. 2018, Guogui Huang 2021)

Australia's overseas-born population by country of birth



Heterogeneity-

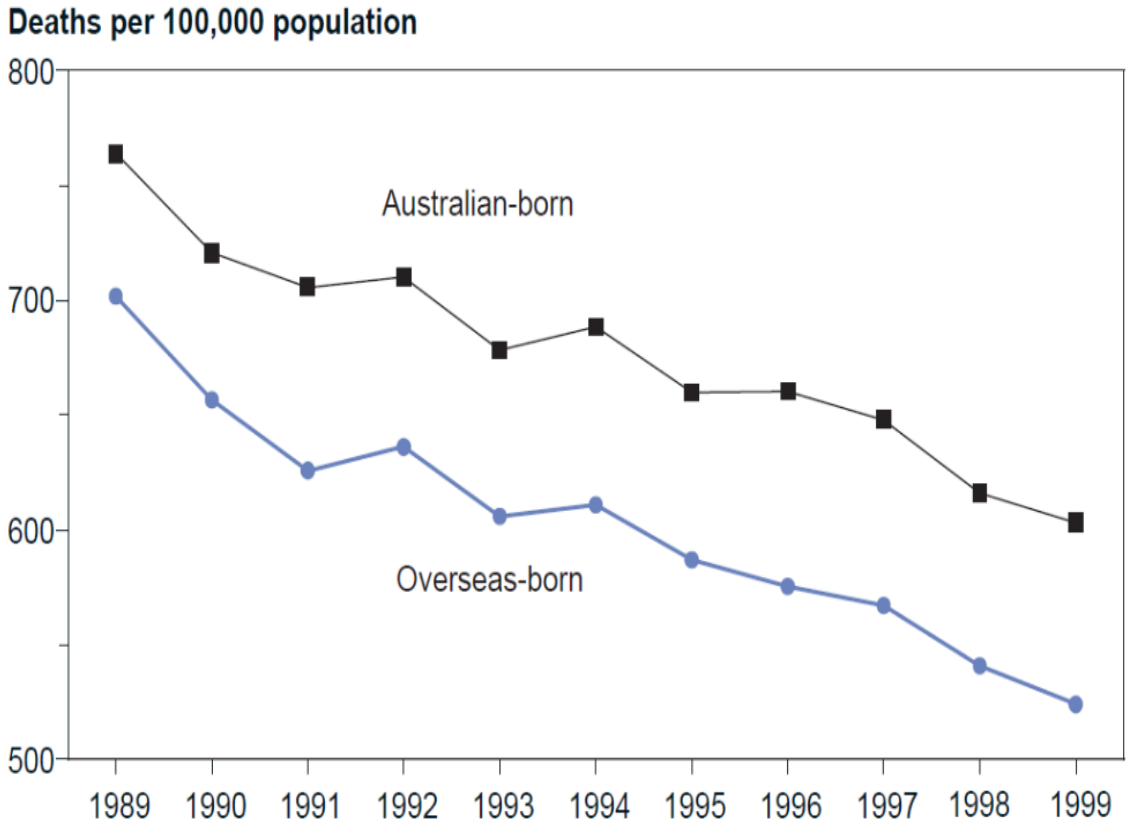
The only shared characteristics- come from another country

Historically, most immigrated from Europe (UK)

Recent arriving from India, China, and other regions

SOURCE: Australian Bureau of Statistics 2021, *Australia's population by country of Birth_ top 10*

National Data: Mortality by Birthplace



- overseas-born 10-15% lower overall-cause mortality
- lower rates of disability and core activity restriction for certain immigrant groups

SOURCE: AIHW 2002 *Australian health inequalities: 1 birthplace. Bulletin no. 2. AIHW Cat. No. AUS 27. Canberra*

Health Expectancies

population indicators that combine morbidity and mortality data

measure health of population, monitor health inequalities

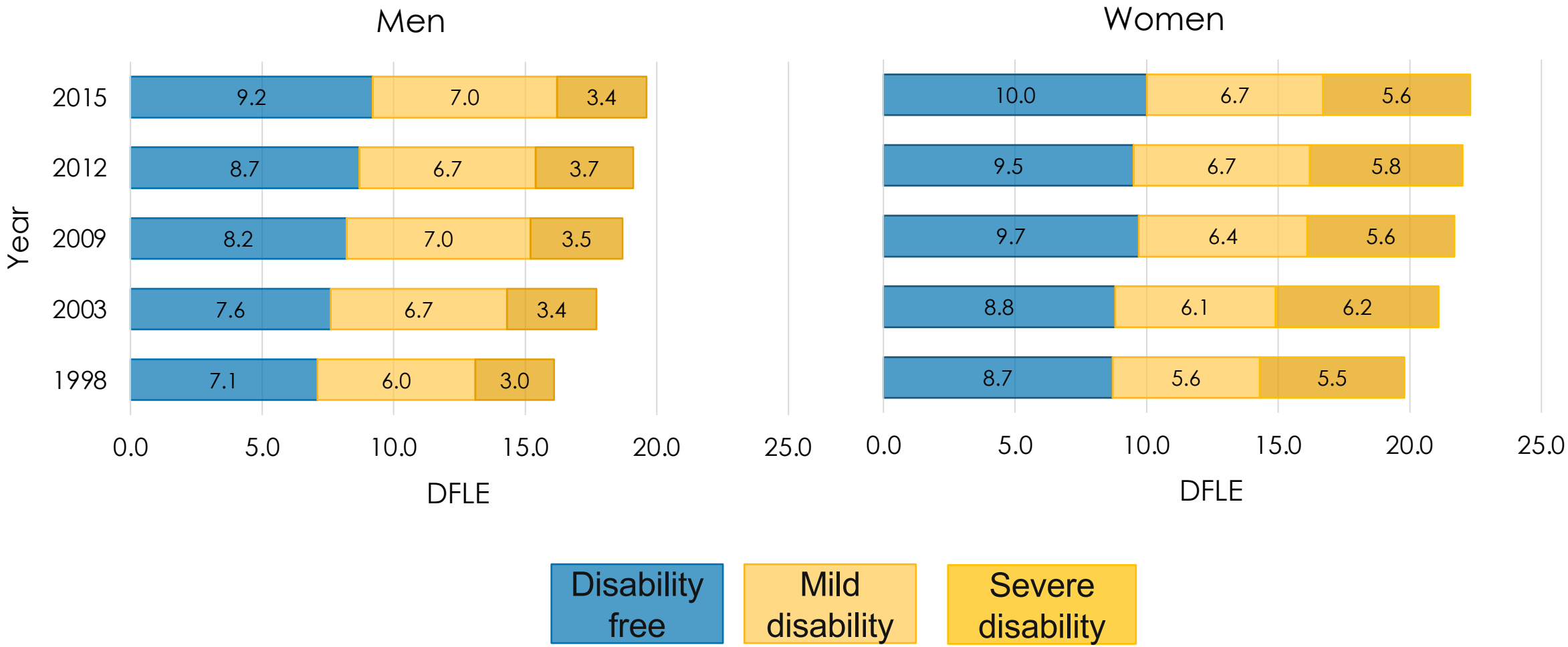
combine health and mortality information and disaggregate life expectancies into periods lived in good and poor health

Outcome measures: Disability, general health, cognitive impairment, dementia, mental health, diabetes, frailty

Comparable indicators: HALE, DALYs, YLL/YLD, QALY

Total life expectancies = years lived in good health + years in poor health

National Data: DFLE

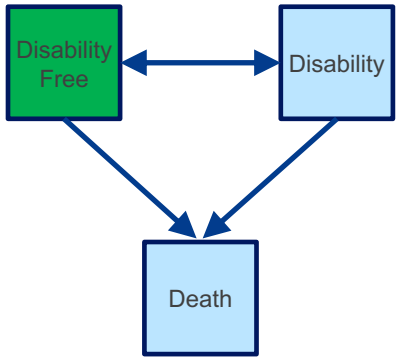


SOURCE: AIHW 2014 *Healthy life expectancy in Australia: patterns and trends 1998 to 2012*, Canberra
AIHW 2017 *Life expectancy and disability in Australia: expected years living with and without disability*, Canberra

Longitudinal methods

Data from single source:

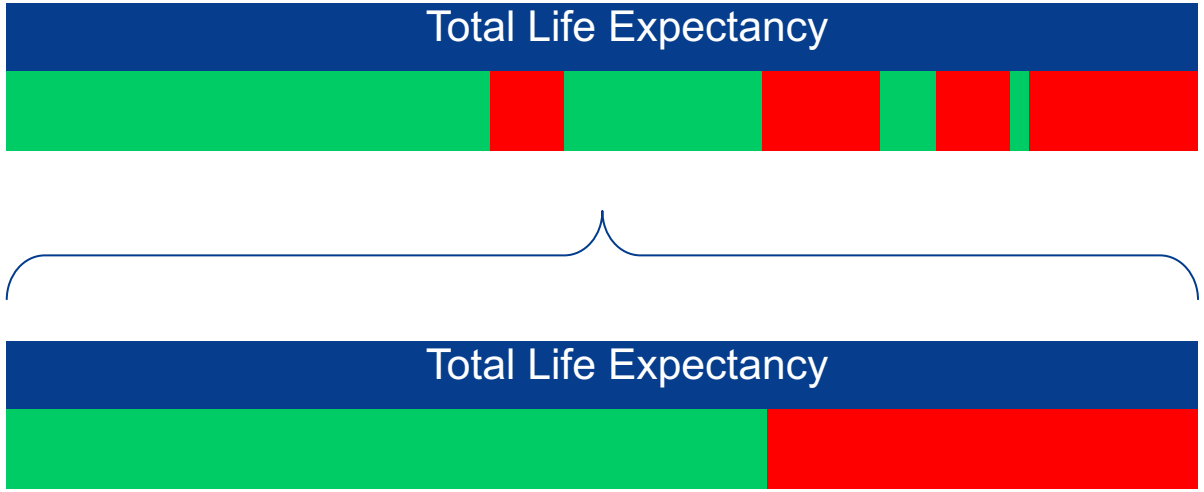
Prospective cohort data linked with mortality (National Death Index=NDI)



Multi-state models

Enable:

- flexible modelling of covariates
- estimation of incidence and recovery



Aims

To quantify how years lived with and without disability varied by migrant status.

by gender, age at migration, and language

Methods

HILDA Survey

2001 Cohort: born < 1950, 2001 to 2014

Mortality data from linkage with NDI

Covariates

- Age at migration to Australia (before or after 25)
- Sex
- First language spoken (English Vs. non-English)

Analysis

Multistate models: IMaCh

Classified into five groups

1. Australian-born
2. English, arrived after age 25
3. Non-English, arrived after age 25
4. English, arrived before age 25
5. Non-English, arrived before age 25

HILDA Health Measures

Global Activity Limitation Indicator (GALI)

"Do you have any **long-term health condition, impairment or disability** that restricts you in your everyday activities and has lasted or is likely to last, **for 6 months or more**?"

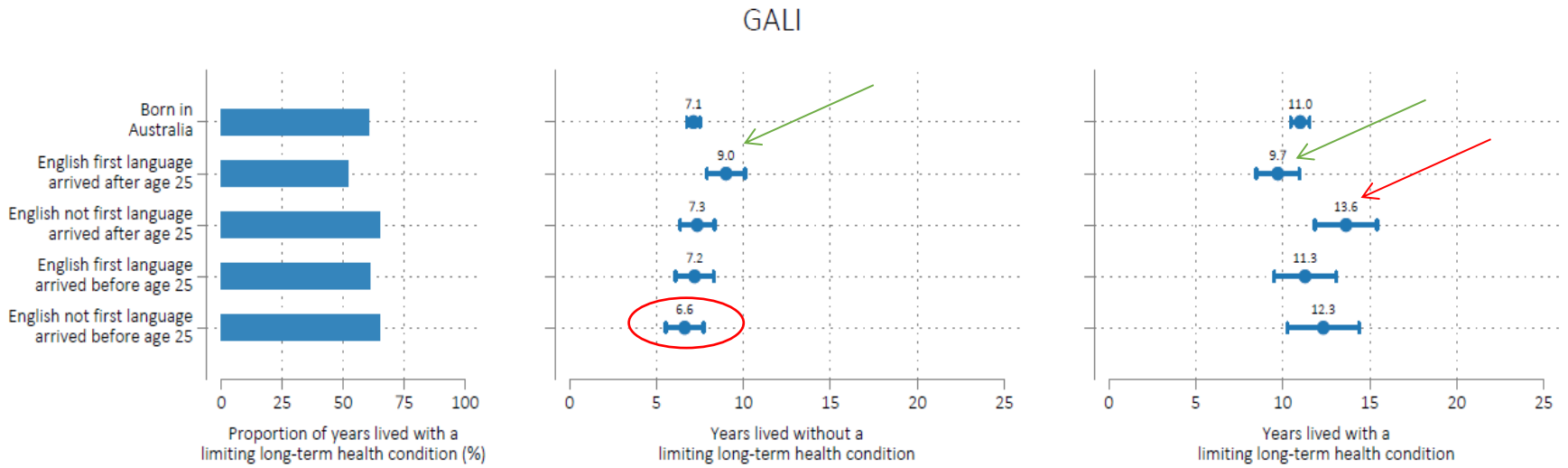
Activities of Daily Living (ADL) Difficulty

SF-36 functional limitations (e.g. difficulty bathing, dressing, walking upstairs, carrying groceries)

Results: Baseline sample characteristics

Variables	N	%
Sex		
Men	2,346	47.4
Women	2,605	52.6
Age group		
50-59	2,120	42.8
60-69	1,410	28.5
70-79	1,040	21.0
80+	381	7.7
Country of birth, first language, age at arrival		
Australian-born	3,402	68.7
English, arrived after age 25	439	8.9
Non-English arrived after age 25	373	7.5
English, arrived before age 25	361	7.3
Non-English arrived before age 25	376	7.6
Total	**4,951**	**100.0**

Results: Comparison of Australian-born and overseas-born population disability-free years, years lived with disability, and proportion of years with disability at age 65 for men (top GALI and bottom ADL)

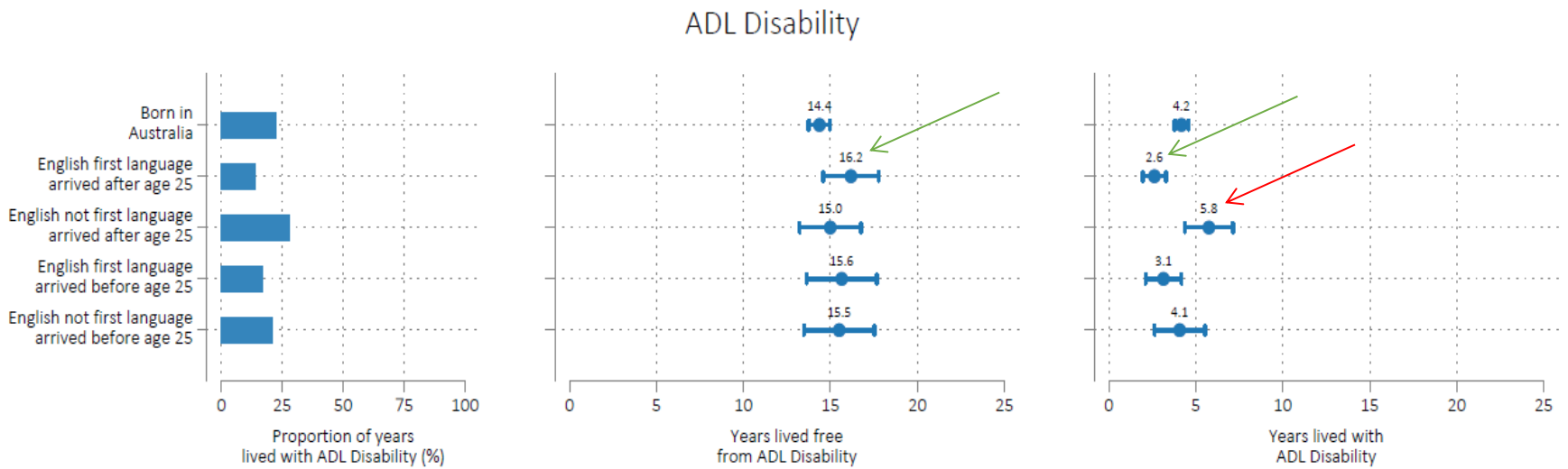


GALI

Men

Overseas-born English after 25: longest DFLE =9years; shortest DLE=9.7years

Non-English after 25: longest DLE=13.6years



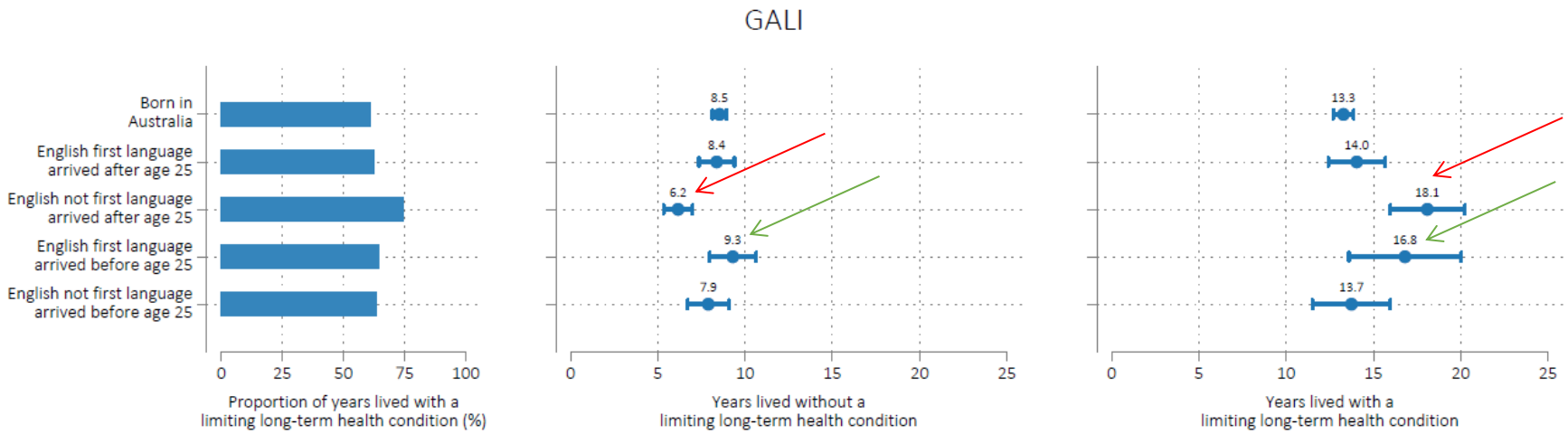
ADL

Men

Similar expectancies with GALI except for non- English background men arrived before age 25

GALI: Global Activity Limitation Indicator; **ADL**: Activities of Daily Living; **TLE:** total life expectancy; **DFLE:** Disability-free life expectancy, **DLE:** Years lived with disability

Results: Comparison of Australian-born and migrant population disability-free years, years lived with disability, and proportion of years lived with disability at age 65 for women (top GALI-based disability and bottom ADL)



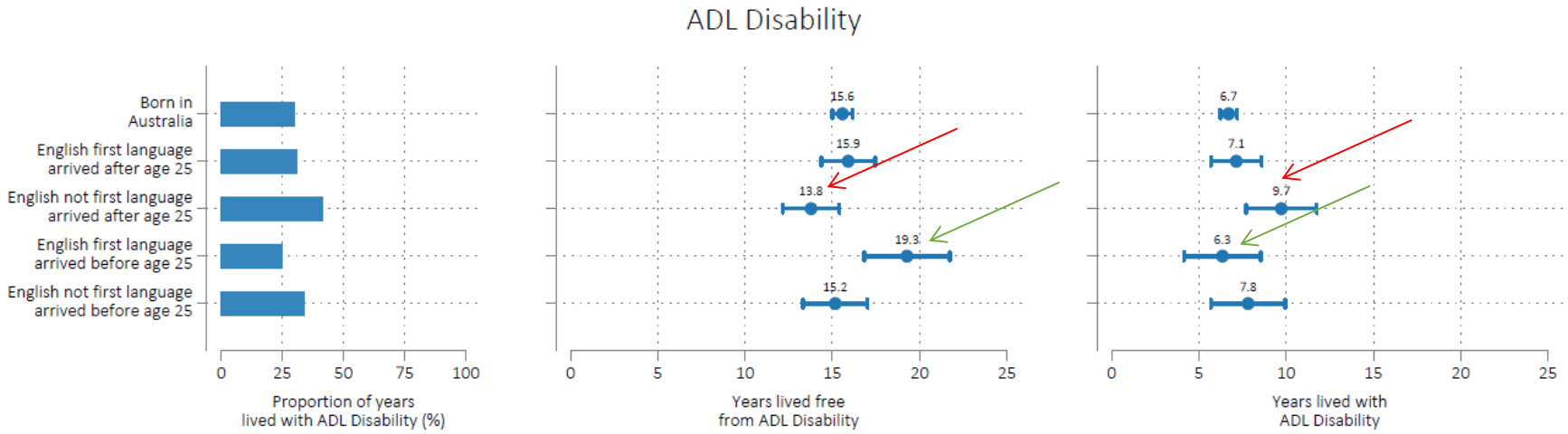
GALI

Women

Non-English overseas-born after 25 :

shortest DFLE =6.2years; longest DLE=18.1years

English before 25: longest DFLE=9.3 years; and longer DLE=16.8 years



ADL

Women

Similar expectancies with GALI result and significantly shortest DLE=6.3 years for English arrived before 25

Summary-I

Some migrant groups lived longer in good health than Australian-born

Evidence of both migrant health advantages and disadvantages

- Overseas-born women who migrated in their youth and speak English as their first language (longer DFLE and shorter DLE)
- Overseas-born women who don't speak English as their first language and migrated during adulthood - considerably poor health outcomes
- Overseas-born men who migrated in adulthood and speak English as their first language (health advantages)
- overseas-born men migrated after 25 and don't speak English as their first language lived longer years with disability despite longer TLE

Summary-II

Overall heterogeneity in the “healthy migrant effect” evident

- Targeted public health interventions needed to improve migrants’ health behaviours
- Investing in migrant-related data needed

Caveats:

data constraints (smaller proportion of migrants, wide CI) to further disaggregate our estimates for other important dimensions

- specific country of birth
- reason for migration (refugees, skilled, labour work, family reasons)

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