

# Cardiovascular disease and stroke prevention educational-behavioural programs for culturally and linguistically diverse communities: A systematic review and meta-analysis

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## BACKGROUND:

- 56,700 acute coronary events = 155 acute coronary events every day (1).
- 39,500 stroke events = 1 stroke every 19 minutes (1).
- 1.56 million Australians are born in a non-English speaking country. 1 in every 4 Australians speak a language other than English (2).
- People from culturally and linguistically diverse (CALD) communities have higher rates of modifiable risk factors for cardiovascular disease (CVD) and stroke (3).

The effectiveness of educational-behavioural programs to improve self-management and mitigate CVD or stroke in CALD communities is unclear.

## AIM:

To evaluate the effect of CVD and stroke prevention educational-behavioural programs for people from CALD communities on risk factors.

## METHODS:

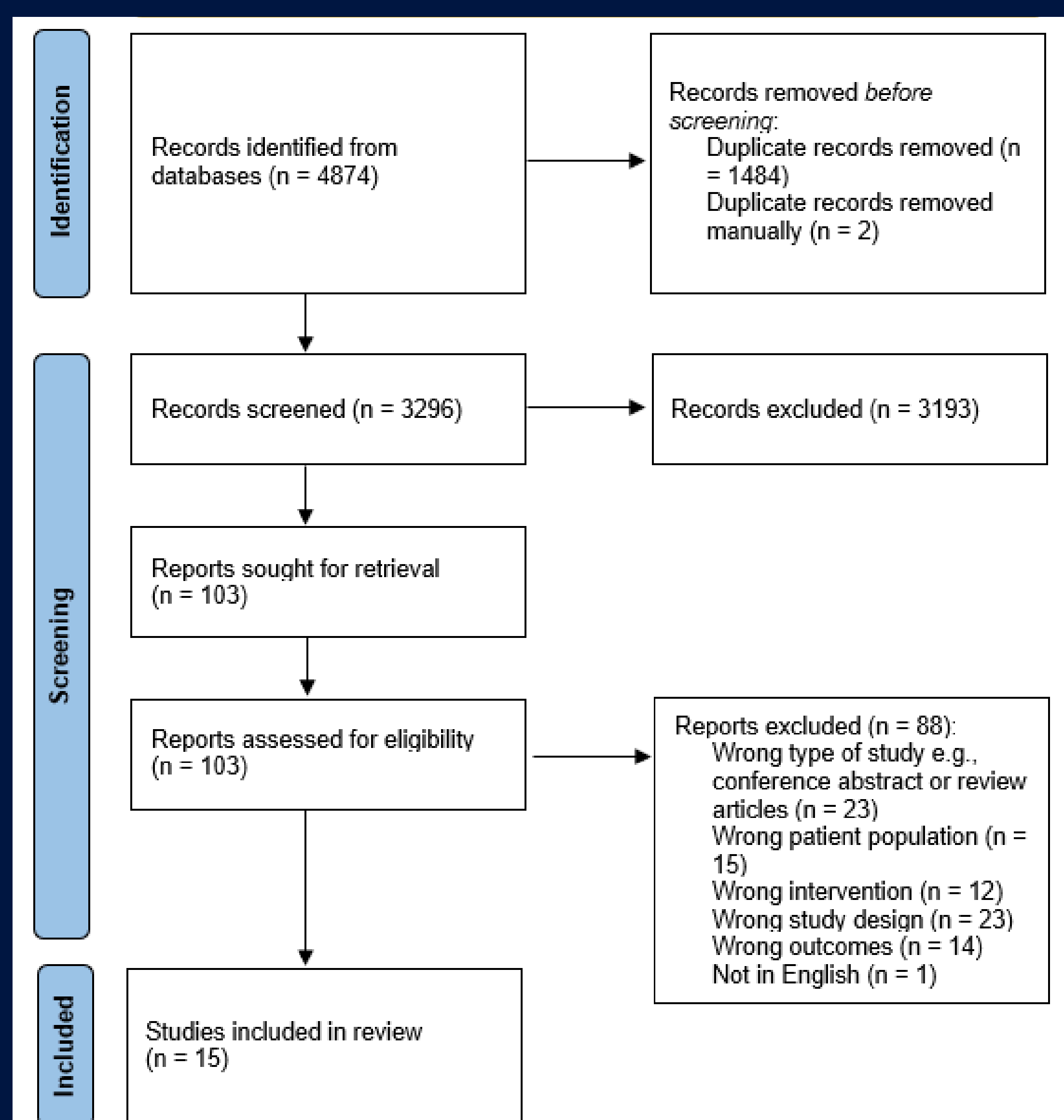
Four databases (Medline, CINAHL, Web of Science and Scopus) searched.

Peer reviewed literature from inception to September 2023.

Inclusion: Randomised controlled trials that compared educational-behavioural programs for people from CALD communities to active or waitlist control and single group pre/post studies.

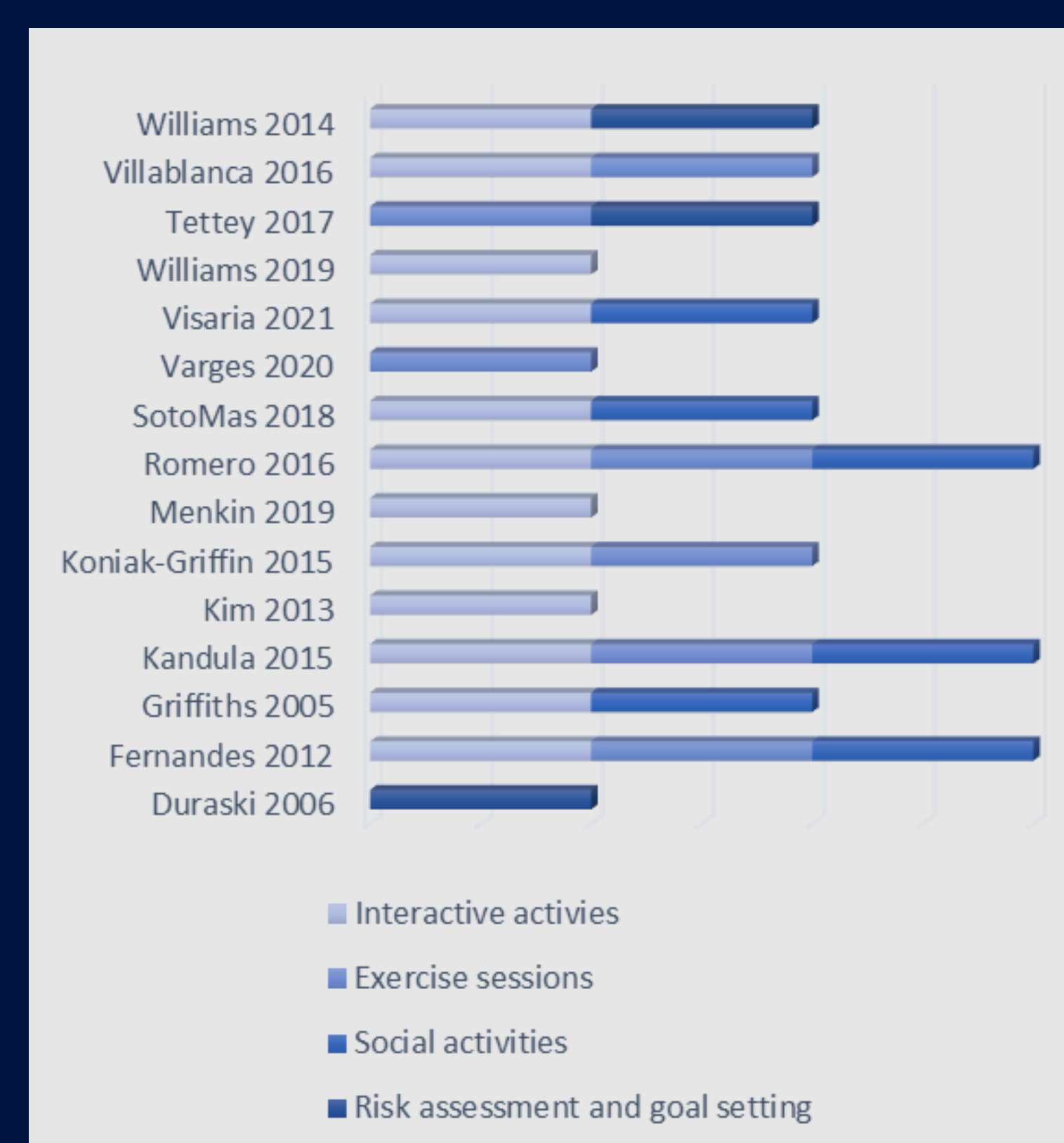
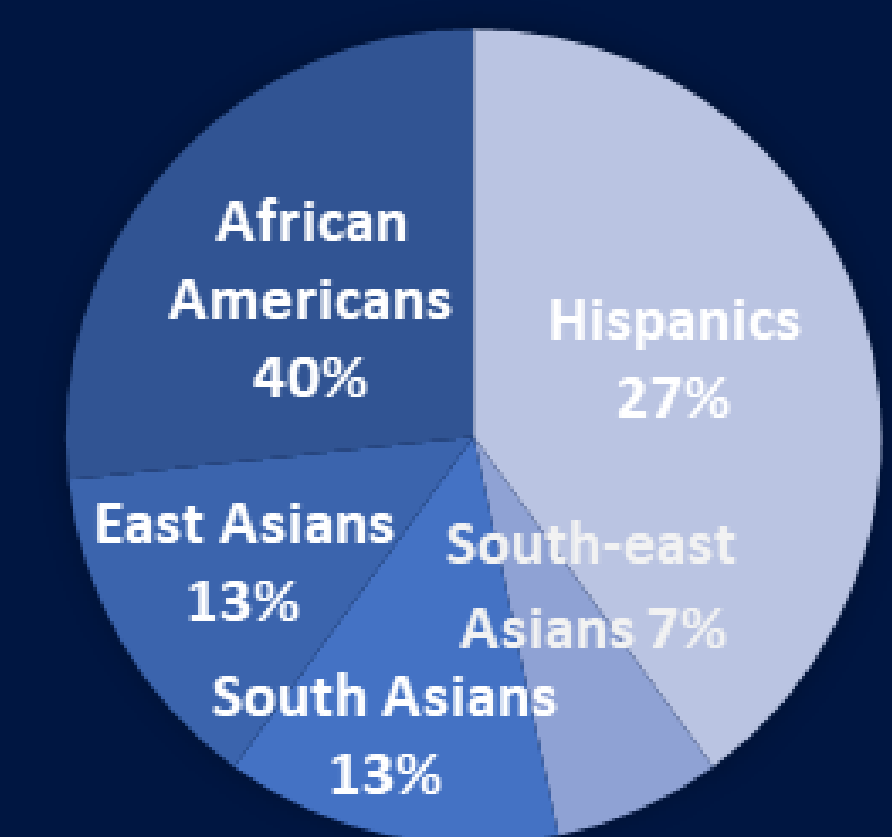
Measurement of effect: Mean difference (MD) or standardised mean difference (SMD) with 95% confidence intervals (CI) using the random effects model. Non meta-analysable studies were narratively described.

Risk of bias: Cochrane Risk of Bias (ROB) tool and Joanna Briggs Institute Critical Appraisal checklist.



## RESULTS:

15 studies (3 RCTs, 1 cluster RCT) and 11 single group pre/post studies. Studies were from the UK and USA. 2304 participants, mean age 57.6 years, 49% were women. Majority of the studies were done in Hispanics and African Americans.



All the programs were group-based delivered as a class/lecture. Majority were culturally-adapted. Only 1 was co-designed. Most of the studies were multi-component and elements went beyond provision of education. All were underpinned by behaviour change theory. Overall ROB is high as all studies had at least one domain at unclear or high ROB.

## SUMMARY OF FINDINGS

- No effect on blood pressure**  
MD 1.18, 95% CI -2.42 to 4.79, P= 0.54, 2 trials, 273 participants
- No effect on blood glucose**  
MD -0.23, 95% CI -0.50 to 0.04, P= 0.12, 2 trials, 273 participants
- No effect on depressive symptoms**  
SMD -0.08, 95% CI -0.23 to 0.08, P= 0.15, 2 trials, 649 participants
- Improvements in disease knowledge**  
5/6 studies reported improvements in CVD or stroke knowledge scores
- Improvements in physical activity**  
3/4 studies reported increased walking steps
- Improvements in diet**  
3/4 studies reported increased fruits and vegetables intake

## CONCLUSION:

Educational-behavioural programs for CALD communities improved disease knowledge and facilitated some lifestyle changes but no effect on risk. More robust trials are needed to confirm the effect of educational-behavioural programs on risk factors.

## REFERENCES:

- Australian Institute of Health and Welfare. Heart, stroke and vascular disease: Australian facts. 2023/ Accessed on 4 October, 2023 <https://www.aihw.gov.au/reports/heart-stroke-vascular-diseases/hsvd-facts/contents/about>
- Australian Institute of Health and Welfare. Culturally and linguistically diverse Australians. 2023. Accessed on 4 October, 2023, <https://www.aihw.gov.au/reports-data/population-groups/cald-australians/overview>.
- Australian Institute of Health and Welfare (2020), Australia's health 2020: In Brief.

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