

Potential Effects Of Sodium Reformulation On Dementia Burden In Australia: A Modelling Study

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INTRODUCTION

Mid-life high blood pressure increases dementia risk (1,2). Sodium reduction is an established strategy to lower blood pressure, targeting cardiovascular disease burden (3,4). However, potential benefits in terms of population level dementia risk and burden remain under researched.

The aim of the present study was to estimate the health effect of population level sodium reduction for the dementia syndrome in Australia, by 1) mandating the World Health Organization (WHO) sodium benchmarks for packaged foods (5) and 2) mandating the current voluntary Australian Healthy Food Partnership (HFP) targets (6).

METHODS

A proportional multistate lifetable model (7) was used to simulate dementia specific effects of 1) mandatory WHO sodium benchmarks (apply to 58 food groups) (5), and 2) mandatory HFP targets (apply to 27 food groups) (6), versus current packaged-food sodium levels. Blood pressure and dementia data came from the 2019 Global Burden of Disease Study (8). The effect of sodium reduction on blood pressure and blood pressure on dementia risk was modelled based on meta-analyses of randomised trials (2,4). Outcomes were incident dementia cases averted and health adjusted life years (HALYs) gained among Australians aged 20+ years, at 10 years and over the population lifetime.

RESULTS

Preliminary Findings: Mandating WHO benchmarks could avert 4,123 (95% uncertainty interval 2,227 to 6,421) dementia cases and gain 2,125 (1,180 to 3,344) HALYs by 10 years. Over the population lifetime, an estimated 48,101 (27,903 to 70,925) cases could be averted and 34,528 (19,900 to 50,880) HALYs gained. Lifetime HALY gains were approximately 60% higher for females than males. Health gains were significantly higher when applying the WHO benchmarks, in comparison to the Australian HFP targets, **Figure**.

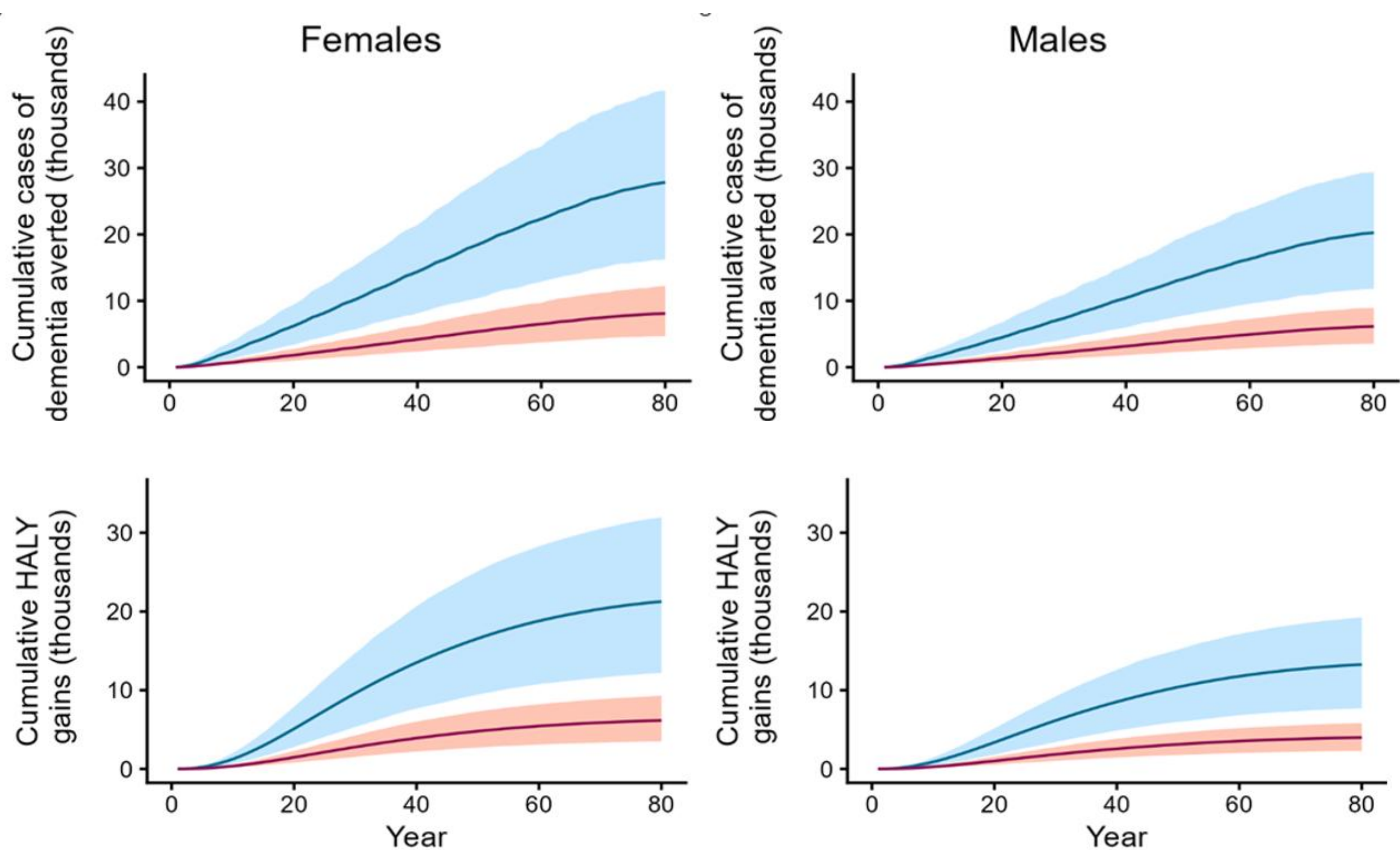


Figure. Estimated cumulative effect on health from mandating WHO's global sodium benchmarks (blue) or the Australian Healthy Food Partnership sodium reformulation targets (red), compared with a status quo scenario assuming a continuation of the current sodium intake, by sex

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FUNDING

Briar McKenzie was supported by a National Heart Foundation of Australia Postdoctoral Fellowship (APP106651) for this work.

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CONCLUSION

Mandatory sodium reformulation in line with the WHO sodium benchmarks could prevent nearly 50,000 lifetime dementia cases in Australia, with significantly greater projected health gains in comparison to mandating current Australian HFP targets. These findings highlight dementia prevention as an additional rationale for stronger sodium regulation beyond cardiovascular disease benefits.

