

Using real world data to visualize longitudinal modifiable dementia risk factors in the community through an online interactive map

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1. Background

- Up to 45% of dementia cases could be prevented by addressing behavioural and lifestyle factors^{1,2,3}
- Many of the modifiable risk factors offer distinct opportunities for targeted interventions, yet there is still a gap in how we address existing distributions of risk factor adherence in order to more effectively tailor interventions

2. Methods

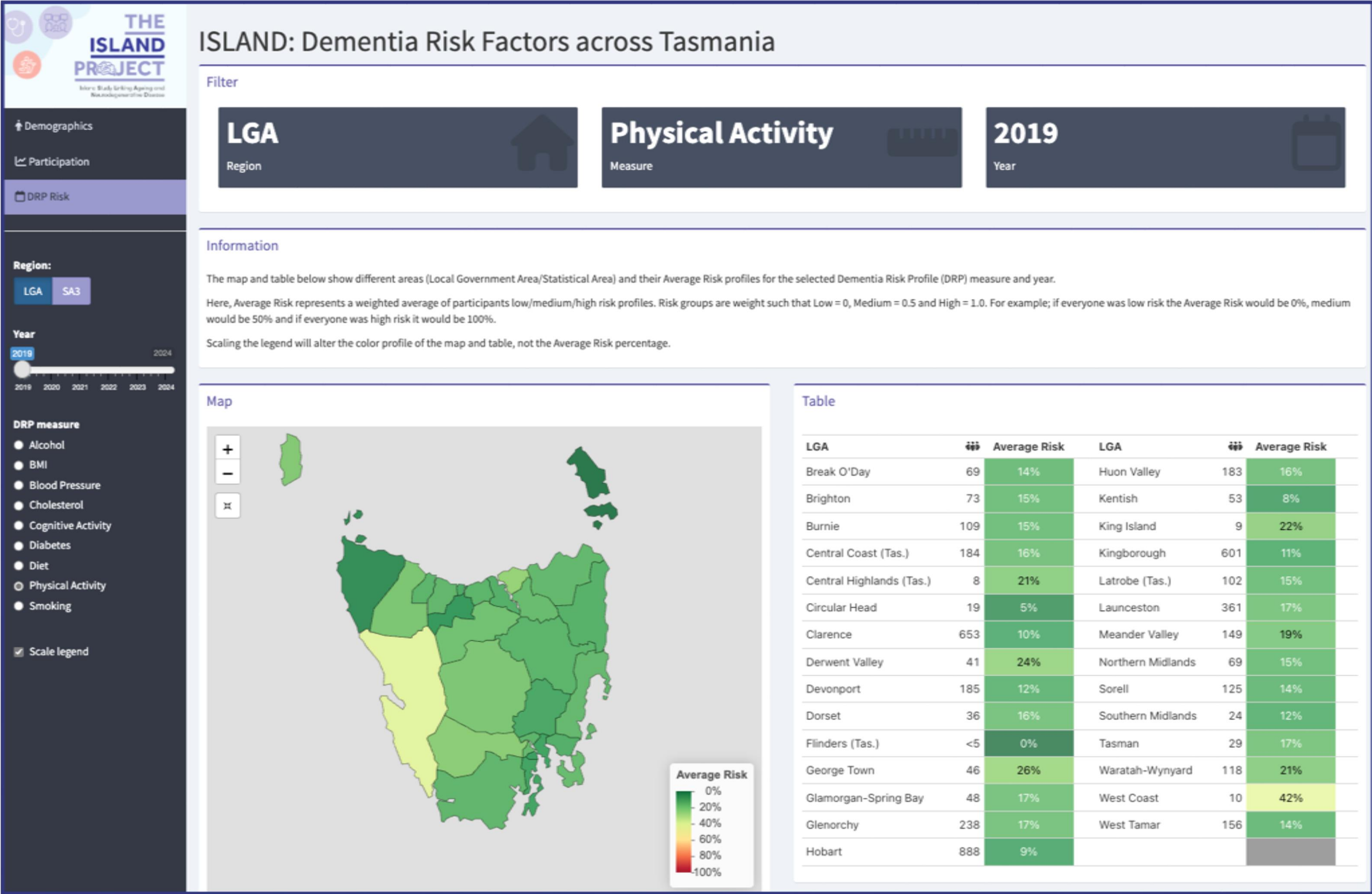
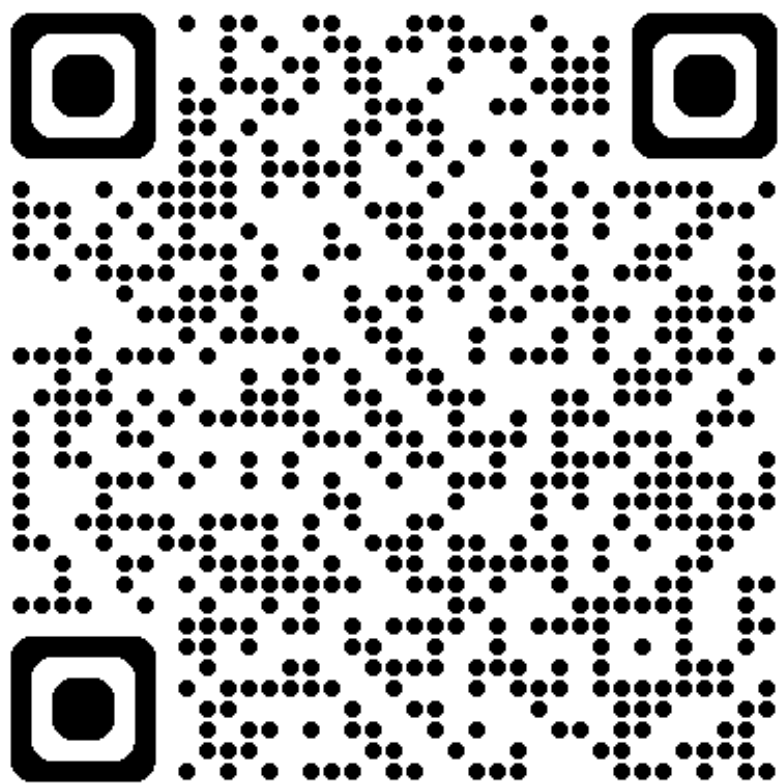
- Six years of annual survey data were used (2019-2024) from ISLAND (Island Study Linking Ageing and Neurodegenerative Disease); a public health initiative aiming to reduce dementia risk.
- Modifiable risk factors (n = 8,891) were assessed at each timepoint using the Dementia Risk Profile (DRP), a personalised traffic light tool based on evidence from the World Health Organisation

3. Results I

- There were observable geographic variations in education (range 13.4- 16.2 years), age (range 66.7-72.4 years) and severable modifiable risk factors for dementia across Tasmania, Australia.
- Participants with higher ages tended to be in regional areas of the North-West, whilst risk factor prevalence in Body Mass Index (BMI), Blood Pressure and Physical Activity were notably higher in the more remote West Coast region of Tasmania. Over time through the ISLAND initiative, all modifiable risk factors were seen to be shifting towards lower weighted averages on the DRP (Figure 1)

3. Conclusion

- Geographically visualizing modifiable risk factors in an online interactive format identified specific regions where targeted interventions are needed to reduce risk of dementia
- We were able to visualize the efficacy of the ISLAND intervention across Tasmania
 - Please have a look for yourself here!:**



1: Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D, et al. Dementia prevention, intervention, and care. The Lancet. 2017;390: 2673-2734. 2: Livingston G, Huntley J, Sommerlad A, Ames D, Ballard C, Banerjee S, et al. Dementia prevention, intervention, and care. The Lancet. 2020;396:413-446. 3: Livingston G, Huntley J, Liu KY, Costafreda SG, Selbæk G, Alladi S, et al. Dementia prevention, intervention, and care. The Lancet. 2024;404:572-628. 4: Roccati E. Physical activity and blood-based biomarkers of Alzheimer's disease: fertile ground for future investigation. The Lancet Healthy Longevity. 2025. 5: Bartlett L, Doherty K, Farrow M, et al. Island study linking aging and neurodegenerative disease (ISLAND) targeting dementia risk reduction: protocol for a prospective web-based cohort study. JMIR Research Protocols. 2022;11(3):e34688. 6: Bartlett L, Bindoff A, Doherty K, Kim S, Eccleston C, Kitsos A, et al. An online, 521 public health framework supporting behaviour change to reduce dementia risk: interim results from ISLAND. 2023;1886.

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