

Personal and contextual determinants of health for older rural Australians (ID 23527)

Dr Joanne Allen

Massey University, Manawatu, New Zealand

j.allen@massey.ac.nz

Co authors

Associate Professor Kerry Inder

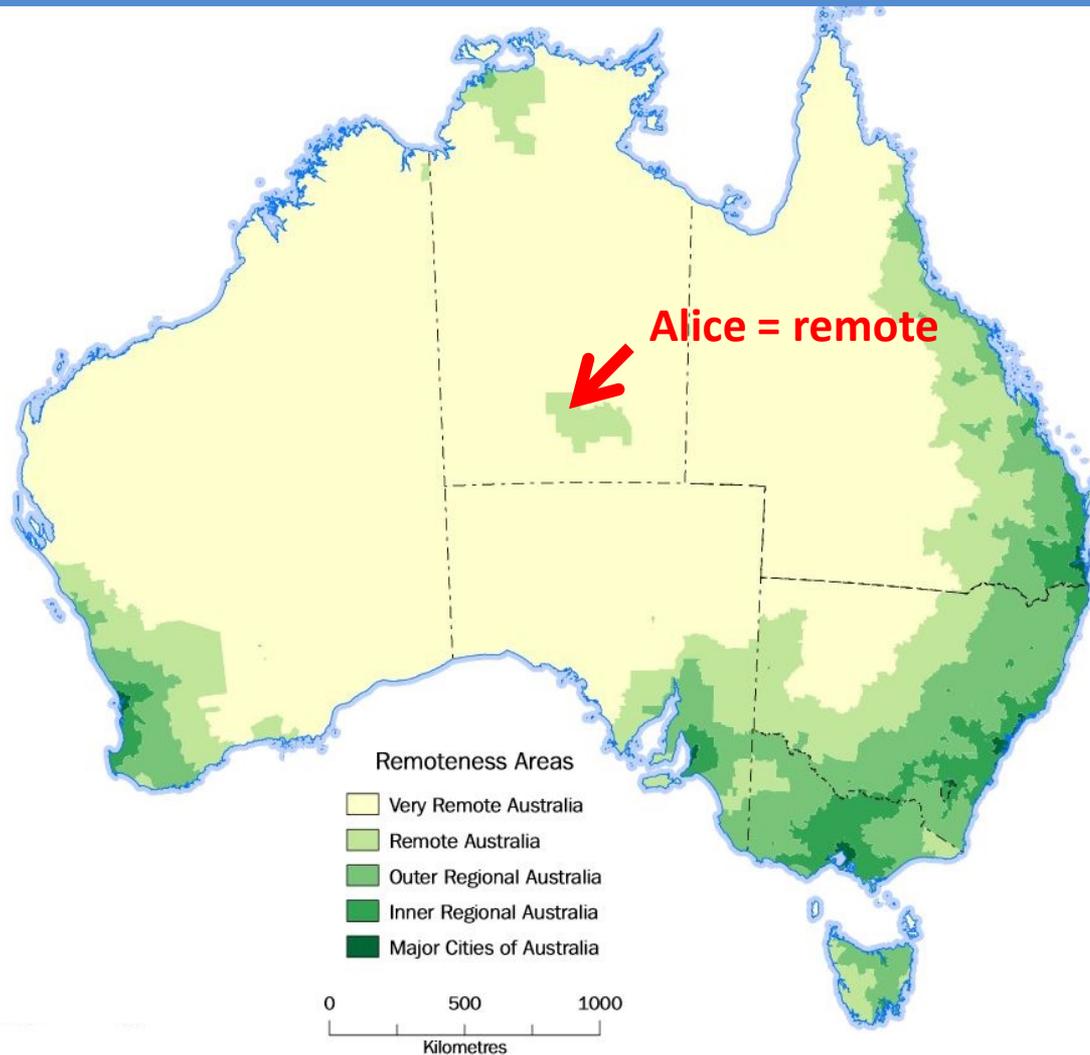
Associate Professor Terry Lewin

Professor John Attia

Professor Brian Kelly

University of Newcastle, NSW, Australia





Questions

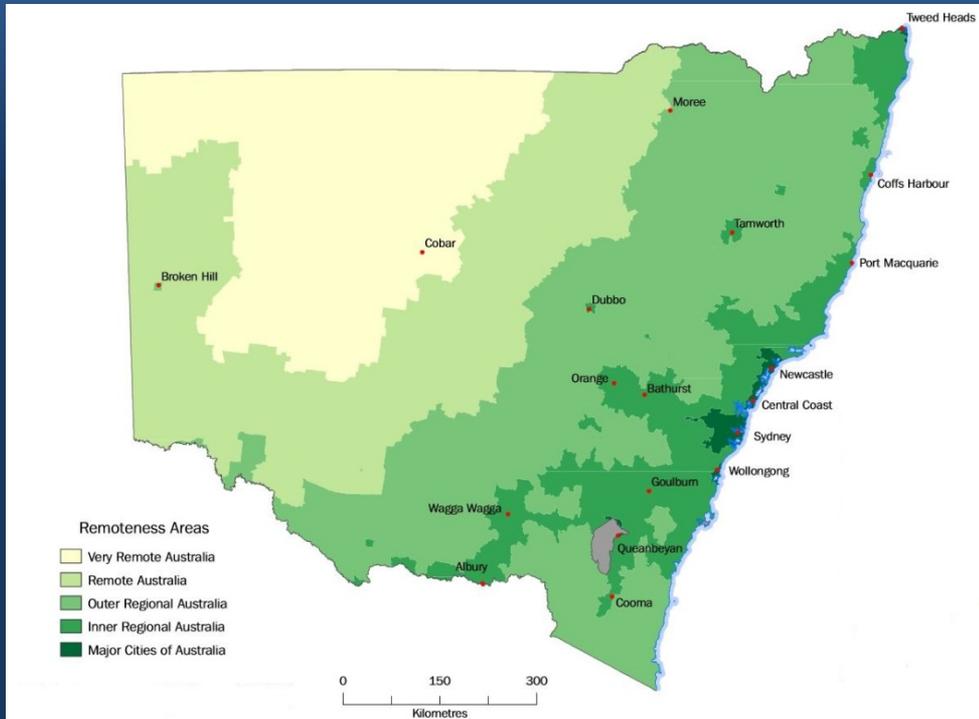
- How can we quantify 'place' in Australia for health research?
- What are the effects of 'place' on physical and mental health in Australia?
- What aspects of person and 'place' should we target to improve health for rural men and women?

How to characterise contextual effects in rural New South Wales?

- Problems: few observations and differing boundaries
- Theory suggests a range of social, historical and administrative forces shape physical and social resources available in a community

Remoteness in New South Wales

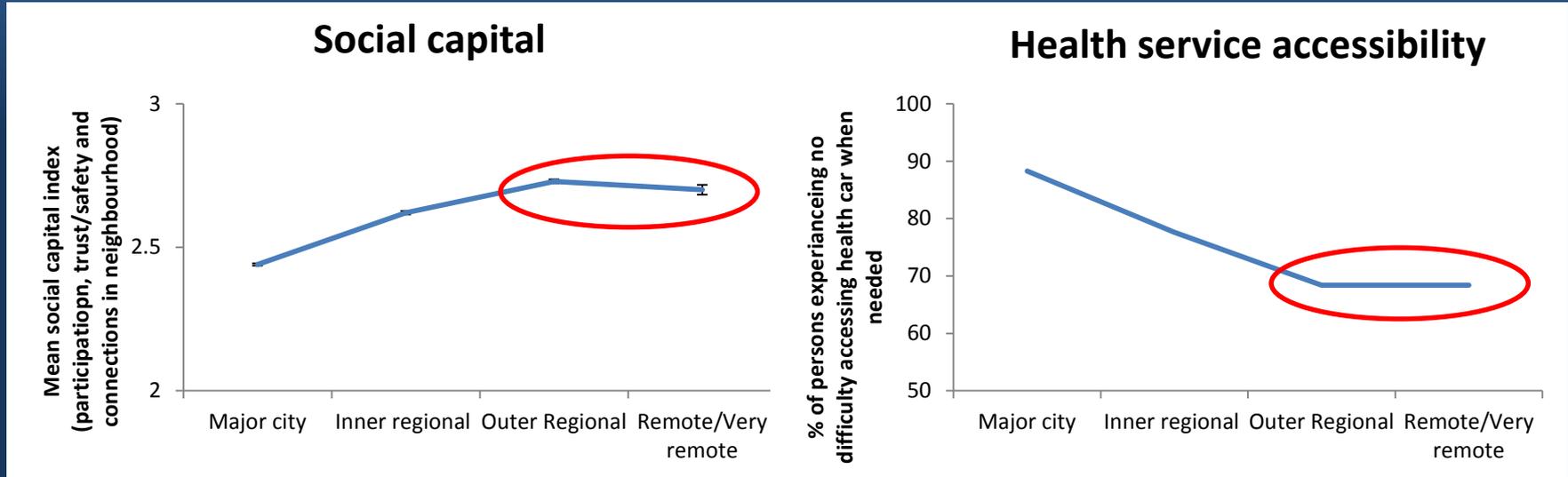
Place	est. Population 2012	Land area km ²	Persons per/km ²
Australia	22,785,500	7,692,024	3
New South Wales	7,314,100	800,642	9



Remoteness category (ARIA+ range)	% NSW Population
Major Cities (0-0.20)	74.0
Inner Regional (0.21-2.40)	19.4
Outer regional (2.41-5.92)	6.1
Remote/very remote (5.92-15)	0.5

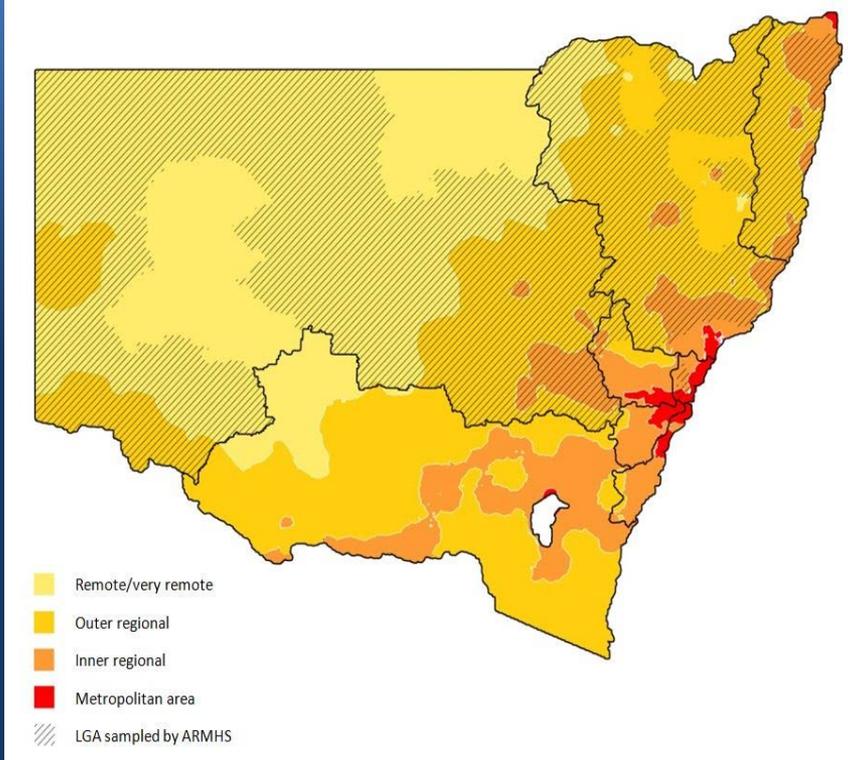
Do health-related aspects of 'place' vary by remoteness in NSW?

Data: New South Wales Adult Population Health Survey (2006-2009; $n = 42,115$)



Allen, J., Inder, K. J., Harris, M. L., Lewin, T. J., Attia, J. R., & Kelly, B. J. (2013). Quality of life impact of cardiovascular and affective conditions among older residents from urban and rural communities. *Health and quality of life outcomes*, 11(1), 140.

Remoteness by Area Health Service regions (2006)

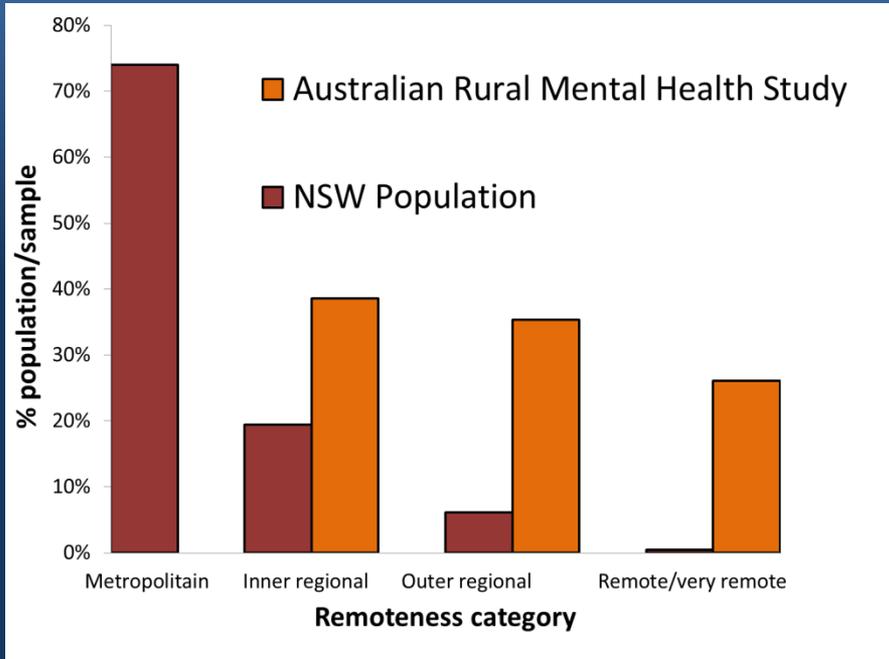


- Define are not only by remoteness but also the area health service region (local/administrative)
- Nine area health service regions
- Each with 3-4 levels of remoteness
- Aggregate area-level indices of Health service accessibility and social capital can be geocoded to survey participants within these regions

Allen, J., Inder, K. J., Lewin, T. J., Attia, J. R., & Kelly, B. J. (under review). Personal, social and contextual predictors of self-reported physical and mental health in rural men and women. *Psychiatry Research*

What are the effects of 'person' and 'place' on the physical and mental health of older rural Australians?

Evidence from the Australian Rural Mental Health Study

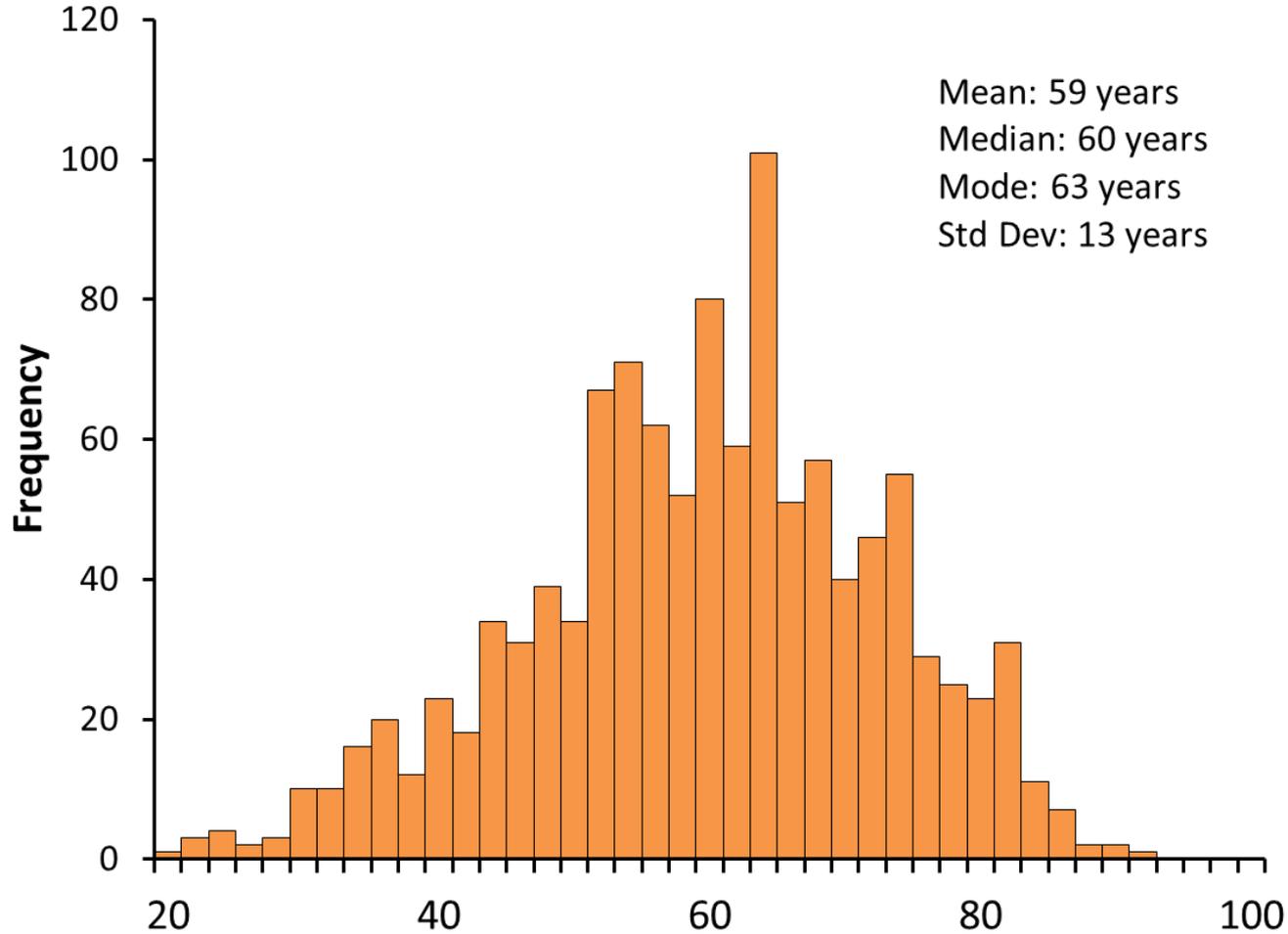


A stratified random sample of persons aged 18+ residing in inner-regional to very remote local government areas from the NSW electoral roll (n = 2639)

Over-sample of persons from remote and very remote local government areas.

To date: ARMHS has identified a range of **demographic, health, personal adversity and social factors** as correlates of mental health in rural NSW

Age in ARMHS longitudinal cohort



What aspects of person and 'place' needed to understand rural health?

Person:

- Demographics
- Individual characteristics
- Current/past health
- Individual social factors

Place:

- Socioeconomic indices
- Health service accessibility
- Social capital (Trust)

Study 1: identify the reliable personal and 'place' correlates of physical and mental health in the Australian Rural Mental Health Study

- N = 1132 ARMHS participants who provided longitudinal data at three waves of follow-up

	Physical Health			Mental Health			Psychological distress		
	Gender	β	p	Gender	β	p	Gender	β	p
Demographics									
Age								-0.16	***
12+ years education								0.03	0.035
Married/defacto								-0.04	0.006
Retired		-0.04	0.024						
Living on a farm				M:	0.02	0.417		0.05	0.001
				F:	-0.06	0.003			
Prop. life lived in district		-0.05	0.001					0.03	0.05
Financial difficulty		-0.14	***		-0.06	***		0.09	***
Individual characteristics									
Neuroticism		-0.05	0.001		-0.22	***		0.33	***
Personal hopefulness		0.21	***		0.25	***		-0.28	***
Adverse life events (12 mth)		-0.08	***		-0.15	***		0.18	***

Model continues...	Physical Health			Mental Health			Psychological distress		
	Gender	β	p	Gender	β	p	Gender	β	p
Current and past health									
Depression diagnosis		-0.08	***		-0.18	***		0.16	***
Cardiovascular diagnosis		-0.15	***		-0.04	0.007		0.10	***
Current smoker		-0.05	0.001		-0.05	***		0.03	0.041
Serious injury (12 mth)		-0.09	***						
Alcohol consumption	M:	-0.04	0.088						
	F:	0.05	0.017						
Social network factors									
Social support		0.06	***		0.11	***		-0.07	***
Cohesion					-0.03	0.033			
Social visibility	M:	-0.05	0.034				M	0.06	0.007
	F:	0.03	0.138				F	-0.04	0.033
Belonging	M:	0.10	***	M:	0.12	***		-0.06	***
	F:	0.02	0.363	F:	0.06	0.001			
Area characteristics									
Socioeconomic status					0.04	0.013			
Health service accessibility		0.04	0.017						
Trust		0.04	0.013		0.04	0.010		-0.06	***

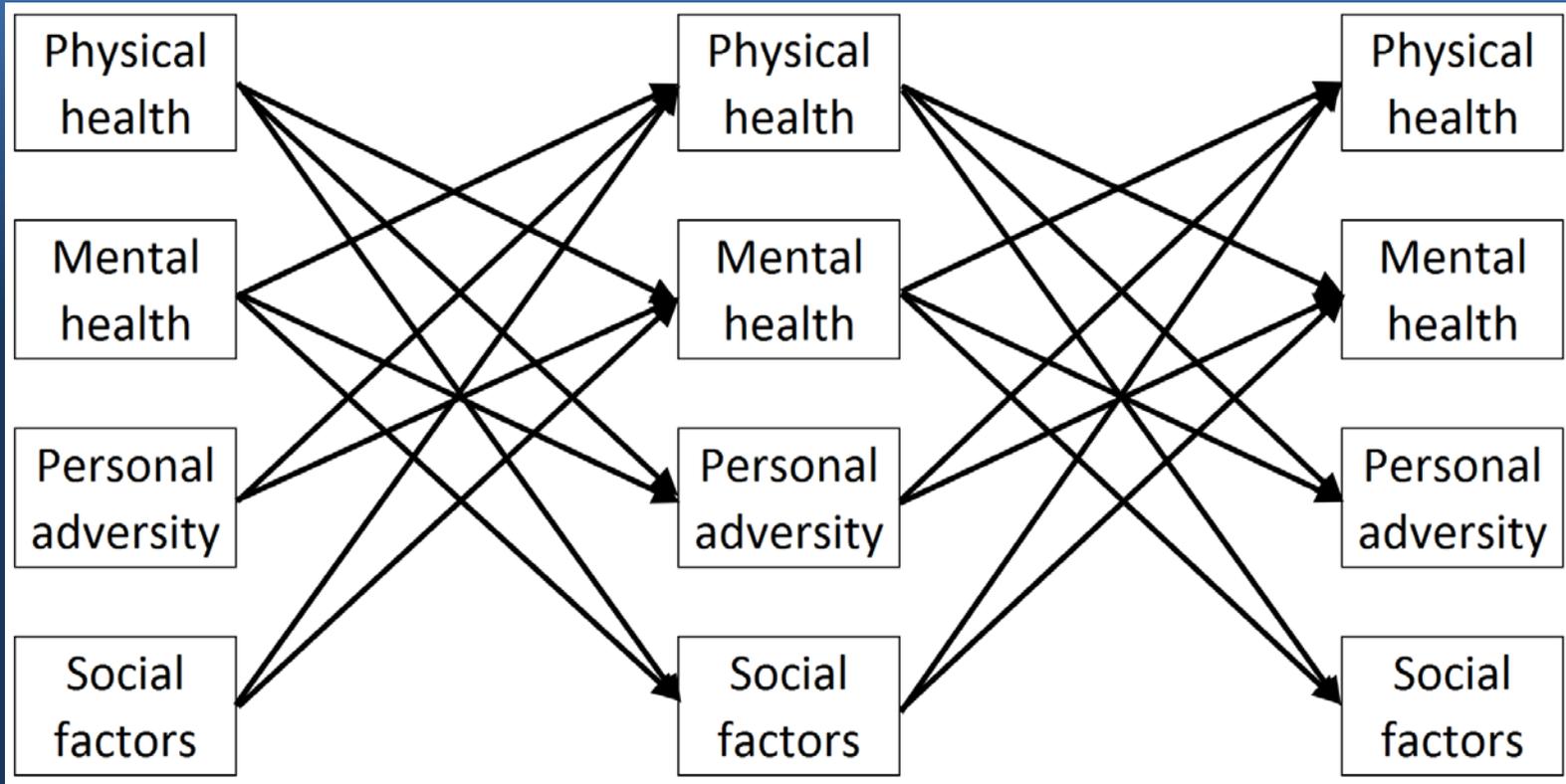
Conclusions

- Aspects of personal adversity and social networks are associated with health in rural populations and present potential targets for intervention.
- Conceptualisation of place may need to be refined
 - health service accessibility impact on perceived physical health and the Trust dimension of social capital have an impact on perceived mental health
- The association of social networks and isolation with experiences of health may differ for rural men and women.

Study 2: identify the temporal relationships between personal adversity, social network factors and physical and mental health

- N = 1132 ARMHS participants who provided longitudinal data at three waves of follow-up

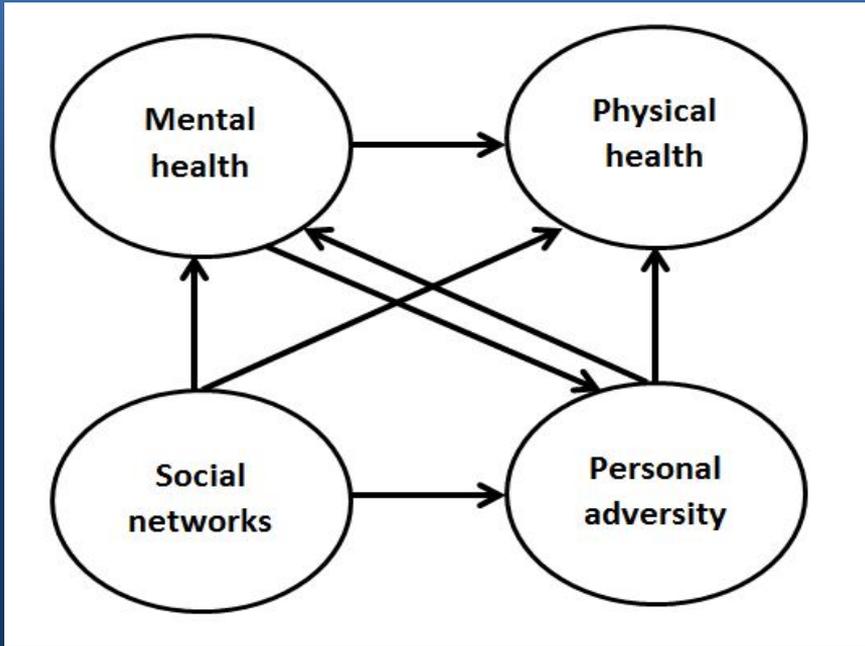
Study 2: assessing temporal relationships over one and two year lags using auto-regressive cross lagged panel analyses



Results (highlights)

- **Greater mental health:** associated with greater physical health ($B_{2\text{yrlag}} = .15$) and lower adverse life events ($B_{2\text{yrlag}} = -.13$).
- **Greater financial difficulty:** associated with lower physical ($B_{1\text{yrlag}} = -.17$; $B_{2\text{yrlag}} = -.12$) and mental health ($B_{1\text{yrlag}} = -.11$) and a greater adverse life events ($B_{1\text{yrlag}} = .22$; $B_{2\text{yrlag}} = .17$).
- **Greater social support:** associated with greater physical ($B_{1\text{yrlag}} = .32$) and mental health ($B_{1\text{yrlag}} = .43$), lower financial difficulty ($B_{1\text{yrlag}} = -.22$) and greater social capital.
- Elements of social capital were associated with social support and number of adverse life events.

Conclusions



- Few differences between causal models for men and women
- Lower social isolation and financial difficulty are associated with better health.
- Promotion of mental health may support longer-term physical health outcomes.
- Improving social capital may indirectly support health by improving social support.
- The time lag between observations influenced conclusions drawn from causal models.

Publications

- Allen, J., Inder, K., Lewin, T.J., Attia, J., & Kelly, B. (2012). Social support and age influence distress outcomes differentially across urban, regional and remote Australia: an exploratory study. *BMC Public Health*, 12, 928.
- Allen, J., Inder, K., Lewin, T., Attia, J., & Kelly, B. (2013). Construct validity of the Assessment of Quality of Life - 6D (AQoL-6D) in community samples. *Health and Quality of Life Outcomes*, 11, 61.
- Allen, J., Inder, K.J., Harris, M., Lewin, T.J., Attia, J., & Kelly, B.J. (2013). Quality of life impacts of cardiovascular and affective conditions among older community residents. *Health and Quality of Life Outcomes*.**
- Allen, J., Inder, K.J., Lewin, T.J., Attia, J., Kay-Lambkin, F., Baker, A., et al. (2013). Integrating and extending cohort studies: lessons from the Extending Treatments, Education and Networks in Depression (xTEND) study. *BMC Medical Research Methodology*.
- Allen, J., Inder, K. J., Lewin, T. J., Attia, J. R., & Kelly, B. J. (under review). Personal, social and contextual predictors of self-reported physical and mental health in rural men and women. *Psychiatry Research*.**
- Allen, J., Inder, K. I., Lewin, T. J., Attia, J. R., & Kelly, B. (submitted). Personal, social and contextual predictors of self-reported physical and mental health. *Psychiatry Research*.**

Acknowledgements and funding

The **Extending Treatments, Education and Networks in Depression (xTEND)**

- Hunter Medical Research Institute (HMRI)
- *Beyondblue* - the national depression initiative
- Research fellowship funded by Xstrata Coal and the Hunter Medical Research Institute

The **Australian Rural Mental Health Study (ARMHS)**

- the National Health and Medical Research Council (NHMRC, Project Grants #401241 and #631061)
- Research Infrastructure Capacity Building Grant, NSW Department of Health