

Geographical supply and mobility of rural primary care doctors: Similarities and differences between Australia and the United States

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Introduction & objectives

The shortage of doctors in rural areas internationally remains a major policy challenge. Improved mobility patterns of doctors is critical to addressing this issue.

This poster draws together evidence from four recent national (including some longitudinal) studies from both Australia and the USA.

Each study aimed to characterise aspects of geographic supply and mobility of the rural primary care medical workforce and to identify both locational and individual factors that influence these.

Study design & setting

National setting: comparing / contrasting USA and Australia

Population (census) data were extracted from the American Community Survey and the Australian Census of Population and Housing.

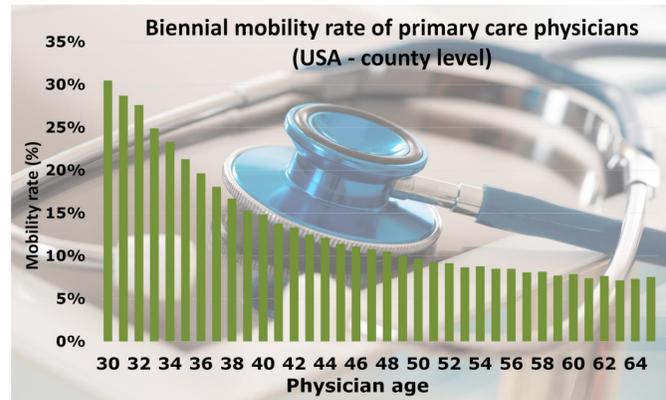
Workforce data were extracted from the American Medical Association Physician Masterfile and the Medicare Benefits Schedule database (Australia), plus Australia's national longitudinal cohort study of doctors, the MABEL survey.

Supply was measured using provider-to-population ratios and tested against regional-level characteristics of proximity, economic and socio-demographic dimensions.

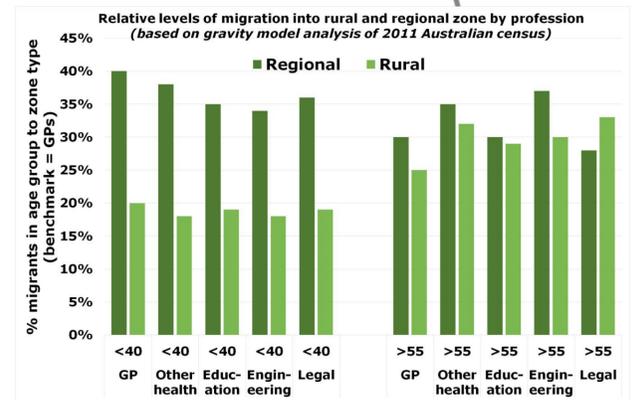
Mobility patterns and prevalence were explored against a range of individual (doctor)-level characteristics and regional-level factors.

Modelling was done on rural non-retention (turnover), including logit models with covariates of doctors leaving rural practice.

Results – mobility by age



Most mobility occurs in early career of primary care physicians; there is no trend of late career changes.



Most early career GP migration into regional, not rural zones; late career migration low for GPs.

Results – mobility (non-retention) by rurality

USA – PHC physicians (biennial, 2000-14)

RUCC ¹	County moves	To rural	To metro
Metropolitan	14%	11%	89%
>20,000 ²	13%	25%	75%
>20,000	13%	38%	62%
>2,500 ²	15%	32%	68%
>2,500	14%	47%	53%
<2,500 ²	19%	43%	57%
<2,500	19%	60%	40%

¹ RUCC = Rural-Urban Continuum Code
² Adjacent to metropolitan county

Australia – GPs (annual, 2008-13)

MMM ³	MMM moves	To rural	To metro
Metropolitan	1.4%	100%	n/a
>50,000	5%	62%	38%
>15,000	8%	59%	41%
>5,000	11%	66%	34%
<5,000	11%	56%	44%
Remote	11%	63%	37%
Very remote	18%	91%	9%

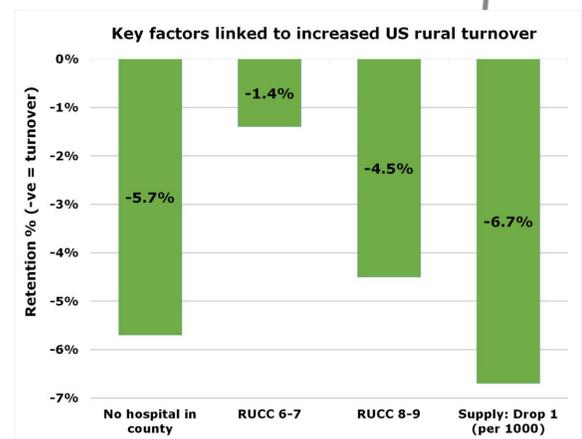
³ MMM = Modified Monash Model

Annual retention rates of Australian GPs were 95% in regional centres, decreasing to 82% in very remote areas, with 40% of movers leaving rural practice. Biennial retention of USA primary care physicians decreased only in the smallest communities, with 60% of rural movers leaving rural practice.

Results – supply and turnover by community factors

Community factor	US county	Aust LGA
Having hospital in region	Higher*	Higher*
Adjacent to metropolitan city	Lower*	N/S
Proximate to coast	–	N/S
Population size	Higher*	Higher*
House prices	Higher*	Higher*
Household income	Lower*	N/S
Health insured coverage	Lower*	–
% Aged ≥65 years	Higher*	Higher*
% Educated above high school	Higher*	N/S
% Indigenous/American Indian	Higher*	N/S
Model R ²	0.49	0.39

Improved doctor supply in areas with hospitals, higher population, higher house prices and more older citizens



Higher turnover in areas without hospitals, with lower supply and more rural

Policy implications

- A substantial challenge for the primary care profession is to stimulate increased rural mobility in the middle and older age groups, and increase 'step-down' mobility from regional to smaller rural areas.
- Improved targeting of more vulnerable rural communities, particularly those where mobility patterns are most problematic is needed.
- Rural health workforce planners and policymakers need to be more cognisant of the key factors associated with increased mobility.
- Results are reasonably consistent across two large and similarly distributed countries of Australia and the USA.

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