TITLE:
Use of measures of socioeconomic deprivation in planning primary health care workforce and defining health care need in Australia

AUTHORS:
First
Danielle C Butler (corresponding author), MBBS, MPH
Australian Primary Health Care Research Institute,
ANU College of Medicine, Biology and the Environment
Building 62, Cnr Mills & Eggleston Roads
The Australian National University
Canberra, ACT
Phone: +61 2 61258573
Fax: +61 2 61252254
Email: dbutler@med.usyd.edu.au

Second
Stephen Petterson, PhD
The Robert Graham Center for Policy Studies in Family Medicine and Primary Care,
American Academy of Family Physicians
1350 Connecticut Avenue, N.W., Suite 201
Washington, DC 20036
Phone Number:+1 2023313360
Fax Number:+1 2023313374

Third
Andrew W. Bazemore, MD, MPH
The Robert Graham Center

Fourth
A/Professor Kirsty A Douglas,
Australian Primary Health Care Research Institute
ABSTRACT:

Objective: To examine whether measures of remoteness areas adequately reveal high need populations, measured against socioeconomic disadvantage and physician to population ratios.

Design: Exploratory spatial analysis of relationships between remoteness areas, medical workforce supply and the index of relative socioeconomic disadvantage (IRSD). Bivariate analyses examined associations between remoteness areas and IRSD. From this analysis, a composite score of deprivation was constructed combining measures of remoteness areas, physician to population ratios and IRSD, and validated against health outcome measures. These measures included avoidable mortality per 100,000, risk behaviour rate per 1000, diabetes rate per 1000. All analyses were conducted at the statistical local area level and weighted to be population representative.

Results: The percentage of small areas and populations within the most socioeconomically disadvantaged quintile rose with increasing remoteness. However, 12.8% of small areas within major cities and 40.7% of outer regional areas were also within the lowest socioeconomic quintile. There was a strong relationship between our composite score of deprivation and avoidable mortality, risk rate, diabetes rate and percent indigenous. Early regression analysis examined the relationship between each element of the composite score and health outcomes. This revealed that the relationship between avoidable mortality and remoteness was not associated after controlling for percent indigenous.

Conclusions: Using remoteness areas alone to prioritize workforce incentive programs and training requirements has significant limitations. Including measures of socioeconomic disadvantage and workforce supply would better target health inequities and improve resource allocation in Australia.

Key words: health equity, health care access, index of relative disadvantage, Geographic information systems, GIS