

# **Locality matters**

**The influence of geography on general practice activity in Australia 1998–2004**

**Australian GP Statistics and Classification Centre**

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# **BEACH**

## *Bettering the Evaluation and Care of Health*

# **Locality matters**

## **The influence of geography on general practice activity in Australia 1998–2004**

Stephanie Knox, Helena Britt, Ying Pan, Graeme C Miller, Clare Bayram,  
Lisa Valenti, Janice Charles, Joan Henderson, Anthea Ng, Julie O'Halloran

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# Foreword

This report on the influence of geography on general practice activity is timely. The recent Australian Government review of the use of the Rural, Remote and Metropolitan Areas (RRMA) of Australia to classify localities and its use of the RRMA classifications to provide targeted incentives to rural general practices means that geographic location has become a very hot topic in Australian health care. Even before this review there has been an ongoing discussion about the extent to which general practice differs between the city and country. The Australian College of Rural and Remote Medicine's application to the Australian Medical Council for specialty status and the debate whether rural and remote medicine constitutes a separate specialty adds even more interest in this review.

Currently most health policy decisions related to geographical location use the Rural, Remote and Metropolitan Areas (RRMA) of Australia to classify localities. The use of this system for health policy and funding has direct and significant effects on rural workforce and, as a result, on the health of our rural communities. However is the RRMA classification able to accurately classify regions into categories with equivalent health care needs and equivalent access to services? The current RRMA classification has not changed significantly in content since the 1991 census data, despite the fact that there have been censuses in 1996 and 2001. Should the RRMA classification continue to be used as the preferred geographical classification?

The Australian Standard Geographical Classification Remoteness Structure (ASGC) is a relatively new classification based on ARIA (Australian Remoteness Index of Australia) which classifies localities based on road distance from services. There are claimed flaws in the ARIA system too. ARIA for example is not able to distinguish between a dirt road and a major highway, nor between a town of 50,000 and a town of 200,000.

No classification system is perfect but for the first time, through a secondary analysis of BEACH data over 6 years, using information from 601,900 patient encounters, and 6,019 participating general practitioners, there has been enough data for each RRMA category to be described in terms of patient morbidity and management in general practice. This report gives us real tools to compare general practice activity across RRMA categories. This report also allows analysis using the newer ASGC classification of remoteness and provides a systematic comparison of the relative effectiveness of each classification in describing regional differences in general practice activity.

So does this analysis show the differences in rural practice across locations and will this report allow us to develop one system of classification that allow us to provide fair targeted incentives for our rural GPs and their communities? To achieve these aims the system must be able to distinguish those things that rural GPs working in towns find the most challenging: medical need, access to back up and access to services.

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Ethics approval for this study was obtained from the Human Ethics Committee of the University of Sydney and the Ethics Committee of the Australian Institute of Health and Welfare.

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# Executive summary

*Locality matters: the influence of geography on general practice activity in Australia 1998–2004* investigates differences between general practice activity in each of the geographic areas defined by the Rural, Remote and Metropolitan Areas (RRMA) classification. It further examines the relative effectiveness of the RRMA classification and the more recently developed Australian Standard Geographical Classification (ASGC) Remoteness Structure in differentiating general practice activity across geographic areas.

This report details findings from a secondary analysis of data collected in the BEACH program, a continuous study of general practice activity in Australia. We analysed 601,900 patient encounters, details of which were recorded by 6,019 participating general practitioners (GPs), during the six years between April 1998 and March 2004. Combining six years of continuous data collection has for the first time allowed a sufficient quantity of representative data to compare GP activity separately in each of the RRMA and ASGC Remoteness categories. This study may provide a better understanding of the complex factors affecting general practice activity in different geographic locations and provide information to assist in the Australian Government's current review of geographic classifications.

Differences between RRMA and ASGC Remoteness categories, in terms of the supply of GP services and Medicare Benefits Schedule general practice claims per population, are provided as background in Chapter 1. The substudy sample sizes by RRMA and ASGC Remoteness categories are reported in Chapter 3. In each chapter reporting the results of the BEACH study (Chapters 4–10), findings are first described in terms of differences across RRMA categories. This is followed by a description of additional findings using the ASGC Remoteness Structure. Chapter 11 provides a summary of findings for each RRMA category and for each ASGC category, drawn from the earlier results chapters.

The aim was to identify clear patterns of differences between the RRMA categories in terms of GP characteristics, patient demographics, morbidity managed, treatments received, referrals and test orders. Although there were many areas of general practice activity where GPs in the RRMA rural and remote zones differed from GPs in metropolitan areas, there were few systematic differences that distinctly defined one RRMA category from the categories adjacent to it. This may be partly explained by the RRMA method of allocating localities to categories based on population density and geographical distance to services.<sup>1</sup>

The ASGC Remoteness Structure, however, is based on road distance to service centres and is an unambiguous measure of remoteness in terms of distance from services. Using the ASGC gave a clearer picture of differences in general practice activity across geographical regions based on three emerging themes:

- trends with increasing remoteness
- unique aspects of Inner Regional Australia, and
- a better discrimination of extreme remoteness from services in the ASGC category Very Remote Australia.

Therefore, in the Discussion (Chapter 12), we have focussed on the differences revealed by the ASGC Remoteness Structure, specifically the trends with increasing remoteness, and the distinctive aspects of Inner Regional Australia and Very Remote Australia. The main points are detailed below.

### *Trends with increasing remoteness*

- The proportion of encounters with male patients increased with remoteness across Outer Regional, Remote and Very Remote Australia. There was also an increase in the rate of encounters with Indigenous persons with increasing remoteness.
- There was an increase in management rates of diabetes with increasing remoteness. This may indicate a higher prevalence of diabetes with increasing remoteness, especially among Indigenous patients. With less access to GPs however, patients may also have different priorities for attending the GP. Patients may be maintaining visit rates for important problems such as diabetes that require regular management but attending less often for transient problems such as upper respiratory tract infections. This may partly explain why diabetes formed a relatively greater proportion of the daily workload for GPs as remoteness increased.
- Less frequent annual visits per patient and an increasing proportion of encounters with new patients indicate that there was less continuity of care for patients as remoteness from services increased. This was accompanied by a trend for more general check-ups and an increase in pathology ordering rates with increasing remoteness. It appears that GPs in more remote locations were taking the opportunity to perform check-ups on new patients or those who visited infrequently. However, a decrease in the rate of Pap tests with increasing remoteness indicated that a lack of continuity of care hampers preventive care for women in remote locations.
- There were changes in general practice activity with increasing remoteness that indicated an increasing GP involvement in all aspects of patient treatment in the absence or shortage of local specialists. With increasing remoteness there was a general increase in the rate of procedural treatments and in the management of pregnancy and family planning issues, including more test orders for obstetric ultrasound. An increase in the rate of hospital referrals/admissions with increasing remoteness may be partly explained by rural and remote GPs managing patients in the local hospital.

### *Inner Regional Australia*

- Sixty-six per cent of the GP sample from the RRMA rural zone (Large Rural Centres, Small Rural Centres and Other Rural Areas) was classified into the ASGC category Inner Regional Australia and 32% as Outer Regional Australia. Inner Regional Australia encompasses satellite areas and coastal communities within reach of the Major Cities, while Outer Regional Australia is more representative of 'traditional' rural Australia.
- Patients seen at encounters in Inner Regional Australia were older than the national average. GPs in Inner Regional Australia were seeing fewer new patients, a greater proportion of concession card holders, fewer NESB patients and fewer Indigenous patients than GPs in other parts of Australia. This patient profile was reflected in the problems managed at encounters in Inner Regional Australia where patients had more chronic problems and fewer new or acute problems managed. The management rates of depression, back complaint, osteoarthritis, oesophageal disease and ischaemic heart disease were all significantly higher in Inner Regional Australia than the national average. These higher rates of chronic problems managed were not seen in either Major Cities or Outer Regional Australia, and marks Inner Regional Australia as distinct from its neighbouring categories in terms of morbidity managed.

### *Very Remote Australia*

- Very Remote Australia sometimes represented the extreme end of trends with remoteness, but in other respects it was qualitatively different from the adjacent category Remote Australia. One salient difference between Very Remote Australia and Remote Australia was the very large proportion of encounters with Indigenous patients in Very Remote Australia, especially those who spoke a language other than English. Very Remote Australia also had the greatest proportion of encounters with male patients and the smallest proportion of encounters with patients aged 65 years and older. Solar keratosis/sunburn and skin neoplasms which were commonly managed in Remote Australia were less common in Very Remote Australia, perhaps because such sun-related skin problems are less prevalent among Indigenous people.
- Other distinctive aspects of general practice activity in Very Remote Australia compared with Remote Australia were the higher management rates of urological problems, higher rate of new lipid disorders, and a lower management rate of psychological problems, including depression and sleep disturbance.

### *Conclusion*

In this study, differences in general practice activity that are related to rurality and remoteness have been clearly demonstrated. However, using the RRMA classification, clear patterns of differences cannot be easily described. We had greater success using the ASGC Remoteness Structure to describe general practice activity in terms of geographical location. Therefore RRMA may no longer be the most useful geographical classification for describing health care statistics or for health service policy development.