Appendix 1: Summary of the 1990–91 study of country and metropolitan general practice

A year long comparative study of country and metropolitan general practice was conducted in 1990 91 in the three eastern states of Australia by the Family Medicine Research Centre (then Unit) (Britt et al. 1993). At that time the RRMA classification was not available and rural areas were by necessity classified according to population of postcode. Three categories of rural areas were designated: small rural towns (population less than 5,000), medium rural towns (5,000 15,000) and large rural towns (more than 15,000). Metropolitan areas were defined as each of the three capital cities and their surrounding areas (keeping population density in mind). The sample of GPs was stratified within States by these strata. GPs each recorded for two periods of one week, six months apart.

The final dataset

The final sample numbered 231 GPs, 177 being in rural areas and 54 in metropolitan areas. There were records of 16,142 encounters (from 59 GPs) in small country towns, 17,548 encounters from 59 GPs in medium country towns, 17,587 encounters from 59 GPs in large country towns. This totalled 51,277 encounter records from 177 GPs in rural areas and there were 11,908 encounter records from 54 GPs in metropolitan areas. The data were weighted to be representative of the distribution of the source population.

The GPs

When compared with the GPs practising in metropolitan areas, rural GPs were less likely to be female and more likely to conduct consultations in a language other than English. They were older, more likely to be in solo practice and less likely to work part-time.

However, rural GPs in small and medium towns undertook more hospital and procedural work. The difference was not apparent between GPs in large rural towns and those in metropolitan areas.

The patients

There was no difference in the proportion of patients new to the practice. In rural areas a higher proportion of patients at encounters were male (41.9%) compared with encounters with metropolitan GPs (38.8%). Metropolitan GPs recorded more patient RFEs (149 per 100 encounters) than those in rural areas (140 per 100 encounters). RFEs related to the respiratory, cardiovascular and female genital systems or of a psychological nature were presented relatively less often in rural areas. In contrast, those related to the reproductive system were more common.

Morbidity

There were no significant differences between the strata in the rate of problem management at encounter. However, problems associated with the cardiovascular, the respiratory and the female genital systems were relatively less often managed in rural areas than in the metropolitan stratum. The relative rate of management of female genital problems

decreased with level of rurality. In contrast, problems related to the skin and to pregnancy and family planning were managed more frequently in rural areas.

Of the most common problems managed in general practice, hypertension, URTI, UTI and sprains/strains were all managed at significantly lower rates in rural areas than in the metropolitan areas. Some problems more frequently managed in rural practice included arthritis, otitis media and pre/postnatal care. More specifically, URTI was also more commonly managed in small rural towns when compared with all other rural strata. In contrast, while the relative rate of management of asthma did not differ between rural and metropolitan practice overall, its management rate in small rural towns was significantly lower than in large towns or in the metropolitan area. Acute bronchitis was also managed with relatively higher frequency in small rural towns than in metropolitan areas.

Comparison with 1969 74 results

The higher rates of management of respiratory problems in metropolitan areas had also been suggested (but not tested in the 1969 74 survey) (Bridges-Webb & RACGP 1976). The conclusion that this was due to lower levels of non-specific viral infection rather than bacterial conditions was supported by the results of both studies with few differences in the rates of management of acute bronchitis, sinusitis, tonsillitis or pneumonia across the rural strata.

The earlier survey also suggested a lower rate of management of obesity in rural areas. This was supported by the 1990 91 study. In neither study was a relationship demonstrated between the rate of management of psychological problems and rurality.

The 1969 74 study suggested that in metropolitan areas there were higher rates of management of cardiovascular disease overall and arrhythmia and cerebrovascular disease in particular, but only the first two of these differences were confirmed in the 1990 91 study.

There had also been a suggestion from the earlier study that the relative rates of management of sexually transmitted disease and iron deficiency anaemia were higher in metropolitan areas than in rural areas, but this was not confirmed statistically in the 1990 91 survey.

In 1969 74, results suggested a higher level of provision of antenatal care in rural areas and this was confirmed in the 1990 91 study. However, the earlier study also suggested there were higher levels of accidents and injuries managed in rural general practice than in metropolitan practice and this hypothesis was not confirmed in the 1990 91 study where it was found that while injuries of all types and lacerations in particular were more often managed in rural areas, sprains and sprains were significantly more frequently managed in metropolitan general practice.

Prescriptions

In 1990-91 there was no significant difference in prescription rates between rural and metropolitan areas, but in small rural towns prescribing rates were significantly lower than in medium and large rural towns. In particular, prescribing rates for antibiotics showed significant differences across strata. Significantly fewer prescriptions for penicillin were recorded in small rural towns compared with most other strata. Overall amoxycillin and doxycycline were prescribed significantly less often in rural than in metropolitan areas.

Prescription for pharmaceuticals acting on the musculoskeletal system were more likely in rural areas than in metropolitan areas and this trend was reflected specifically in higher prescribing rates for NSAIDs. These results are contrary to the earlier reported result of lower rates of management of musculoskeletal problems in rural areas overall. In contrast, cardiovascular medications were less frequently prescribed in rural areas, particularly in small rural towns, probably reflecting the lower rate of management of cardiovascular problems in rural strata.

The prescription rates for CNS medications did not differ significantly between rural and metropolitan practice but were significantly higher in medium rural towns. More specifically, however, three CNS medication sub-groups were prescribed significantly more often in rural areas than in metropolitan areas. These were compound analgesics, narcotic analgesics and anticonvulsants.

Of the most frequently prescribed pharmaceuticals, paracetamol was less often prescribed in rural areas than in metropolitan practice and trimethoprim was prescribed significantly more often in rural areas.

Other treatments

Counselling was less frequently recorded in rural areas, particularly in small and medium rural towns. Therapeutic procedures were no more common in rural areas than in metropolitan areas. However, the relative rates of obstetric and urogenital procedures were significantly higher in rural areas. There were also significantly higher rate of procedural work classified as repair/immobilise and press/compress/dilate in small rural towns.

Referrals

There was no significant difference in the relative rate of referral to specialists between rural and metropolitan practice, but the rate in small rural towns was significantly lower than that in most other strata. The only difference in the relative rates of referral to specific specialist groups was referrals to obstetricians and gynaecologists where the rate was low in small and medium rural towns than in metropolitan areas. These results parallel the higher rates of pre/postnatal care provided by rural GPs earlier reports.

Referral rates to allied health professionals were significantly higher in medium rural towns than in both other strata.

Test and investigations

The rates of orders for pathology tests and for imaging tests showed no significant difference between rural and metropolitan areas.

Appendix 2: Example of a recording form used in 1998-99

BEACH (Bettering the Evaluation And Care of Health) -Morbidity and Treatment Survey -National National

DOCID:

Date of encounter	Date of Birth	Sex	Patient status	Patient Postcode
___/___/___	___/___/___	M ☐ F ☐	New ☐ Old ☐	

NESB?	Aboriginal?	Torres Strait Islander?
Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐

Encounter Number:

Patient Reasons for Encounter (up to three)	HCC Status	Veterans Affairs
1.	Yes ☐	Gold card ☐
2.	No ☐	White card ☐
3.		

PATIENT SEEN
Item no. ____
W/C paid ☐
Other paid ☐
No charge ☐

PATIENT NOT SEEN
Script..... ☐
Referral..... ☐
Certificate..... ☐
Other..... ☐

1. Diagnosis/problem — Work Related ☐ — **Problem status** New ☐ Old ☐

Medications for this problem: (up to four)

	Strength	Regimen	No. Rpts	? OTC	GP Supply	Drug status New	Drug status Cont.
1.							
2.							
3.							
4.							

Procedures, other treatment, counselling

New referrals, admissions

2. Diagnosis/problem — Work Related ☐ — **Problem status** New ☐ Old ☐

Medications for this problem: (up to four)

	Strength	Regimen	No. Rpts	? OTC	GP Supply	Drug status New	Drug status Cont.
1.							
2.							
3.							
4.							

Procedures, other treatment, counselling

New referrals, admissions

3. Diagnosis/problem — Work Related ☐ — **Problem status** New ☐ Old ☐

Medications for this problem: (up to four)

	Strength	Regimen	No. Rpts	? OTC	GP Supply	Drug status New	Drug status Cont.
1.							
2.							
3.							
4.							

Procedures, other treatment, counselling

New referrals, admissions

4. Diagnosis/problem — Work Related ☐ — **Problem status** New ☐ Old ☐

Medications for this problem: (up to four)

	Strength	Regimen	No. Rpts	? OTC	GP Supply	Drug status New	Drug status Cont.
1.							
2.							
3.							
4.							

Procedures, other treatment, counselling

New referrals, admissions

Pathology for problem(s)

1 ..... 1 2 3 4
2 ..... 1 2 3 4
3 ..... 1 2 3 4
4 ..... 1 2 3 4
5 ..... 1 2 3 4

Test/Body Site for problem(s)

Plain X-ray 1 2 3 4 .....
US/CT/Contrast 1 2 3 4 .....
Other Imaging 1 2 3 4 .....

To the patient:
In general would you say your health is:

Excellent..... ☐
Very good... ☐
Good..... ☐
Fair..... ☐
Poor..... ☐

Patient's
Height: ____ cm
Weight: ____ kg

To the patient if 18+:
How often do you have a drink containing alcohol?

Never ☐ 2-4 times a week ☐
Monthly ☐ 5+ times a week ☐
Once a week ☐

How many standard drinks do you have on a typical day when you are drinking? ____

How often do you have 6 or more standard drinks on one occasion?

Never..... ☐
Monthly or less..... ☐
Once a week..... ☐
2-4 times a week... ☐
5+ times a week.... ☐

BOIA

Appendix 3: Example of a recording form used in 1999–2000.

BEACH (Bettering the Evaluation And Care of Health) - Morbidity and Treatment Survey - National

DOCID

Encounter Number

Date of encounter	Date of Birth	Sex	Patient Postcode
____/____/____	____/____/____	M ☐ F ☐	

Patient Reasons for Encounter
1.
2.
3.

New patient..... ☐
Health Care Card holder.. ☐
NESB..... ☐
Aboriginal..... ☐
Torres Strait Islander..... ☐
Veterans Affairs Card
White card..... ☐
Gold card..... ☐

PATIENT SEEN
Item No
MBS/Vet.Affairs
VA paid..... ☐
Workers comp paid..... ☐
State/Other paid..... ☐
No charge/Unpaid..... ☐

PATIENT NOT SEEN
Script..... ☐
Referral..... ☐
Certificate..... ☐
Other..... ☐

1. Diagnosis/problem — **New problem** ☐ **Work related** ☐

Medications/vaccines for this problem	Strength	Regimen	No. of Rpts	? OTC	GP Supply	New Drug
1.						
2.						
3.						
4.						

Procedures, other treatment, counselling this consult
1.
2.

New referrals, admissions
1.
2.

2. Diagnosis/problem — **New problem** ☐ **Work related** ☐

Medications/vaccines for this problem	Strength	Regimen	No. of Rpts	? OTC	GP Supply	New Drug
1.						
2.						
3.						
4.						

Procedures, other treatment, counselling this consult
1.
2.

New referrals, admissions
1.
2.

3. Diagnosis/problem — **New problem** ☐ **Work related** ☐

Medications/vaccines for this problem	Strength	Regimen	No. of Rpts	? OTC	GP Supply	New Drug
1.						
2.						
3.						
4.						

Procedures, other treatment, counselling this consult
1.
2.

New referrals, admissions
1.
2.

4. Diagnosis/problem — **New problem** ☐ **Work related** ☐

Medications/vaccines for this problem	Strength	Regimen	No. of Rpts	? OTC	GP Supply	New Drug
1.						
2.						
3.						
4.						

Procedures, other treatment, counselling this consult
1.
2.

New referrals, admissions
1.
2.

Pathology For problem(s)
1 ..... 1 2 3 4
2 ..... 1 2 3 4
3 ..... 1 2 3 4
4 ..... 1 2 3 4
5 ..... 1 2 3 4

Imaging & other tests (+Body site) Problem(s)
1 ..... 1 2 3 4
2 ..... 1 2 3 4
3 ..... 1 2 3 4

To the patient:
In general would you say your health is:
Excellent..... ☐
Very good..... ☐
Good..... ☐
Fair..... ☐
Poor..... ☐

Patient's
Height: ____ cm
Weight: ____

To the patient if 18+:
How often do you have a drink containing alcohol?
Never..... ☐
Monthly or less..... ☐
Once a week..... ☐
2-4 times a week..... ☐
5+ times a week..... ☐

How many standard drinks do you have on a typical day when you are drinking?
____

How often do you have 6 or more standard drinks on one occasion?
Never..... ☐
Monthly or less..... ☐
Once a week..... ☐
2-4 times a week..... ☐
5+ times a week..... ☐

BA

Appendix 4: GP characteristics questionnaire 1998–99

The University of Sydney
at Westmead Hospital

General Practice Statistics and Classification Unit
Family Medicine Research Centre
Department of General Practice

a collaborating unit of the
Australian Institute of Health and Welfare

AIHW

Please fill in boxes or circle answers where appropriate

1. Doctor Identification Number: ☐☐☐☐

2. Sex: Male / Female 3. Age ☐

4. How many years have you spent in general practice? ☐

5. Number of general practice sessions you usually work per week? ☐

6. How many **full-time** (>5 sessions per week) general practitioners work with you at this practice? (Practice= shared medical records) ☐

7. How many **part-time** (<6 sessions per week) general practitioners work with you at this practice? (Practice= shared medical records) ☐

8. Do you conduct more than **50%** of consultations in a language other than English? Yes / No

9. What is the postcode of your major practice address? ☐☐☐☐

10. Country of graduation: Aust NZ Asia UK Other: _____

11. General Practice training status (CSCT or RACGP training programme)? Presently training / Completed training / Not applicable

12. Do you hold FRACGP? Yes / No

13. Are you a member of any of the following organisations? AMA RACGP RDAA

14. How do you routinely instruct pharmacists on the substitution of generic drugs? No substitute allowed / Substitute allowed

15. Special interests: *(up to three)*

1. Acupuncture	7. Dermatology	13. Paediatrics
2. Anaesthetics	8. Diabetes	14. Preventive medicine
3. Asthma	9. Geriatrics/aged care	15. Psychiatry
4. Cardiology	10. Nutrition	16. Sports medicine
5. Computers	11. Obstetrics/antenatal	17. Surgery
6. Counselling	12. Occup./indust.med.	18. Women's Health

Other _____

Appendix 5: GP characteristics questionnaire 1999–2000

The University of Sydney
at Westmead Hospital

General Practice Statistics and Classification Unit
Family Medicine Research Centre
Department of General Practice

a collaborating unit of the
Australian Institute of Health and Welfare

AIHW

Please fill in boxes or circle answers where appropriate

Doctor Identification Number | | | | |

1. Sex: ..... **Male / Female**

2. Age ..... |_|

3. How many years have you spent in general practice? ..... |_|

4. Number of general practice sessions you usually work per week? ..... |_|

5. How many **full-time** (>5 sessions per week) general practitioners work with you at this practice? (Practice= shared medical records) ..... |_|

6. How many **part-time** (<6 sessions per week) general practitioners work with you at this practice? (Practice = shared medical records) ..... |_|

7. Do you conduct more than **50%** of consultations in a language other than English? ..... **Yes / No**

8. What is the postcode of your major practice address? ..... |_|_|_|_|

9. Country of graduation: ..... **Aust** **NZ** **Asia** **UK** **Other:(specify)** .....

10. General Practice training status ..... **Presently training** **Completed training** **Not Applicable**
(CSCT or RACGP training programme)?

11. Do you hold FRACGP? ..... **Yes / No**

12. Are you a member of any of the following organisations? **AMA** **RACGP** **RDAA**

13. How do you routinely instruct pharmacists on the substitution of generic drugs? **No substitute allowed** **Substitute allowed**

14. To what extent are computers used at your major practice address? *(Circle as many as apply)*
Not at all **Billing** **Prescribing** **Medical Records** **Internet / Email** **Other Admin**

15. Is this practice accredited ? ..... **Yes / No**

16. What are the normal after-hours arrangements for your practice?
Practice does its own **Co-operative with oth. practices** **Deputising service** **Referral to other service (eg A&E)** **Other** **None**

17. Do you have your own ***on-site*** NATA accredited pathology lab? ..... **Yes / No**

18. Which external pathology provider does your practice normally use?
Name of provider.....
Provider's Postcode |_|_|_|_|

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