

**Rural Workforce Agencies Minimum Data Set Report as at 30<sup>th</sup>  
November 2004**

## **Health Workforce Queensland and New South Wales Rural Doctors Network 2005**

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## **Rural Workforce Agencies Minimum Data Set Report – 30 November 2004**

### **1. Introduction**

During the 2001-2004 triennium, as a part of their contractual agreement with the Australian Government Department of Health and Ageing (AGDoHA), Rural Workforce Agencies (RWAs) in all states and territory were required to collect and report a minimum, specified set of data in relation to the rural and remote general practice workforce in locations classified RRMA 4 through RRMA 7.

Undertaken individually by each RWA, deidentified data were compiled nationally through the Australian Rural and Remote Workforce Agencies Group (ARRWAG) to provide a comprehensive portrayal of the Australian rural and remote medical workforce.

The requirement to collect and report a minimum data set and compile these data through ARRWAG were not included in AGDoHA's specifications for the 2004-2007 triennium. However, the RWAs in all states and territory appreciated the utility of maintaining a core set of data in relation the rural and remote medical workforce that was current and based on operational information systems maintained by the RWAs. As such it was decided that the RWAs would continue to collect and compile a national Minimum Data Set for RRMA 4 to 7 locations.

The data were first compiled at a national level in December 2001 and are updated on an annual basis as at 30<sup>th</sup> November each year. Data in relation to numbers of GPs, age, gender, procedural skills and length of stay in current location are largely derived from databases maintained by each RWA. Data in relation in primary income source, models of service provision, hours of work and types of practice are largely self-reported.

Each RWA normally surveys rural and remote medical practitioners in their state or territory in the third quarter each year. Core questions for the Minimum Data Set have been developed and standardised among the states and territories. In addition, states and territory have the flexibility to incorporate additional questions should they wish. While the annual MDS survey is a major component of the data reported, all RWAs utilise additional resources to verify and validate their data. It should also be noted that the number of doctors reported reflect the more stable elements of the rural and remote medical workforce and do not normally include transient, short term service providers (e.g. locum tenens).

Data provided in this report are a compilation of core data provided by Rural Workforce Agencies in all states and territory and was current as at 30<sup>th</sup> November 2004.

### **2. Demographics of GP workforce**

This section will enumerate the rural and remote medical workforce by state, RRMA, age and gender.

Data indicated that as at 30 November 2004, the number of medical practitioners practicing in RRMA 4 to 7 locations was 4186. This represents an increase of 112 practitioners compared with numbers reported as at 30<sup>th</sup> November 2003. Table 1 presents the total number of medical practitioners working in RRMA 4 to 7 by State or Territory as at 30<sup>th</sup> November 2004. Table 2

provides a breakdown of this distribution by gender and RRMA while Table 3 displays gender composition by state.

**Table 1: Practitioner numbers by State and RRMA**

State	RRMA 4		RRMA 5		RRMA 6		RRMA7		Totals
	N	%	N	%	N	%	N	%	
<b>NSW</b>	<b>509</b>	43.7%	<b>618</b>	53.1%	<b>0</b>	0.0%	<b>37</b>	3.2%	<b>1164</b>
<b>NT</b>	<b>0</b>	0.0%	<b>1</b>	1.0%	<b>62</b>	63.9%	<b>34</b>	35.1%	<b>97</b>
<b>QLD</b>	<b>344</b>	35.6%	<b>431</b>	44.7%	<b>106</b>	11.0%	<b>84</b>	8.7%	<b>965</b>
<b>SA</b>	<b>91</b>	24.9%	<b>257</b>	70.2%	<b>0</b>	0.0%	<b>18</b>	4.9%	<b>366</b>
<b>TAS</b>	<b>48</b>	27.7%	<b>121</b>	69.9%	<b>0</b>	0.0%	<b>4</b>	2.3%	<b>173</b>
<b>VIC</b>	<b>316</b>	34.9%	<b>582</b>	64.2%	<b>0</b>	0.0%	<b>8</b>	0.9%	<b>906</b>
<b>WA</b>	<b>141</b>	27.4%	<b>170</b>	33.0%	<b>116</b>	22.5%	<b>88</b>	17.1%	<b>515</b>
<b>Totals</b>	<b>1449</b>	34.6%	<b>2180</b>	52.1%	<b>284</b>	6.8%	<b>273</b>	6.5%	<b>4186</b>

**Table 2: Gender by RRMA**

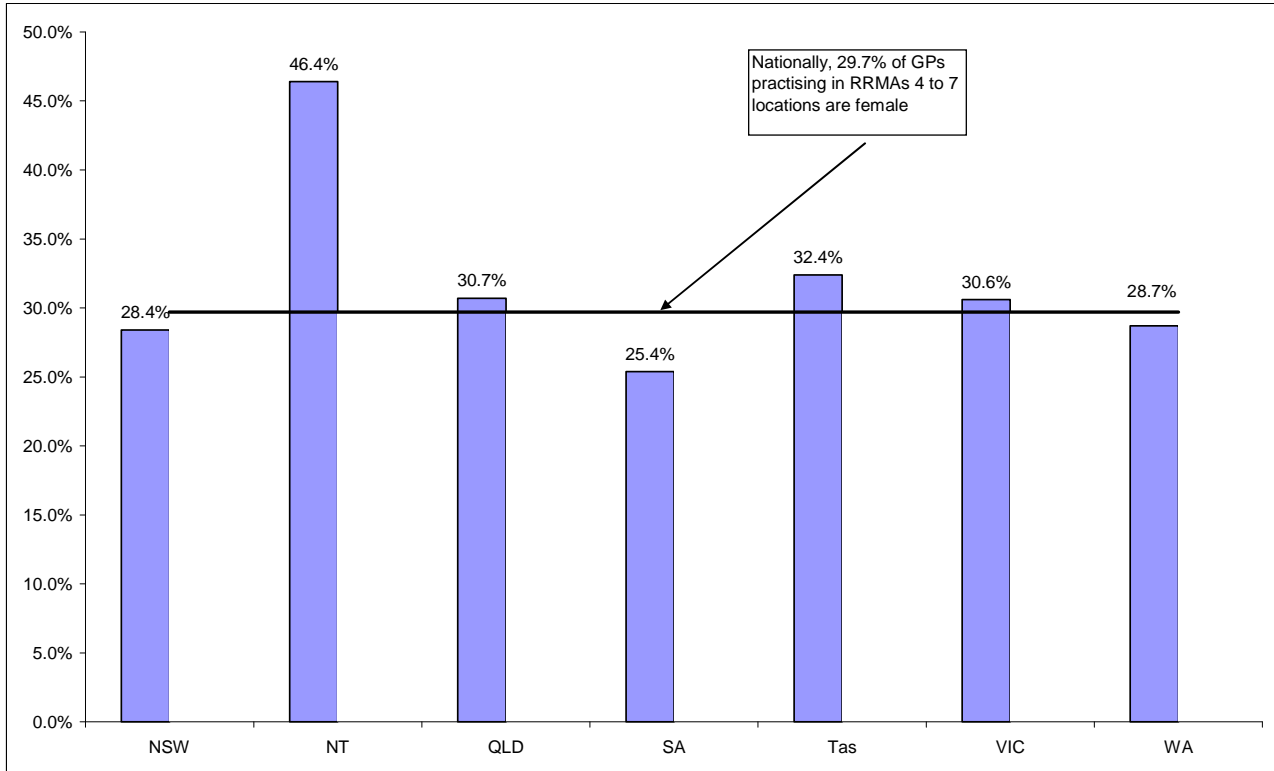
RRMA	Male	Female	% Female	Total
RRMA 4	1004	445	30.7%	1449
RRMA 5	1541	639	29.3%	2180
RRMA 6	190	94	33.1%	284
RRMA 7	206	67	24.5%	273
<b>Total</b>	<b>2941</b>	<b>1245</b>	<b>29.7%</b>	<b>4186</b>

**Table 3: Gender by State**

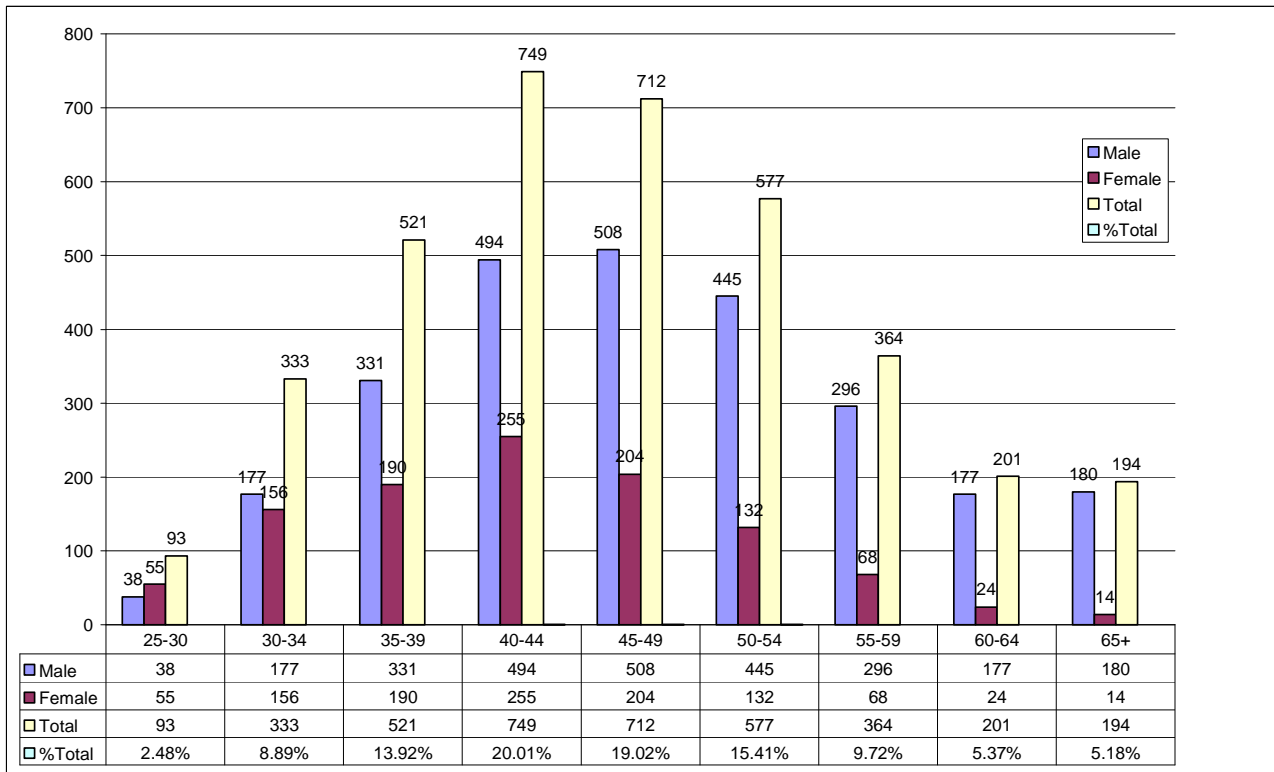
State	Male	Female	% Female	Total
NSW	834	330	28.4%	1164
NT	52	45	46.4%	97
QLD	669	296	30.7%	965
SA	273	93	25.4%	366
TAS	117	56	32.4%	173
VIC	629	277	30.6%	906
WA	367	148	28.7%	515
<b>Total</b>	<b>2941</b>	<b>1245</b>	<b>29.7%</b>	<b>4186</b>

Table 3 indicates that the proportion of female practitioners in the Northern Territory is comparatively higher than any other state. Figure 1 displays the percentage of female practitioners by state compared with the national average for rural and remote female practitioners. Figure 2 provides a breakdown of the number of rural and remote medical practitioners by gender and 5 year age categories. Figure 3 displays the proportion of male and female practitioners in five-year age categories.

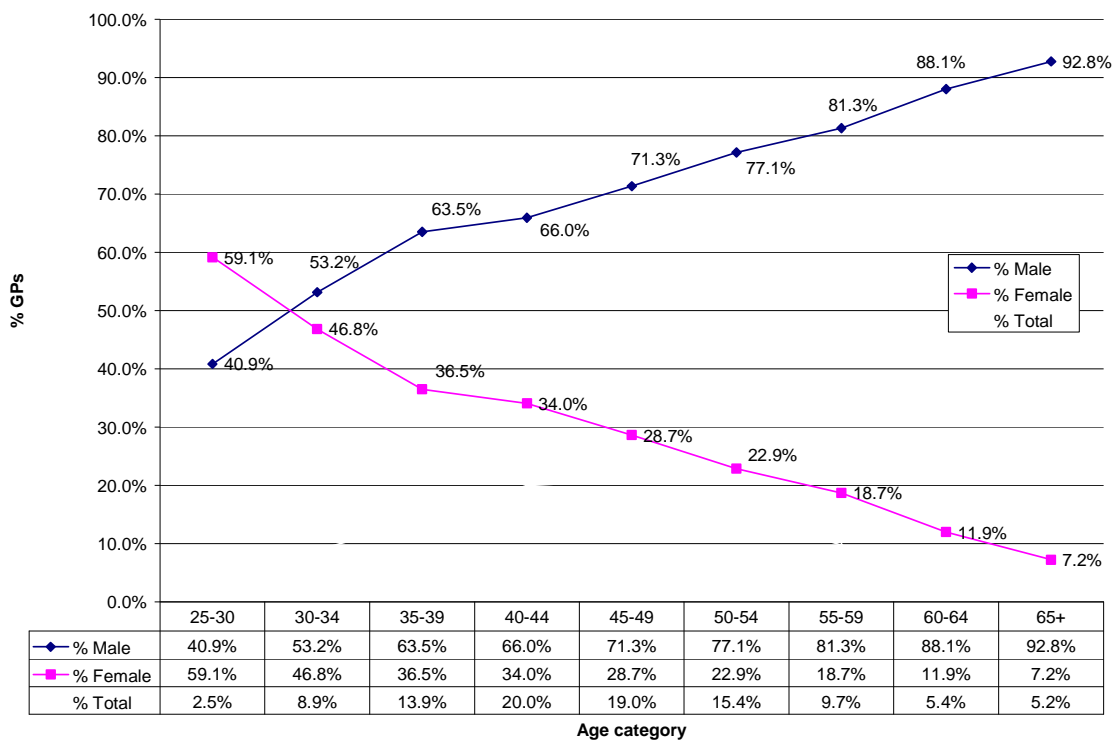
**Figure 1: Percentage of female practitioners by state**



**Figure 2: Number of rural and remote medical practitioners by 5 year age categories (N=3744)**



**Figure 3: Proportion of male and female practitioners in five-year age categories (N=3744)**



Nationally, the average age for male GPs was 48.6 years and 43.4 for females. The overall average age for all practitioners (N=3744) was 47.1 years. Table 4 displays gender distribution by broad age categories by RRMA.

**Table 4: Practitioner ages by gender and RRMA - broad age categories (N=3744)**

Age Category	Gender	RRMA 4	RRMA 5	RRMA 6	RRMA 7	Total
25 to 34	Male	67	113	21	14	215
	Female	64	103	22	22	211
	Total	131	216	43	36	426
35 to 44	Male	268	415	63	79	825
	Female	151	222	41	31	445
	Total	419	637	104	110	1270
45-54	Male	349	503	44	57	953
	Female	128	186	13	9	336
	Total	477	689	57	66	1289
55-64	Male	154	261	29	29	473
	Female	36	48	4	4	92
	Total	190	309	33	33	565
65 plus	Male	61	104	4	11	180
	Female	6	6	2	0	14
	Total	67	110	6	11	194



### 3. Workloads

Estimates of Full Time Equivalents (FTEs) and Full Time Workload Equivalents (FWEs) as used by the Health Insurance Commission (HIC) in calculating GP medical service provision are based solely on the number and the dollar value of claims made by a provider over a given reference period (usually 12 months). While these can be useful measures of overall service provision under Medicare, they do not reflect the number of hours worked in providing medical services or services provided that are not claimed or are not claimable through the HIC. For example, a medical practitioner is classified as full-time by the HIC if the Schedule fee value of services processed over a 12 month period is \$86,727<sup>1</sup> (2003-2004) or more for that practitioner. Similarly, a Full Time Workload Equivalent (FWE) value is calculated for each doctor by dividing the doctor's Medicare billing (Schedule fee value of claims processed by the HIC during the reference period) by the mean billing of full-time doctors for reference period. For the 2002-2003 reference period, this value for vocationally registered doctors was \$221,864.<sup>2</sup>

An alternative measure of service provision is number of hours worked. The Australian Bureau of Statistics (ABS) defines full-time work as being 35 hours per week or more and part-time work as less than 35 hours. It is this measure that has been chosen by ARRWAG to differentiate between full-time and part-time service provision.

An estimate of full-time or part-time medical service provision utilising ABS benchmark was undertaken based on self reported GP clinical hours worked. Data was available for 73.69% of the total number of GPs. Data as displayed in Table 5 indicates that 66% of respondents worked 35 hours a week or more in the provision of routine clinical GP services.

**Table 5: Self-reported GP clinical hours**

Hours	Number	Percent
Less than 20 hours	325	11.1
20 to 35 hours	754	25.7
35 hours plus	1860	63.3
Total	2939	100.0

It should be noted that hours reported are for those worked in GP practice only and should not be interpreted as total hours since hospital hours, travel, teaching, supervision time etc. are not included. The average number of GP clinical hours reported was 36.54 hours per week (N=2939).

A further breakdown of self-reported GP clinical hours by gender is displayed in Table 6 below.

**Table 6: Self-reported GP clinical hours by gender**

Clinical Hours	Male		Female	
	Number	Percent	Number	Percent
Less than 20 hours	149	7.3	176	19.8
20 to 35 hours	408	19.9	346	38.8
35 hours plus	1491	72.8	369	41.4
Total	2048	100.0	891	100.0

<sup>1</sup> Australian Government Department of Health and Ageing. (2005). *RFT 127/0405 - Request for tender for a medical workforce profile project*. Canberra: ADoHA

<sup>2</sup> Ibid

Self reported total hours were also explored. In addition to clinical hours, these hours may include hospital hours, time spent in travel between practices, population health, teaching, administrative or representative work. Data were available for 74.4% of practitioners. Table 7 displays self-reported total weekly hours while Table 8 displays total hours by gender. The average reported total hours were 43.68 hours per week (N=3116).

**Table 7: Self-reported total hours**

Hours	Frequency	Percent
Less than 20 hours	215	6.9
20 to 35 hours	563	18.1
35 hours plus	2338	75.0
Total	3116	100.0

Data indicates that 25% of practitioners are currently working part time as defined by the ABS (i.e. less than 35 hours per week). Emerging trends in relation to the changing gender composition and work expectations of younger medical graduates suggest that it is possible that this proportion will increase over time.

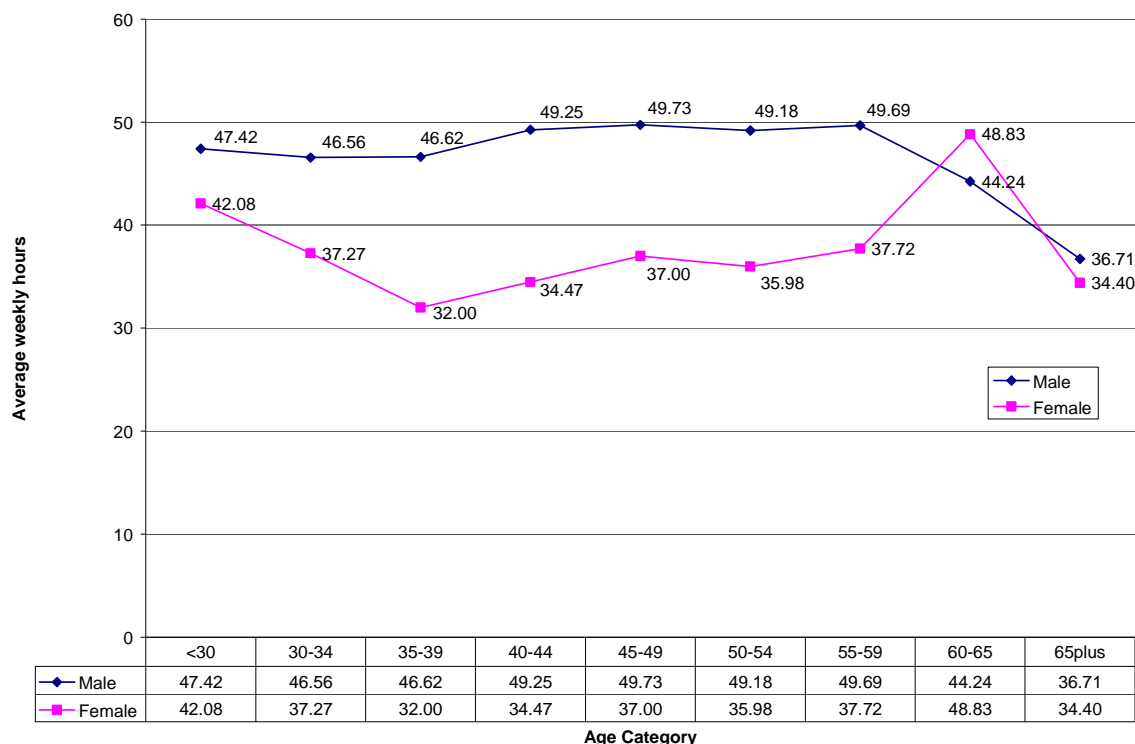
**Table 8: Self-reported total hours by gender**

Total hours	Male		Female	
	Number	Percent	Number	Percent
Less than 20 hours	86	3.9	129	13.9
20 to 35 hours	256	11.7	307	33.0
35 hours plus	1845	84.4	493	53.1
Total	2187	100.0	929	100.0

Data for both self reported GP and self reported total hours, appears to be in line with national trends that suggest that female practitioners tend to work less hours compared with their male counterparts (AMWAC, 2005; CDHAC, 2001). Explanations for these differences have been well documented and reported in a considerable number of studies and will not be explored further in this analysis.

A more refined breakdown of average total hours by gender and age categories is presented in Figure 4. Additional, detailed data in relation to hours worked is presented in Appendix 1.

**Figure 4: Average total hours worked by gender and age categories (N=2872)**



#### 4. Length of stay in current principal practice

Nationally, the average length of stay in current principal practice was 8.25 years. A more refined breakdown by duration and RRMA is provided in Table 9.

**Table 9: Length of stay in current practice by RRMA**

	Duration								Total
	< 6mths	6-12 mths	1-2 yrs	2-3 yrs	3-5 yrs	5-10 yrs	10-20 yrs	20 yrs +	
RRMA 4	134	129	149	110	163	205	217	193	1300
RRMA 5	141	197	233	155	243	312	382	290	1953
RRMA 6	51	49	44	34	33	34	22	16	283
RRMA 7	34	47	49	34	31	39	17	14	265
Total	360	422	475	333	470	590	638	513	3801

Data indicates that while 79.4 % (N=3019) of respondents have practiced in their current rural and remote locations for more than a year, 20.6% (N=782) are relatively new to their current practice and have been practising in these locations for less than 12 months.

## 5. Known number of proceduralists

The MDS survey further seeks to enumerate the number of rural and remote non-specialist practitioners providing procedural services in RRMA 4 to 7 locations. However, national data in relation to the provision of procedural services in rural and remote Australia may be incomplete due to non-respondents. The known number and proportions of practitioners providing specified procedural services as at 30 November 2004 is detailed in Tables 10 to 13 (below). In many cases it is possible for a practitioner to perform a number of procedures e.g., Anaesthetics and Obstetrics or Obstetrics and Surgery. The number of known procedural practitioners as detailed in Tables 10 and 12 (N=933) is therefore less than the total number of procedures documented (N1420). Of the 933 procedural practitioners, 395 (42.3%) perform multiple procedures. A Venn diagram illustrating practitioners undertaking single or multiple procedures is displayed in Figure 5. Gender composition of proceduralists compared to the general rural and remote medical workforce is displayed in Figure 6.

**Table 10: Number of practitioners undertaking procedural work by type and State**

Procedure	NSW	NT	QLD	SA	TAS	VIC	WA	National*
Anaesthetics General	99	6	83	74	0	103	94	459
Obstetrics Normal Delivery	152	11	125	76	6	155	132	657
Surgery Operative	67	8	67	27	7	73	55	304
Known Proceduralists**	233	17	169	122	11	202	179	933
Total practitioners	1164	97	965	366	173	906	515	4186

**Table 11: Proportions of practitioners undertaking procedural work by type and State**

Procedure	NSW	NT	QLD	SA	TAS	VIC	WA	National*
Anaesthetics General	8.5%	6.2%	8.6%	20.2%	0.0%	11.4%	18.3%	11.0%
Obstetrics Normal Delivery	13.1%	11.3%	13.0%	20.8%	3.5%	17.1%	25.6%	15.7%
Surgery Operative	5.8%	8.2%	6.9%	7.4%	4.0%	8.1%	10.7%	7.3%
Known Proceduralists**	20.0%	17.5%	17.5%	33.3%	6.4%	22.3%	34.8%	22.3%

**Table 12: Number of practitioners undertaking procedural work by type and RRMA**

Procedure	RRMA4	RRMA5	RRMA6	RRMA7	National*
Anaesthetics General	109	275	37	38	459
Obstetrics Normal Delivery	176	369	57	55	657
Surgery Operative	78	177	25	24	304
Known Proceduralists**	246	532	74	81	933
Total Practitioners	1449	2180	284	273	4186

**Table 13: Proportions of practitioners undertaking procedural work by type and RRMA**

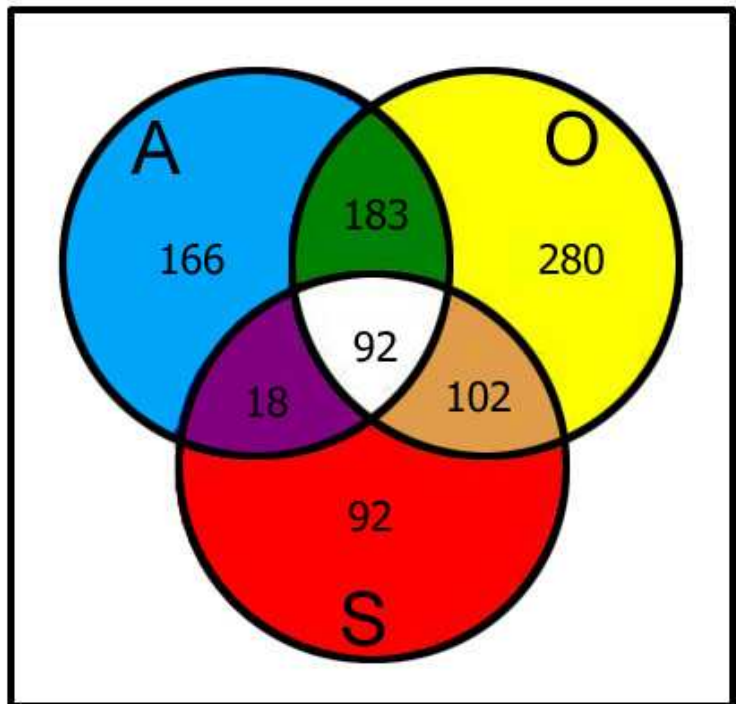
Procedure	RRMA4	RRMA5	RRMA6	RRMA7	National*
Anaesthetics General	7.5%	12.6%	13.0%	13.9%	11.0%
Obstetrics Normal Delivery	12.1%	16.9%	20.1%	20.1%	15.7%
Surgery Operative	5.4%	8.1%	8.8%	8.8%	7.3%
Known Proceduralists**	17.0%	24.4%	26.1%	29.7%	22.3%

\* GPs practicing in RRMA 4 - 7

\*\* GPs practicing in at least one procedural field

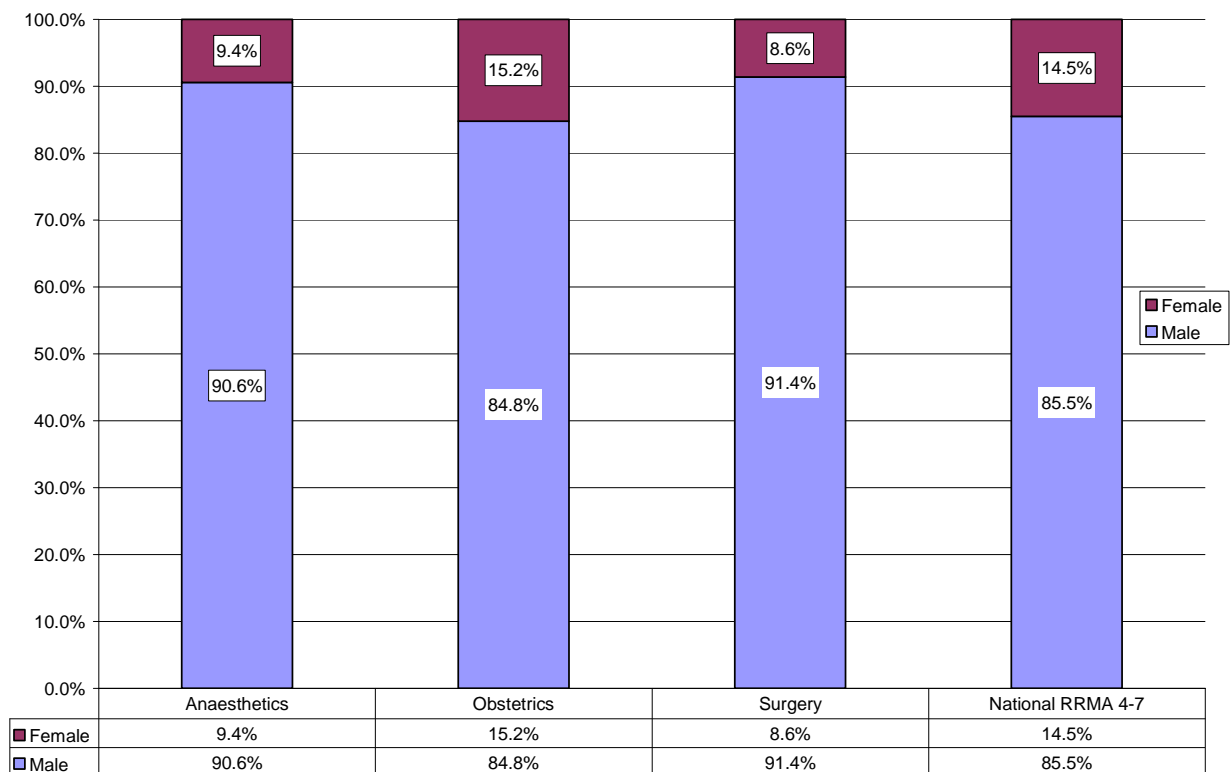
**Figure 5: Venn diagram illustrating numbers undertaking single or multiple procedures (N933)**

- 280 Obstetrics Only
- 183 Obstetrics & Anaesthetics
- 166 Anaesthetics Only
- 18 Anaesthetics & Surgery
- 92 Surgery Only
- 102 Surgery & Obstetrics
- 92 Surgery, Obstetrics & Anaesthetics



Total: 933

**Figure 6: Gender composition of proceduralist and general rural and remote medical workforce (RRMA 4 to 7)**



## 6. Emergency care and Aboriginal health

The survey further sought to enumerate the number of rural and remote practitioners who provide regular emergency care or Aboriginal health services. Tables 14 to 17 display these figures by state and RRMA.

**Table 14: Number and proportions of practitioners providing emergency care by state**

State	Number	Percent
NSW	324	27.8
NT	35	36.1
QLD	507	52.5
SA	165	45.1
TAS	87	50.3
VIC	449	49.6
WA	331	64.3
<b>Total</b>	1898	45.3

**Table 15: Number and proportions of practitioners providing emergency care services by RRMA**

RRMA	Number	Percent
4	453	31.3
5	1121	51.4
6	138	48.6
7	186	68.1
<b>Total</b>	1898	45.3

**Table 16: Number and proportions of practitioners providing Aboriginal health services by State**

State	Number	Percent
NSW	49	4.2
NT	75	77.3
QLD	313	32.4
SA	43	11.7
TAS	20	11.6
VIC	103	11.4
WA	192	37.3
<b>Total</b>	795	19.0

**Table 17: Number and proportions of practitioners providing Aboriginal health services by RRMA**

RRMA	Number	Percent
4	179	12.4
5	325	14.9
6	147	51.8
7	144	52.7
<b>Total</b>	795	19.0

## 7. Types of practice

The Number of GPs working in each practice type by RRMA was also explored. Table 18 displays the number of doctors working in each practice type by RRMA for the period ending 30<sup>th</sup> November 2004. Data was missing or inadequately described for 7 respondents.

**Table 18: Practice type by RRMA**

RRMA	Solo		Group	
	Number	Percent	Number	Percent
4	170	11.7	1278	88.3
5	385	17.7	1789	82.3
6	19	6.7	265	93.3
7	82	30.0	191	70.0
<b>Total</b>	656	15.7	3523	84.3

## 8. Primary Income Source

Table 19 below displays self-reported data on primary income source. Data was available for 2641 (63.1%) respondents. Caution should be exercised in interpreting these data as a significant number of practitioners had more than one income source and in some cases the option selected was not always consistent with known data. For example, in Queensland, some Medical Superintendents with Right to Private Practice described their primary income source as 'Fee for service' while others chose the 'State salaried with rights to private practice' option.

**Table 19: Self -reported primary income source**

Primary Income Source	Number	Percent
Fee for service	1614	61.1
State salaried with right to private practice	105	4.0
State salaried without right to private practice	218	8.3
Private practice wage or salary	505	19.1
Local government wage or salary	14	0.5
Non government wage or salary	41	1.6
Aboriginal community controlled health service salary	94	3.6
Other	50	1.9
<b>Total</b>	2641	100.0

## 9. Primary Model of Service Provision

Table 20 below displays self-reported data on primary models of service provision. Data was available for 3393 (81.1%) respondents. Again, caution needs to be exercised in the interpretation of these data as many practitioners have several models of service provision and in some instances; the option chosen was not always consistent with known data. For example, the number of Registrars is understated as many described their primary model as 'Resident GP' or 'Hospital Based GP'.

**Table 20: Primary model of service provision**

Primary Model of service provision	Number	Percent
Resident GP	2848	83.9
"Fly in Fly Out"	31	0.9
Member of a Primary Health Care Team	57	1.7
Hospital based GP	162	4.8
Registrar	265	7.8
Other	30	0.9
<b>Total</b>	<b>3393</b>	<b>100.0</b>

## 10. Registrars

The number of Registrars currently working in RRMA 4 to 7 locations by state was also explored. These data differ somewhat from self-reported data as shown in Table 20. This is largely due to the tendency of some respondents to describe their primary model of service provision differently to known data maintained by RWAs. Data as displayed in Table 21 indicates that nationally, Registrars comprise approximately 10% of the rural and remote medical workforce.

**Table 21: Registrars in rural practice by state or territory – number and percent**

State	Number	Percent	Total
NSW	84	7.2	1164
NT	2	2.1	97
QLD	95	9.8	965
SA	32	8.7	366
TAS	11	6.4	173
VIC	79	8.7	906
WA	45	8.7	515
<b>Total</b>	<b>348</b>	<b>8.3</b>	<b>4186</b>

## 11. On-call hours available and worked

Respondents were also asked the number of hours they were available on call each week at their practice or hospital and the number of on-call hours actually worked. As many practitioners in small communities and solo doctor towns consider that they are on call 24 hours per day, 7 days a week, the number of on-call hours available was allowed a maximum of 168 hours. Due to a number of erratic responses in relation to on-call hours actually worked, the maximum number of hours allowed was restricted to 40 hours. Table 22 displays the responses that satisfied both these conditions and shows the average number of hours reported as being worked and the average number of hours reported as being available on call for 1322 respondents.



**Table 22: Average hours available on call and average hours on call worked**

	Number	Minimum	Maximum	Average	Std. Deviation
Hours per week on call worked	1322	1	40	8.1	7.4
Hours per week available on call	1322	1	168	55.8	50.0

## 12. Leave wanted versus leave taken

Respondents were asked to indicate the number of weeks leave desired each year and the number of weeks actually taken. As a significant number indicated 26 to 52 weeks leave desired, it was decided to set a more realistic maximum of 10 weeks for both leave wanted and desired. All other responses have been filtered out. Data for the 1304 valid responses indicate that there is an average 1.9 week deficit between annual leave wanted and annual leave taken.

**Table 23: Average leave wanted and average leave taken (weeks)**

	Number	Minimum	Maximum	Mean	Std. Deviation
Annual Leave Taken	1304	1	10	4.3	1.9
Annual Leave wanted	1304	1	10	6.2	1.7

## 13. State or Territory variations (any additional comments for state/territory may be included here)

### Queensland:

Queensland data includes 170 state salaried doctors (Residential Medical Officers, Senior Medical Officers and Medical Superintendents) who do not have the right of private practice. However, due to the differing nature of medical service provision in Queensland, it is estimated that 60 to 70 percent of these doctors provide primary care or GP type services in their communities. In the absence of a reliable method of differentiating their degree of primary care provision, they have been included in the current dataset. The negative aspect of this inclusion is that it probably does provide an overestimate of primary care or GP type services currently available in rural and remote Queensland. The data do not include Senior Medical Officer employed by Queensland Health in Maryborough, Hervey Bay or Mount Isa. Due to the size and nature of these hospitals, it is considered that these SMOs are providing non GP type services. Additionally, RFDS Medical Officers working from the Cairns base have been reclassified as RRMA 7 due to the communities they service.

## 14. Summary

The data provided in this report has been based on agreed elements for a national Minimum Data Set for Rural Workforce Agencies. While the data may differ to that produced by the HIC, we believe that it is probably as valid since numbers reported reflect 'on ground' realities and are based on local knowledge of medical provision in communities. Measures such as FTE and FWE are based on the number and dollar value of claims processed by the HIC and often do not capture the full complexity of medical service provision in rural and remote communities. State or Territory Rural Workforce Agencies are satisfied that the collated data provides an accurate portrayal of medical service provision in their areas as at the 30<sup>th</sup> November 2004 reporting date.

As indicated in the introduction, many aspects of the data contained in this report are not solely dependent on survey response but are derived from known working data maintained by Rural Workforce Agencies in their individual state or territory. Survey responses are largely used to validate and update known data. Response rates for the current data collection period were; NSW 48.2%, NT 57.7%, QLD 50.2%, SA 65.3%, TAS 53.2%, VIC 57.5%, WA 72.2%.

**Trends evident in this report include:**

- An increase of 2.75% (N=112) in rural practitioner numbers nationally between 30<sup>th</sup> November 2003 and 30<sup>th</sup> November 2004.
- No change in the percentage of female practitioners working in RRMA 4 to 7 locations.
- A small reduction in the number of rural and remote practitioners working in sole practice situations (15.7% as opposed to 15.8% in 2003).
- A continuation of national trends with increasing number of female practitioners in lower age groups.
- A continuation of trends that suggest that female practitioners tend to work less hours compared with their male counterparts.
- A reduction in the average number of clinical hours worked per week. Average clinical hours reported in November 2003 were 37.67. For 2004, the average clinical hours reported was 36.54 hours
- A reduction in total hours reported from 46.65 hours per week in 2003 to 43.68 hours per week in 2004.

A table outlining these trends or changes is provided in Appendix 1.

## 16. Terminology

ABS	Australian Bureau of Statistics
ACCHS	Aboriginal Community Controlled Health Service
AMWAC	Australian Medical Workforce Advisory Committee
ARRWAG	Australian Rural and Remote Workforce Agencies Group
CDHAC	Commonwealth Department of Health and Aged Care (now Australian Government Department of Health and Ageing)
AGDoHA	Australian Government Department of Health and Ageing
FTE's	Full-time equivalents (calculated on HIC billings of \$82,414 or more)
FWE's	Full-time workload equivalents (calculated on average HIC billings for full-time doctors - (\$221,864 for 2002-2003 reference period)
HIC	Health Insurance Commission (now Medicare Australia)
RFDS	Royal Flying Doctor Service
RRMA	Rural Remote and Metropolitan Area Classification
RWA	Rural Workforce Agency

## 17. References

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## Appendix 1

### Trends or changes November 2002 to November 2004

	2002	2003	2004
Total practitioners	3903	4074	4186
Percent female	28.4	29.7	29.7
Percent male	71.6	70.3	70.3
Average age female	42.19	42.6	43.4
Average age male	47.72	48.01	48.6
Average age (all)	46.65	46.44	47.1
Average GP clinical hours	37.67	37.08	36.54
Average total hours	46.65	46.65	43.68
Average length of stay in current practice (years)	8.29	9.15	8.25
Proceduralists General Anaesthetics	456	435	459
Proceduralists Obstetrics (Normal delivery)	706	638	657
Proceduralists Operative surgery	287	287	304
Known Proceduralists (practising in at least one procedural field)	935	902	933
Proportion of practitioners providing emergency care services	41.70	46.60	46.85
Proportion of practitioners providing Aboriginal health services	20.50	22.8	19.0
Proportion of GPs working in solo practices	16.6	15.8	15.7
Proportion of GPs working in group practices	83.4	84.2	84.3

## Appendix 2

### **Rural, Remote and Metropolitan Area Classification (RRMA) and Accessibility/Remoteness Index of Australia (ARIA)<sup>3</sup>**

Many regional programs are targeted at areas of geographic disadvantage and the convenient label of being 'rural' areas often refers to these areas. However, there is not a generally accepted or generally applicable definition for the Australian context that can be used to identify rural areas. As a result, the RRMA classification has been widely used to determine eligibility of an area for program funding. The RRMA classification was used to assign each SLA (based on 1991 boundaries) to one of 7 categories that were further aggregated into three basic zones (Metropolitan, Rural, and Remote).

The seven RRMA categories are:

1. Capital Cities (Metropolitan Zone)
2. Other Metropolitan Centres (Metropolitan Zone)
3. Large Rural Centres (Rural Zone)
4. Small Rural Centres (Rural Zone)
5. Other Rural Areas (Rural Zone)
6. Remote Centres (Remote Zone)
7. Other Remote Areas (Remote Zone)

The use of the word 'rural' in several of the category names of the RRMA classification was not originally intended to be a definition of rurality. However, over time, RRMA category names have evolved into a simple and convenient way of interpreting rurality. Many programs that have to make decisions on eligibility for assistance are constrained by legislation and policy to using RRMA categories that 'define' rural areas. Within the Commonwealth Department of Health and Ageing administration of regional assistance will move from the use of the RRMA classification to use of ARIA over time.

ARIA stands for Accessibility/Remoteness Index of Australia. During 1998, the Commonwealth Department of Health and Aged Care commissioned a project to measure and classify the remoteness of populated localities in relation to 'service centres' of various sizes (based on the 1996 Census). The result was the ARIA index developed by the National Key Centre for Social Applications of Geographical Information Systems (GISCA) at the University of Adelaide. ARIA uses Geographic Information System (GIS) technology to provide a measure of remoteness (from service centres) for all places and points in Australia.

The development of the ARIA index deliberately avoided defining 'rural' areas. In many cases the term 'rural' is used when people are really referring to regional or non-metropolitan Australia. In these situations regional or non-metropolitan areas can be interpreted based on the degree of remoteness of an area (as measured in ARIA by accessibility to service centres). However in other situations a pure remoteness measure may not be the preferred approach. It may be more appropriate to take into account the population size of nearby urban centres and the use of RRMA categories is an accepted way of doing this. Thus it is acknowledged that some program areas rely on RRMA categories to determine eligibility for funding and there is a need to overlay the RRMA categories to current geographic boundaries and use this approach in conjunction with ARIA. To

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<sup>3</sup> Measuring Remoteness: Accessibility/Remoteness Index of Australia (ARIA). Occasional Papers: New Series No. 14. Commonwealth Department of Health and Aged Care. Further information is available from the department website <http://www.health.gov.au/ari/aria.htm>

meet the need for programs being able to identify the RRMA-like categories, each of the 1996 SLAs have been allocated a RRMA category code, with categories 6 and 7 being collapsed into a single group for the remote zone.

ARIA defines **five categories** of remoteness based on road distance to service centres, and is available for a variety of geographical units including localities, Census Collection districts (CCDs), Statistical Local Areas (SLAs) and postcodes. The five categories are:

1. **Highly Accessible** (ARIA score 0 - 1.84) - relatively unrestricted accessibility to a wide range of goods and services and opportunities for social interaction
2. **Accessible** (ARIA score >1.84 - 3.51) - some restrictions to accessibility of some goods, services and opportunities for social interaction
3. **Moderately Accessible** (ARIA score >3.51 -5.80) - significantly restricted accessibility of goods, services and opportunities for social interaction
4. **Remote** (ARIA score >5.80 - 9.08) - very restricted accessibility of goods, services and opportunities for social interaction
5. **Very Remote** (ARIA score >9.08 - 12) - very little accessibility of goods, services and opportunities for social interaction

Until recently, rurality has been described almost exclusively by the seven level Rural, Remote and Metropolitan Areas (RRMA) classification. This classification is based on the size of the local population centre as well as a measure of remoteness<sup>4</sup>.

Work by the National Key Centre for the Social Applications of Geographical Information Systems (GISCA) from 1996 saw the development of improved measures of remoteness: the Accessibility/Remoteness Index of Australia (ARIA), a continuous variable with a remoteness score of 0-12; and its successor, ARIA+ (similar to ARIA, but with a remoteness score of 0-15).

From ARIA, the department of Health and Ageing developed its five-level classification (also called ARIA), and from ARIA+, the Australian Bureau of Statistics developed its six-level classification, the Australian Standard Geographic Classification (ASGC) Remoteness Structure<sup>5</sup>.

### Remoteness classifications

		RRMA		DoHA ARIA			ASGC Remoteness		
Broad Category	Fine Category	Population (000,000)	%	Category	Population (000,000)	%	Category	Population (000,000)	%
Metropolitan	Capital Cities	11.6	64	Highly Accessible	14.9	81	Major Cities	12.1	66
	Other Metropolitan centres	1.4	8						
Rural	Large Rural centres	1.1	6	Accessible	2.2	12	Inner Regional Outer Regional	3.8	21
	Small Rural centres	1.2	7						
	Other Rural centres	2.4	13	Moderately Accessible	0.8	4		2.0	11
Remote	Remote centres	0.2	1	Remote	0.2	1	Remote	0.3	0.3
	Other Remote areas	0.3	2	Very Remote	0.2	1	Very Remote	0.2	0.2
				Remote			Remote Migatory	<0.1	

Note: This table is a rough guide only; the various classes in each classification are not equivalent.  
Sources: AIHW Population Estimates; AIHW Australia's Health 2002.

<sup>4</sup> Australian Institute of Health and Welfare (2002). Australia's health 2002. Canberra: AIHW

<sup>5</sup> Australian Bureau of Statistics (2001). Outcomes of ABS views on remoteness consultation, Australia. ABS Cat No 1244.0.00.001. Canberra, ABS.