



Health Workforce
Queensland



Medical Practice in Rural and Remote Queensland

Minimum Data Set (MDS) Report as at 30th November 2006



Health Workforce Queensland 2006

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www.healthworkforce.com.au

Compiled by:

Col White – Data/Research Manager, Health Workforce Queensland

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Health Workforce Queensland Minimum Data Set Report – 30th November 2006

1. Introduction

For the 2001-2004 triennium, as a part of their contractual agreement with the Commonwealth Department of Health and Ageing (CDoHA), Rural Workforce Agencies (RWA's) 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 data were first compiled at a national level in December 2001 and were updated on an annual basis as at 30th November each year. Data in relation to the number of medical practitioners, country of basic medical qualification, residency status, 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, clinical and total hours worked are largely self-reported and may be incomplete due to non-responses and/or missing data.

Each RWA normally surveys rural and remote medical practitioners in their state/territory in the latter part of each year. Core questions for the Minimum Data Set have been developed and standardised among the states/territories. In addition, states/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 RWA's 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/Queensland Health Relievers).

While no longer a contractual requirement, current and accurate information in relation to the rural and remote medical workforce is essential for the day to day operations of RWA's and as such, all RWA's have agreed to continue to collect MDS data.

Data provided in this report is for Queensland only and was current as at 30th November 2006.

2. Number and type of Medical Practitioner by RRMA

Data indicated that as at 30th November 2006, the number of medical practitioners currently in RRMA 4 to 7 locations was 1015. This represents an increase of 22 practitioners (2.2%) compared with numbers reported as at 30th November 2005. Table 1 presents the total number of medical practitioners working in RRMA 4 to 7 locations in Queensland by practitioner type as at 30th November 2006. Table 2 provides a breakdown of this distribution by gender and RRMA. A more detailed analysis of gender distribution by selected age categories is provided in Figure 2. Table 3 provides a breakdown of employment type by Division of General Practice.

Table 1: Employment type by RRMA

Employment Type	RRMA4	RRMA5	RRMA6	RRMA7	Total
ACCHS	0	7	7	1	15
General Practitioner	288	359	48	26	721
GP/Academic	0	0	2	0	2
GP/Company	0	4	0	0	4
MORPP	0	16	2	3	21
MS	3	10	3	7	23
MSRPP	1	27	4	22	54
RFDS	0	0	4	16	20
RMO	62	14	22	3	101
SMO	12	30	7	5	54
Total	366	467	99	83	1015

Legend

ACCHS	Aboriginal Community Controlled Health Service
MORPP	Medical Officer with Right of Private Practice
MSRPP	Medical Superintendent with Right of Private Practice
MS	Medical Superintendent
RMO	Resident Medical Officer (includes JHO, SHO, PHO etc.)
SMO	Senior Medical Officer
General Practitioner	General Practitioner
GP/Academic	GP where main responsibilities are teaching/administration
GP/Company	GP where main employment is with Defence Forces or company

Table 2: Gender by RRMA

RRMA	Female	Male	Total
RRMA4	113	253	366
RRMA5	153	314	467
RRMA6	32	67	99
RRMA7	22	61	83
Total	320	695	1015

Table 3: Employment type by Division – RRMA 4 to 7

Division	ACCHS	GP	GP/Ac	GP/Co	MORPP	MS	MSRPP	RFDS	RMO	SMO	Total
Cairns DGP	0	2	0	0	0	0	1	0	0	0	3
CaprDGP	0	68	0	0	1	0	1	0	6	4	80
CQRDGP	1	19	0	0	5	1	11	0	3	1	41
FNQDGP	8	60	0	0	0	7	1	14	12	13	115
GCDGP	0	12	0	0	0	0	0	0	0	0	12
IWMDGP	0	29	0	0	4	0	3	0	0	1	37
MacDGP	0	26	0	0	0	2	0	0	3	4	35
NWQPHC	2	51	2	0	1	4	11	4	17	10	102
RedDGP	0	7	0	0	0	0	0	0	0	0	7
SQRDGP	4	110	0	0	8	6	20	2	4	17	171
SunCDGP	0	219	0	0	0	2	1	0	22	4	248
ToowDGP	0	28	0	4	1	1	0	0	0	0	34
T'villeDGP	0	7	0	0	0	0	0	0	0	0	7
WBDGP	0	83	0	0	1	0	5	0	34	0	123
Total	15	721	2	4	21	23	54	20	101	54	1015

3. Workloads

Estimates of Full Time Equivalents (FTE's) and Full Time Workload Equivalents (FWE's) as used by the Medicare Australia (MA) 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 and/or are not claimable through Medicare. For example, a medical practitioner is classified as full-time by Medicare Australia if the Schedule fee value of services processed over a 12 month period is \$86,727¹ (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 Medicare Australia 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 \$221,864.² In 2006, this figure has risen to around \$251,000 for Vocationally Registered GPs.³

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 Health Workforce Queensland to differentiate between full-time and part-time service provision.

An estimate of full-time/part-time medical service provision utilising ABS benchmark was undertaken based on self reported clinical hours worked. Data was available for 67% of the total number of practitioners. Data as displayed in Table 4 indicates that 74.9% of respondents worked 35 hours a week or more in the provision of routine clinical GP services.

Table 4: Self-reported clinical hours

Clinical Hours	Frequency	Percent
< 20 hours	45	6.6
20 to 35 hours	126	18.5
35 hours plus	509	74.9
Total	680	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 as hospital hours, travel, teaching, supervision time etc. are not included. The average number of clinical hours reported was 39.9 hours per week (N=680).

A further breakdown of self-reported clinical hours by gender is displayed in Table 5 below.

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

² Ibid

³ Medical Observer (2006). Making MBS a lucrative ally. 2nd June

Table 5: Self-reported clinical hours by gender

Clinical hours		Female	Male	Total
< 20 hours	Count	18	27	45
	% within gender	7.7	6.0	6.6
20 to 35 hours	Count	76	50	126
	% within gender	32.6	11.2	18.5
35 hours plus	Count	139	370	509
	% within gender	59.7	82.8	74.9
Total	Count	233	447	680
	% within gender	100	100	100

These data appear 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.

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 was available for 75.7% of practitioners. Table 6 displays self-reported total weekly hours while Table 7 displays total hours by gender. The average reported total hours were 48.2 hours per week (N=768).

Table 6: Self-reported Total hours

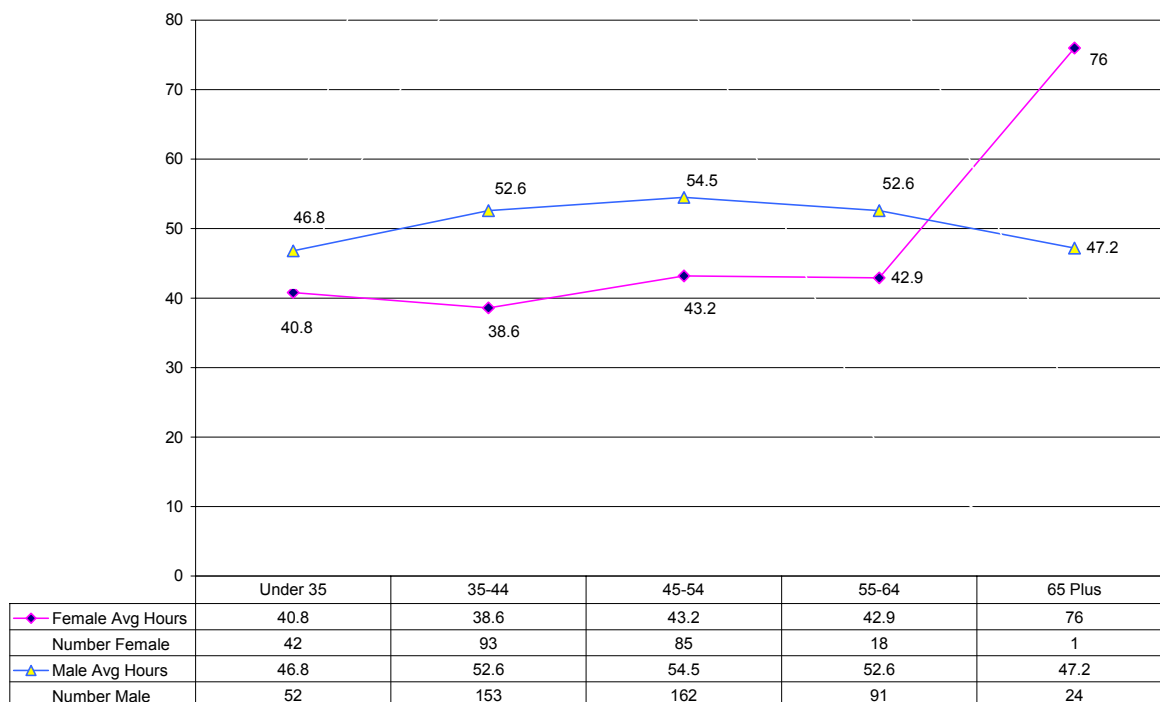
Total Hours	Frequency	Percent
< 20 hours	16	2.1
20 to 35 hours	71	9.2
35 hours plus	681	88.7
Total	768	100.0

Table 7: Self-reported total hours by gender

Total Hours		Female	Male	Total
< 20 hours	Count	10	6	16
	% within gender	3.9	1.2	2.1
20 to 35 hours	Count	53	18	71
	% within gender	20.8	3.5	9.2
35 hours plus	Count	192	489	681
	% within gender	75.3	95.3	88.7
Total	Count	255	513	768
	% within gender	100	100	100

A more refined breakdown of average total hours by gender and age categories is presented in Figure 1.

Figure 1: Average total hours worked per week by gender and age category (N=721)



4. Length of stay in current principal practice

In Queensland, the average length of stay in current principal practice was 6.0 years. A more refined breakdown by duration and RRMA is provided in Table 8.

Table 8: Length of stay in current practice by RRMA

RRMA	< 6 mths	6-12 mths	1-2 yrs	2-3 yrs	3-5 yrs	5-10 yrs	10-20 yrs	20+ yrs	Total
4	63	38	52	32	56	60	30	28	359
5	55	71	63	41	58	70	53	52	463
6	15	20	23	11	4	10	10	6	99
7	15	9	14	10	14	10	3	6	81
Total	148	138	152	94	132	150	96	92	1002

Data indicates that 71.5 % of practitioners have practiced in their current rural and remote locations for more than a year. Approximately 28.5% are relatively new and have been at their current practice for less than 12 months. While these data provide a guide, they do not take into account movements between practices and RRMA.

5. Age and gender by RRMA

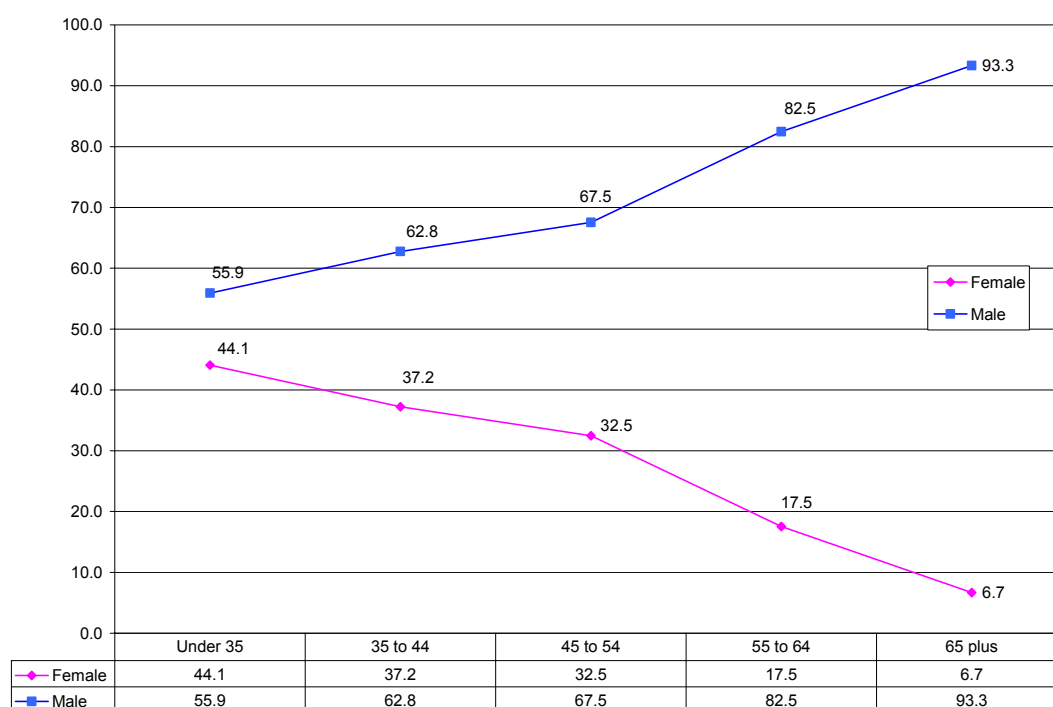
For Queensland the average age for male practitioners was 47.2 years (N=543) and 43.4 years for females (N=264). Table 9 displays gender by age category by RRMA.

Table 9: GP age categories by gender and RRMA (N=807)

RRMA	Gender	Under 35	35 to 44	45 to 54	55 to 64	65 plus	Total
4	Female	15	39	26	8	0	88
	Male	21	58	58	29	13	179
	Total RRMA4	36	97	84	37	13	267
5	Female	28	51	50	8	1	138
	Male	34	84	89	46	11	264
	Total RRMA5	62	135	139	54	12	402
6	Female	3	8	8	2	1	22
	Male	9	12	21	8	1	51
	Total RRMA6	12	20	29	10	2	73
7	Female	6	4	4	2	0	16
	Male	2	18	15	11	3	49
	Total RRMA7	8	22	19	13	3	65

Figure 2 below displays the distribution of GPs by gender across a selected number of age categories. These data suggest that females are more broadly represented in the under 45 age categories.

Figure 2: Proportion of male and female practitioners across age categories (N=807)



6. Known number of procedural practitioners

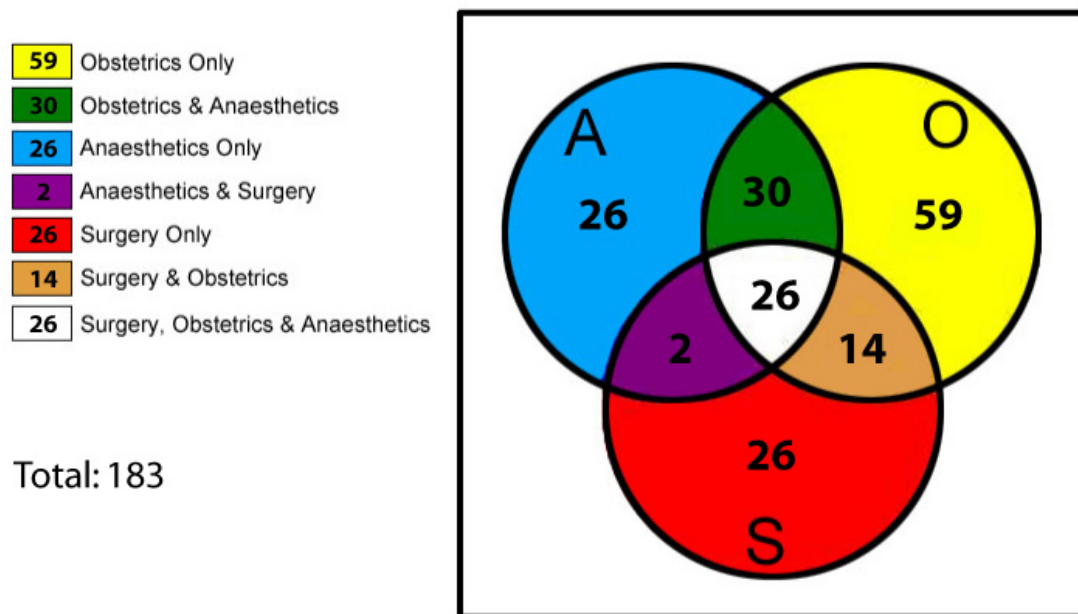
Data in relation to the provision of procedural services in rural and remote Queensland may be incomplete due to non-respondents, although the number of proceduralist GPs in rural and remote Queensland is fairly well known. Senior Medical Officers (Generalists) employed by Queensland Health and providing procedural services in Maryborough, Hervey Bay and Mount Isa are not included in the data shown below. The known number of practitioners providing specified procedural services as at 30th November 2006 is detailed in Table 10. In

many cases it is possible for a practitioner to perform a number of procedures e.g., Anaesthetics and Obstetrics or Obstetrics and Surgery etc. The number of known procedural practitioners as detailed in Table 10 (N=183) is therefore less than the total number of procedures documented (N281). A Venn diagram illustrating practitioners undertaking single and/or multiple procedures is displayed in Figure 3.

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

	RRMA4	RRMA5	RRMA6	RRMA7	Total
Obstetrics Normal Delivery	18	66	21	24	129
Anaesthetics General	20	43	9	12	84
Operative Surgery	17	33	7	11	68
Known Proceduralists	39	89	27	28	183
Total Practitioners	366	467	99	83	1015
Percent procedural	10.7	19.1	27.3	33.7	18.0

Figure 3: Venn diagram illustrating numbers undertaking single and/or multiple procedures (N183)



7. Emergency Care and Aboriginal Health provision

Practitioners were also asked if they provided regular Emergency care or Aboriginal Health care services. The number of respondents indicating that they provide these services by RRMA is detailed in Table 11 below.

Table 11: Number of practitioners providing regular Emergency Care or Aboriginal Health services

Services	RRMA4	RRMA5	RRMA6	RRMA7	Total
Emergency Care	153	295	58	61	567
Aboriginal Health	79	172	51	54	356

8. Types of practice

The number of medical practitioners working in a selection of practice types by RRMA was also explored. Table 12 displays the number of doctors working in each practice type by RRMA for the period ending 30th November 2006. MSRPP's and MORPP's are normally assigned to their private practice rather than to the hospital.

Table 12: Practice type by RRMA

Practice type	RRMA4	RRMA5	RRMA6	RRMA7	Grand Total
Group	271	339	50	40	700
Hospital	76	55	32	17	180
Solo	19	73	17	26	135
Grand Total	366	467	99	83	1015

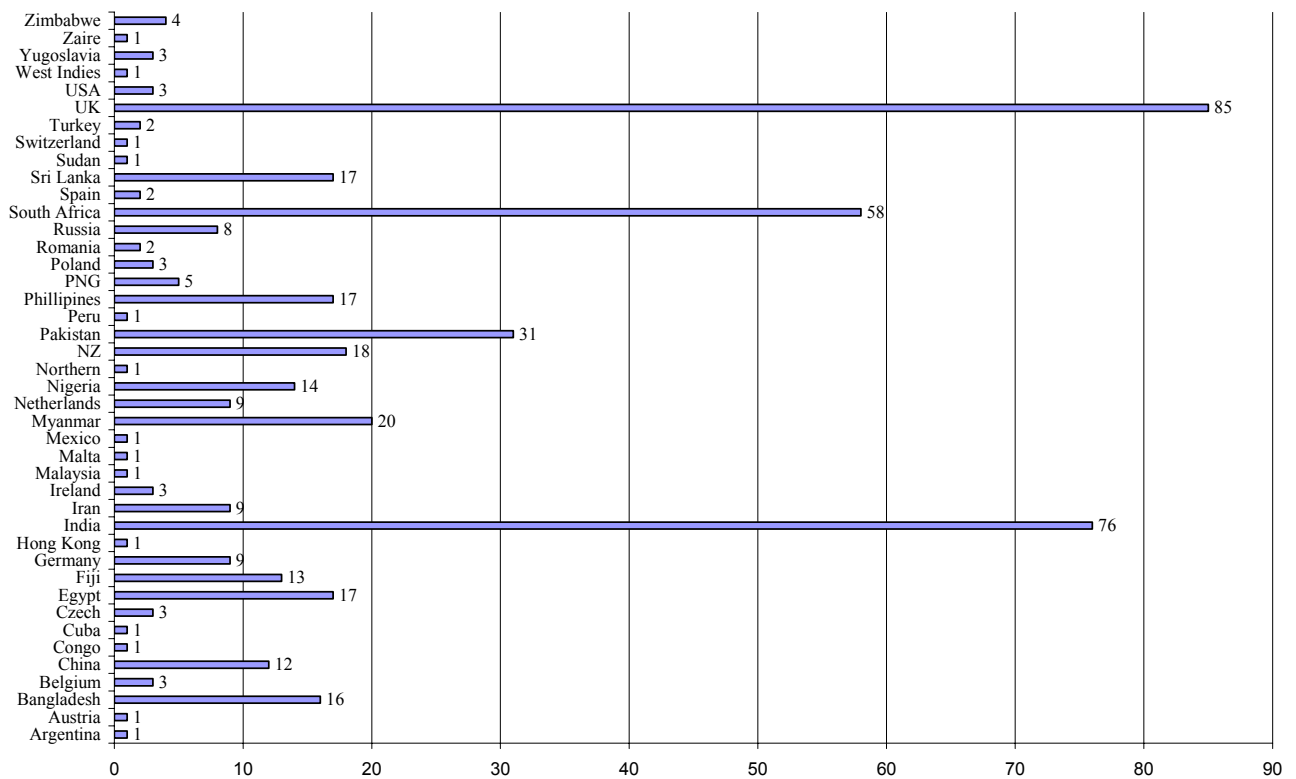
9. Country of basic medical qualification

Data indicates that 53.1 per cent (N539) of the current rural and remote medical workforce in Queensland are Australian trained. The other 46.9% per cent (N476) have obtained their basic medical qualification overseas. The largest proportions of Overseas Trained Doctors (OTDs) are from the United Kingdom (8.4%), followed by India (7.5%) and South Africa (5.7%). It also needs to be acknowledged that many Overseas Trained Doctors are Australian citizens or Permanent Residents and have practiced medicine in this country for many years. Temporary Resident Doctors (TRDs) comprise 19.4% (N197) of the current Queensland rural and remote medical workforce. Table 13 provides a breakdown by citizenship status and number of Australian/Overseas Trained Doctors. Figure 4 provides a breakdown of country of basic medical qualification for overseas trained doctors.

Table 13: Citizenship status and number of Australian/Overseas Trained Doctors

RRMA	Citizenship			Total	%Temporary
	Australian	Permanent	Temporary		
4	226	57	83	336	22.7%
5	312	85	70	467	15.0%
6	57	11	31	99	31.3%
7	63	7	13	83	15.7%
Total	658	160	197	1015	19.4%
				Number	Percent
Australian Trained Doctors				539	53.1%
Overseas Trained Doctors				476	46.9%
				Number	Percent
Overseas Trained and Australian citizens or permanent residents				279	58.6%
Overseas Trained and temporary residents				197	41.4%

Figure 4: Country of basic medical qualification for non-Australian trained doctors (N=476)



10. University and year of graduation for Australian trained doctors

As of 30th November 2006, there were 1015 medical practitioners working in rural and remote locations in Queensland. Four hundred or 39.4% obtained their basic medical degree from the University of Queensland. One hundred and thirty six or 13.4% obtained their basic medical qualification from other Australian Universities. Data was unavailable for three practitioners. University and year of graduation for Australian trained doctors is displayed in Table 14.

Table 14: University and year of graduation for Australian trained doctors (RRMA 4-7)

YBQ	UQ	UNSW	Sydney	Newcastle	Monash	Adelaide	Flinders	UWA	Tasmania	Melbourne	Total
1953	1	0	0	0	0	0	0	0	0	0	1
1954	0	0	0	0	0	0	0	0	0	1	1
1959	2	0	2	0	0	0	0	0	0	0	4
1960	1	0	0	0	0	0	0	0	0	0	1
1961	0	0	0	0	0	1	0	0	0	0	1
1962	0	0	0	0	0	0	0	1	0	0	1
1963	3	0	0	0	0	0	0	0	0	0	3
1964	1	0	0	0	0	1	0	0	0	0	2
1965	3	0	0	0	0	0	0	0	0	2	5
1966	4	0	0	0	0	0	0	1	0	0	5
1967	3	0	0	0	1	0	0	0	0	2	6
1968	8	0	2	0	0	0	0	0	0	0	10
1969	4	1	1	0	0	0	0	0	0	0	6
1970	0	1	1	0	0	0	0	0	0	0	2
1971	3	0	2	0	0	1	0	0	0	0	6
1972	6	1	0	0	1	0	0	0	0	1	9
1973	7	0	0	0	2	2	0	0	0	0	11
1974	11	0	0	0	0	1	0	0	1	1	14
1975	16	0	0	0	1	0	0	1	0	1	19
1976	16	1	0	0	0	1	0	0	0	0	18
1977	16	0	0	0	2	0	0	1	0	1	20
1978	18	2	3	0	0	0	0	0	1	2	26
1979	14	1	0	0	0	0	0	0	0	1	16
1980	16	0	1	0	0	1	0	0	0	0	18
1981	14	0	0	0	2	0	0	0	0	0	16
1982	16	0	0	0	1	1	0	0	0	1	19
1983	13	0	1	0	0	2	0	0	1	3	20
1984	7	2	0	0	1	1	0	0	0	0	11
1985	13	1	2	0	0	1	0	0	0	1	18
1986	17	1	1	0	1	0	1	0	1	1	23
1987	10	0	1	1	1	0	0	0	0	1	14
1988	8	1	0	0	0	1	0	0	1	0	11
1989	8	1	1	2	0	0	0	0	0	0	12
1990	7	0	2	1	0	0	0	0	0	0	10
1991	4	1	0	1	0	1	1	0	0	0	8
1992	6	0	0	1	0	0	0	0	0	0	7
1993	13	0	1	1	0	0	1	0	0	0	16
1994	3	0	0	0	0	1	0	0	0	0	4
1995	5	1	0	1	2	0	0	1	0	0	10
1996	11	0	0	3	1	1	0	0	0	0	16
1997	5	1	1	0	0	0	0	0	2	0	9
1998	11	1	0	0	0	0	1	0	2	0	15
1999	13	1	0	0	0	0	0	0	0	0	14
2000	13	1	0	0	2	1	0	0	0	0	17
2001	18	0	1	1	0	0	0	1	0	0	21
2002	19	0	0	0	1	1	0	0	1	1	23
2003	10	0	1	1	0	0	0	0	1	0	13
2004	2	0	0	0	0	0	0	1	0	0	3
2005	1	0	0	0	0	0	0	0	0	0	1
Total	400	19	24	13	19	19	4	7	11	20	536

11. Registration categories, District of Workforce Shortage, Area of Need

Due to changes in the provider number legislation introduced in 1996, overseas trained medical practitioners are usually required to work in a District of Workforce Shortage (DOWS) for a specified period of time (normally 10 years). These Districts of Workforce Shortage are normally, but not exclusively in rural and remote locations. There are in addition, other medical workforce regulations that limit locations where some Permanent Resident and Australian trained doctors must practice in order to access Medicare. Data indicates that there are 213 practitioners registered under Section 135 of the Medical Practitioners Registration Act 2001 who must practice in an area of need/district of workforce shortage. It is not possible to determine the number of General and other category registrants who are subject to area of need/district of workforce shortage restrictions.

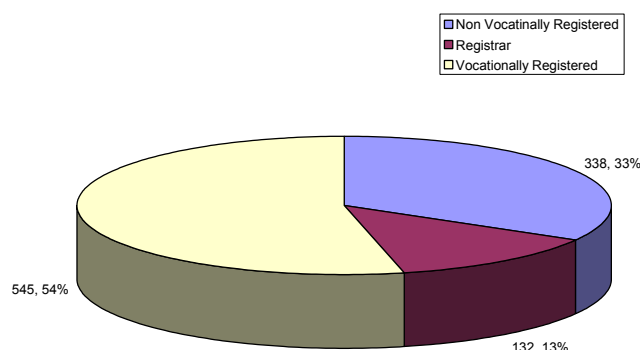
Table 15: Registration categories by RRMA

Registration Category	RRMA4	RRMA5	RRMA6	RRMA7	Total
General	251	341	64	64	720
General and Specialist Registration	1	2	1	1	5
Sect 135	87	82	31	13	213
Sect 135/138	0	1	0	0	1
Sect 137	1	0	0	0	1
Sect 138	25	41	3	5	74
Spec 132	1	0	0	0	1
Total	366	467	99	83	1015

12. Vocational Status

Current data indicates that 54% per cent of medical practitioners in rural and remote Queensland are vocationally registered. Registrars undertaking training comprise a further 13%. Approximately (33%) of the rural and remote medical workforce in RRMA 4 to 7 locations do not have vocational registration. Figure 5 displays known vocational status.

Figure 5: Vocational Status



13. Notes on Queensland data

Queensland data includes 178 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/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/GP type services currently available in rural and remote Queensland. The data do not include Senior Medical Officers (Generalists) 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 SMO's are providing specialist 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 have been based on elements considered essential to understand the composition and workforce attributes of the Queensland rural and remote medical workforce. While the data may differ to that produced by Medicare Australia, we believe that it is probably more valid and current as 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 value of claims processed by Medicare and often do not capture the full extent of medical service provision in rural and remote communities. Health Workforce Queensland is satisfied that the collated data provides an accurate portrayal of medical service provision in rural and remote communities as at the 30th November 2006 reporting date. Trends and changes since November 2003 are detailed in Appendix 1.

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 Health Workforce Queensland. Survey responses are largely used to validate and update known data. Survey response rate for the current data collection period to 30th November 2006 was 55.8%.

Trends evident in this report include:

- A 2.2% increase in practitioner numbers between 30th November 2005 and 30th November 2006 (N22).
- A relatively high number of rural and remote practitioners (N135) working in sole practice situations.
- A continuing increase in the number/percentage of overseas trained and temporary resident doctors in RRMA 4 to 7 locations.
- 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.
- Enumeration of known procedural practitioners.

15. Terminology

ABS	Australian Bureau of Statistics
ACCHS	Aboriginal Community Controlled Health Service
AGDoHA	Australian Government Department of Health and Ageing
AMWAC	Australian Medical Workforce Advisory Committee
ARRWAG	Australian Rural and Remote Workforce Agencies Group
CDHAC	Commonwealth Department of Health and Aged Care (now Australian Department of Health and Ageing)
CDoHA	Commonwealth Department of Health and Ageing
FTE's	Full-time equivalents (calculated on HIC billings of \$86,727 or more) for 2003-2004
FWE's	Full-time workload equivalents (calculated on average HIC billings for full-time doctors - (\$221,864 for 2002-2003 reference period)
MA	Medicare Australia (formerly Health Insurance Commission)
RFDS	Royal Flying Doctor Service
RRMA	Rural Remote and Metropolitan Area Classification
RWA	Rural Workforce Agency
MSRPP	Medical Superintendent with Right of Private Practice
MORPP	Medical Officer with Right of Private Practice

16. References

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Appendix 1

Trends/changes between November 2003 and November 2006

	2003	2004	2005	2006
Total practitioners	931	965	993	1015
Percent female	30.61	30.67	31.62	31.5
Percent male	69.39	69.33	68.38	68.5
Average age female	41.68	42.53	43.20	43.4
Average age male	46.15	47.22	46.70	47.2
Average GP clinical hours	40.84	40.64	40.50	39.9
Average total hours	48.87	49.06	48.85	48.2
Average length of stay in current practice (years)	5.83	5.92	5.90	6.0
Overseas trained doctors	388	406	433	476
Temporary Resident doctors (included above)	177	189	185	197
Proceduralists General Anaesthetics	77	84	80	84
Proceduralists Obstetrics (Normal delivery)	118	125	125	129
Proceduralists Operative surgery	69	67	60	68
Known Proceduralists (practising in at least one procedural field)	168	170	165	183
Proportion proceduralists	18.0%	17.6%	16.6%	18.0%
Proportion vocationally registered	56%	56%	55%	54%
Proportion non-vocationally registered	34%	34%	34%	33%
Proportion Registrars	10%	10%	11%	13%
Number of GPs working in solo practices	118	132	135	135
Number of GPs working in group practices	813	833	858	880

Appendix 2

Rural, Remote and Metropolitan Area Classification (RRMA) and Accessibility/Remoteness Index of Australia (ARIA)⁴

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

⁴ Measuring Remoteness: Accessibility/Remoteness Index of Australia (ARIA). Occasional Papers: New Series Number 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.⁵

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.⁶

Remoteness classifications

Broad Category	RRMA			DoHA ARIA			ASGC Remoteness		
	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 Migratory	<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.

⁵ Australian Institute of Health and Welfare (2002). *Australia's health 2002*. Canberra: AIHW.

⁶ Australian Bureau of Statistics (2001). *Outcomes of ABS views on remoteness consultation, Australia*. ABS Cat No 1244.0.00.001. Canberra, ABS.