Department of Health

Australia's Future Health Workforce – Obstetrics and Gynaecology

August 2018

Contents

Tables

Figures

Overview

The Australia's Future Health Workforce – Doctors (AFHW - Doctors) report published in December 2014 indicated that Australia's health workforce is under pressure and must undergo significant transformation to meet future demands for healthcare.

Despite the projected overall position of oversupply, imbalances within the medical specialty workforces currently exist and are projected to continue.

The medical workforce is a national resource; a resource that is valuable to the community both in terms of the cost of training, which is substantially borne by the taxpayer, and in terms of the benefits derived by the community from a well-trained health workforce.

In the past, uncoordinated decision making in the absence of an active workforce planning mechanism has seen a 'boom and bust' cycle in medical training and resulting doctor numbers. This has been a cost to the community.

The development of the AFHW – Doctors report was guided by the expert input of the National Medical Training Advisory Network (NMTAN) that has representation from all the key stakeholder groups in medical education, training and employment.

The report makes recommendations for future work including:

- updates to the workforce modelling results to determine requirements for future adjustments every two years; and
- prioritisation of future policy work to gain a better understanding of the prevocational years and overall capacity for and distribution of vocational medical training.

The Obstetrics and Gynaecology (O&G) report is part of the first segment of analysis under the capacity and distribution work. This report involves updating the supply and demand projections previously completed by the former Health Workforce Australia (HWA) and published in *Health Workforce 2025 - Medical Specialists Volume 3* (HW 2025 Vol 3).

Key findings

Current workforce and trainees

There were 1,900 accredited O&G specialists with current medical registration in 2016. The large majority were clinicians (94 per cent). Of those clinicians, 82 per cent were located in Modified Monash Model 1 (MMM1) and 45 per cent were female. A total of 36 per cent of the workforce worked in the public sector. The average age of the O&G workforce was 52 years.

The National Health Workforce Data Set (NHWDS) reports 580 trainees, of which 81 per cent were female and the majority (85 per cent) located in MMM1. In comparison to the Royal Australian and New Zealand College of Obstetrics and Gynaecology (RANZCOG) data, the 2016 NHWDS reported 58 more (10 per cent) O&G trainees.

The following table summarises the distribution of O&G specialists and trainees per 100,000 population. This demonstrates significantly different access to O&G specialists across Australia.

SUMMARY TABLE OF DISTRIBUTION					
Modified Monash Category	**2015 female population**	**Specialists and trainees (headcount)**	**Headcount per 100,000 population**	**Specialists and trainees (FTE)**	**FTE per 100,000 population**
MMM1	8,518,707	1,841	21.6	2,151	**25.3**
MMM2	1,101,906	204	18.5	251	**22.8**
MMM3	782,212	135	17.3	166	**21.2**
MMM4	438,711	16	3.6	23	**5.2**
MMM5	871,058	6	0.7	7	**0.8**
MMM6	143,126	14	9.8	18	**12.4**
MMM7	95,130	0	0.0	0	**0.0**
Grand Total	**11,950,850**	**2,216**	**18.5**	**2,615**	**21.9**

Scope of practice

A large proportion of O&G fellows are working in both obstetrics and gynaecology. While a small proportion (just over nine per cent) only work in obstetrics and almost 30 per cent work exclusively in gynaecology. This data is based on the unique count of the RANZCOG fellows practice profile survey in 2016. The data clearly indicates a preference to practising both O&G and with a greater emphasis on gynaecology throughout. The data shows that 68 per cent of the O&G workforce provides services in MMM1, largely in the private sector (41.3 per cent). MMM4 has a lower total proportion (0.31 per cent) than MMM5 (2.28 per cent).

Private health insurance

RANZCOG advised that private health insurance design affects the public/private split of O&G specialists' work. RANZCOG submitted these concerns to the inquiry into value and affordability of private health insurance and out-of-pocket medical costs, July 2017.

Most of the specialist training in O&G is undertaken in public hospitals, where obstetrics predominates, making training in gynaecology surgery challenging due to the lower proportion of gynaecology in the public sector.

Assisted Reproductive Technology

Assisted reproductive technology (ART) services include a range of treatments to achieve pregnancy, involving laboratory or clinical techniques. ART is a group of procedures that involve the in vitro (outside of body) handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy. Each ART treatment involves a

number of stages and is generally referred to as an ART treatment cycle. Under the MBS only one global item can be billed for each treatment cycle. Medicare does not set a limit on the number of treatment cycles a patient can receive. However, Medicare rebates are only available for clinically relevant services, being services that meet peer-approved standards. Legislation prevents Medicare benefits being paid for surrogacy arrangements.

The number of ART specialists and different treatments is increasing.

Supply and demand projections

The demand for O&G services is estimated to grow at 1.9 per cent to 2030. The results of the projections reveal a slight oversupply of O&G specialists throughout the entire projection period.

Scenario 1: dynamic intake scenario

- This scenario uses the dynamic pipeline and indicates that the workforce would be largely in balance throughout the projection period. By 2030, the slight oversupply accumulates to approximately 2.1 per cent of the required number of O&G specialists.

Scenario 2: Reduced migration scenario

- Specialist International Medial Graduates (SIMGs) are often recruited to fill service need. However their qualifications are not sufficient for them to supervise and train RANZCOG registrars. Thus their appointment reduces capacity to train domestic graduates.
- This scenario attempts to reduce the SIMGs entering the O&G workforce by 50 per cent by 2030.
- The results of this scenario; maintain a balanced workforce (within the ±3 per cent range) showing a shortfall of 1.5 per cent in 2030.

Recommendations:

- The supply and demand projection be closely monitored by NMTAN and update every two years. This could be done in conjunction with consideration of the impacts of changes in the delivery of maternity services and the midwifery and GP obstetrician workforce.
- The College and the NMTAN continue to monitor the training numbers, transition rates and workforce distribution.
- The Department of Health should work with the Department of Home Affairs to ensure that migration program supports the migration of skilled obstetricians and gynaecologists only into areas of workforce need and, in that context, review current arrangements to ensure that Specialist International Medical graduates recruited to work in particular areas are in fact practising in those locations during the period of their sponsorship.
- To address workforce distribution, a targeted program such as the Provincial Integrated Training Program should be delivered supporting trainees to undertake their training in rural and regional areas.
- RANZCOG to facilitate the development of SIMGs with Fellowship to become supervisors on the training program.
- RANZCOG to consider how trends towards subspecialisation are affecting workforce distribution and set an expectation that new fellows will practice the full scope of O&G practice as is needed in regional and rural areas.

Introduction

The RANZCOG provide the training in O&G specialties. O&G are specialist branches of medicine and although they are each concerned with separate aspects of the health care of women, they are usually merged into the one service.

Obstetricians provide medical care before, during and after childbirth. Gynaecologists diagnose, treat and aid in the prevention of disorders of the female reproductive system.

Obstetricians and gynaecologists perform the following tasks:

- carry out gynaecological examinations, diagnosis and operations on women referred to them by general practitioners, discuss contraceptive methods with their patients and prescribe suitable contraception;
- examine pregnant women throughout their pregnancies to ensure that they are progressing well and that good health is maintained, and advise and treat pregnant women for special health conditions brought about by their pregnancy;
- deliver babies through normal procedures or by caesarean section;
- examine mothers and babies after childbirth to ensure there are no complications or, if there are, refer them to other specialists, such as to paediatricians (children's doctors); and
- treat infertility by chemical or operative measures[1].

Obstetrics and gynaecology comprises:

One specialty	Five sub-specialties
• Specialist obstetrician and gynaecologist (O&G)	1. Gynaecological oncology (GO)
	2. Maternal-fetal medicine (MFM)
	3. Obstetrics and gynaecological ultrasound (OGU)
	4. Reproductive endocrinology and infertility (REI)
	5. Urogynaecology (UG)

Subspecialists are specialist O&Gs (FRANZCOG) who successfully completed an additional prescribed program of training in the subspecialty area.

O&G was selected as a medical specialty to be considered in the first segment of analysis by the NMTAN largely due to concerns identified in HW 2025 Volume 3 (HW 2025 vol. 3).

Stakeholders agreed that:

- Increasing sub-specialisation within the O&G specialty is an issue. Although it is a general training program, sub-specialisation is occurring in areas such as IVF, gynaecology and foetal medicine. This has implications for affordability, distribution and service provision in the public sector.

RANZCOG provided a range of considerations that may impact supply or demand:

- training capacity limitations, in particular limited availability to train in the private sector, the lack of continuity for funded training posts in regional areas, and the high number of SIMGs unaccredited to supervise trainees;
- increasing female workforce participation and the potential continued fall in average hours worked;
- models of care would directly impact future demand for O&G services. Cited was the recent development of Medicare funded midwifery services. While at the time there was

[1] http://www.ranzcog.edu.au/the-ranzcog/about-specialty.html

minimal impact on O&G service provision due to the recency of this change, the influence on demand for O&G services may now be observable;

- Significant issues with the geographic distribution of the O&G workforce. Financial barriers were highlighted as a contributing factor to geographic maldistribution, including:
    - the financial disparity between regional and urban obstetric practice;
    - indemnity issues in relation to locum schemes;
    - the lack of rural incentive payments for specialist practitioners.
- The development of rural pathways have the potential to improve the numbers of GP obstetricians, the Diploma Advanced (DRANZCOG) improved access to obstetric and anaesthetic services for women living in rural and remote communities. For further information of Advanced GP Diploma please refer to the GP practising in obstetrics services section on page 22.

A summary of the approved modelling inputs can be found in Appendix 1 and 2.

Current workforce status

The following profiles of the workforce detail all obstetrics and gynaecology specialists as a whole (O&G). Appendix 3 outlines the details of each sub-specialty. The profiles of the trainees and prevocational intentions detail obstetrics and gynaecology as a whole (O&G) with references to subspecialties where there are sufficient data. Workforce modelling and projections were only conducted for the O&G specialty as a whole (specialty and subspecialties combined).

Registration, accreditation and specialty fields

The Medical Board publishes quarterly statistics on Medical Practitioner Registrant Data[2]. In the December 2016 edition there were 1,928 registrants with a specialty of O&G. According to the NHWDS, in 2016 there were 1,930 accredited O&G specialists with current medical registration in Australia; two more than reported in the Medical Board data. This is because the NHWDS is a snapshot at a point in time (as at the date of data extraction) and the figures include medical practitioners with current registration. The Medical Board/Australian Health Practitioner Regulation (AHPRA) statistics report an annual figure and include medical practitioners who held a registration at some point in the year but may not have current registration.

In the NHWDS there were 30 O&G specialists who did not renew their medical registration in 2016; resulting in a difference of only 28 between the NHWDS and the Medical Board statistics.

As can be seen in Figure 1, of the 1,900 accredited O&G specialists with current medical registration, 1,747 (92 per cent) were employed in the medical workforce. While the majority (1,742) worked in O&G, five did not work in O&G. Those who did work in O&G were mostly clinicians (94 per cent) with the remainder working as administrators, teachers/educators and researchers.

Two per cent (37) of O&G specialist clinicians also worked in another specialty in addition to O&G. The most common second specialties were general practice (21), physician (three), surgery (three), sexual health medicine (two) and pain medicine (two).

[2] http://www.medicalboard.gov.au/News/Statistics.aspx

Figure 1: O&G workforce by job role

Source: NHWDS, Medical Practitioner 2016

In the AHPRA data, all obstetricians and gynaecologists have the specialist O&G accreditation in addition to subspecialty accreditations (where applicable). Table 1 shows that, of the 1,930 accredited O&G specialists with current medical registration in Australia, 87.4 per cent had the specialist (O&G) accreditation only (non-subspecialists) while 244 also had accreditation in one subspecialty and 20 had accreditations in two O&G subspecialties with the highest combination in O&G and gynaecological oncology.

Table 1: Speciality and subspecialty accreditation combinations

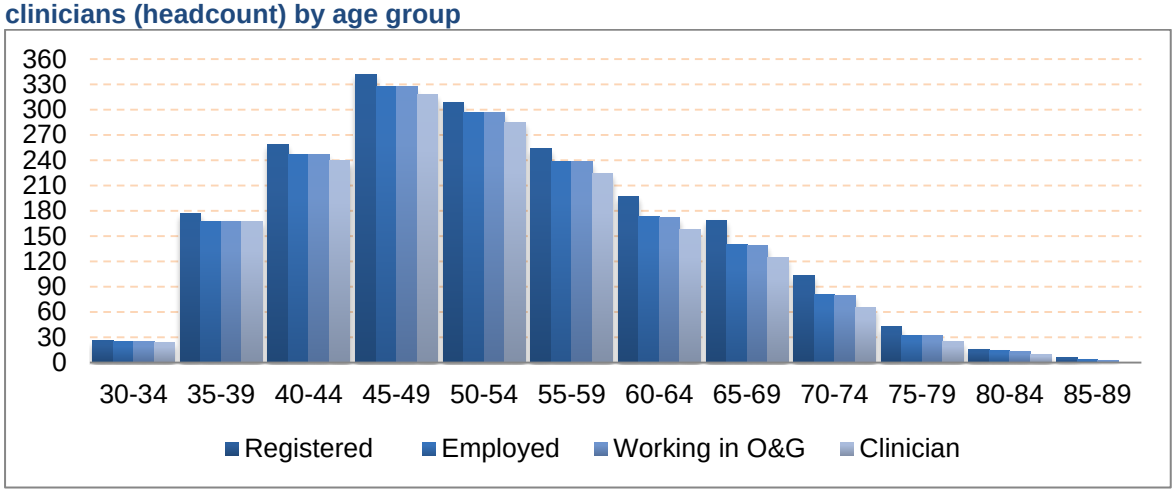
Subspecialty accreditation	Number of registrations
Obstetrics and gynaecology (O&G) only	1,686
Obstetrics and gynaecology (O&G) and subspecialty:	
Obstetrics and gynaecological ultrasound (OGU)	73
Reproductive endocrinology and infertility (REI)	54
Gynaecological oncology (GO)	45
Maternal-fetal medicine (MFM)	41
Urogynaecology (UG)	31
Total	**1,930**

Source: NHWDS, Medical Practitioner 2016

Age and gender

The age distribution of O&G specialists in Australia (Figure 2) shows the majority are in the 45-49 year age groups for registered, employed, clinicians and those working in O&G. From the peak age group (45-49 years) a steady decline begins in the number of O&G specialists reducing significantly beyond 75+ years of age.

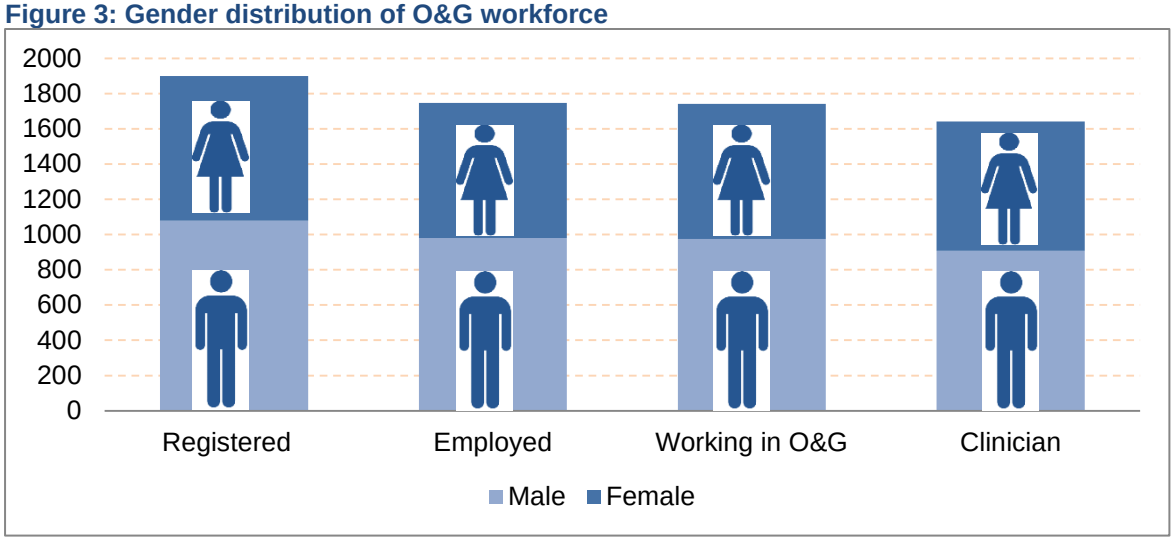
Figure 2: Comparison of O&G specialists that are registered, employed, working in O&G, clinicians (headcount) by age group



Source: NHWDS, Medical Practitioner 2016

The gender distribution of the O&G workforce (Figure 3) shows that just over half (approximately 56 per cent), are male across all groups: registered, employed, clinicians and those working in the field.

Figure 3: Gender distribution of O&G workforce

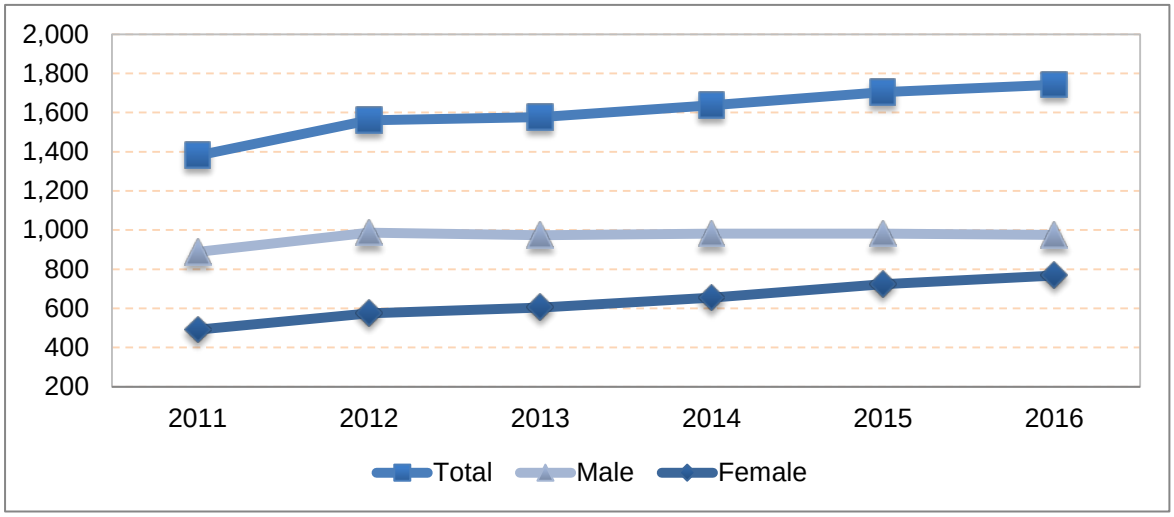


Source: NHWDS, Medical Practitioner 2016

Growth

Figure 4 shows that the number of employed O&G specialists has grown over the years (average annual growth of 4.774 per cent), with female O&G specialists experiencing the largest growth over the last four years – at an average annual rate of 8.29 per cent, while males have only increased by 0.7 per cent (average annual growth). The proportion of females has increased from 36 per cent in 2011 to 44 per cent in 2016.

Figure 4: Employed O&G specialists by gender, 2011 to 2016



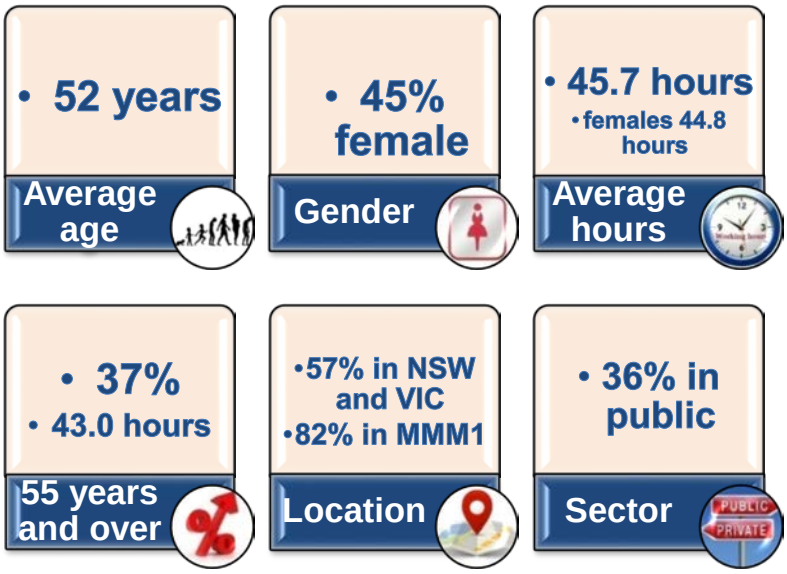
Sources: NHWDS: medical practitioners 2011 to 2016

Current specialist clinicians

All O&G specialists (including subspecialists)

According to the 2016 NHWDS, there were 1,742 O&G specialists and subspecialists who indicated they were employed and working as clinicians (O&G workforce) with the following characteristics:

Figure 5: Demographics of the O&G workforce



Source: NHWDS, Medical Practitioner 2016

Distribution

The previous geographic distribution classification system was based on the Australian Standard Geographical Classification – Remoteness Area (ASGC-RA) system. The Australian Bureau of Statistics (ABS) has now replaced with ASGC with the Australian Statistical Geography Standard (ASGS). The ASGS uses the latest residential population data to determine the five base categories. The Modified Monash Model (MMM) will overlay the ASGS for the purposes of administering some health workforce programs.

Table 2: Definitions of the Modified Monash Model Categories

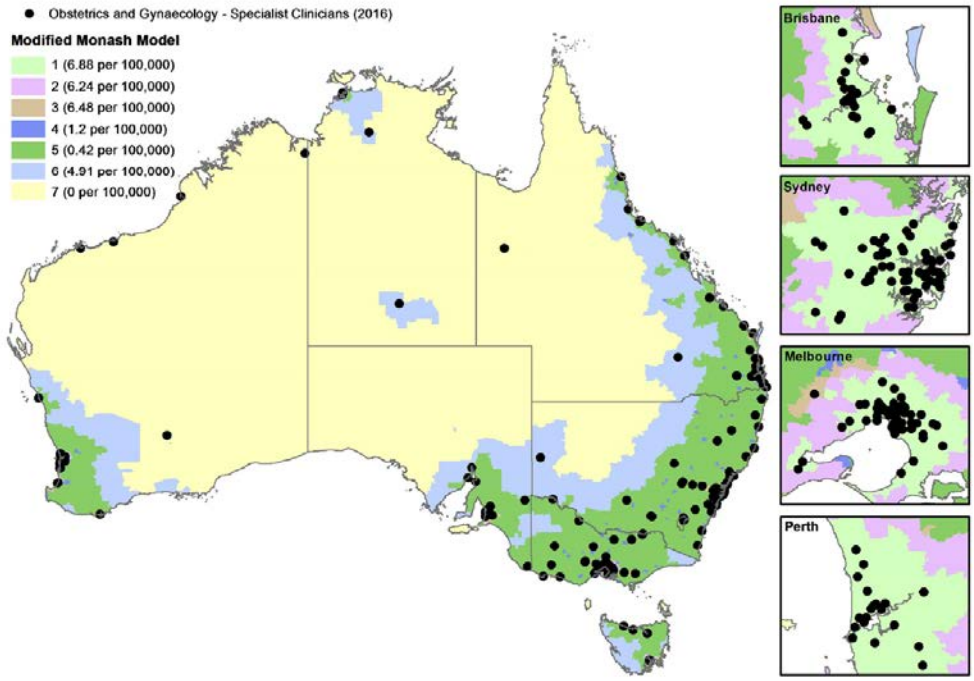
MM Category	Definition
MMM1	All areas categorised ASGS-RA 1.
MMM2	Areas categorised ASGS-RA 2 and ASGS-RA 3 that are in, or within 20km road distance, of a town with population >50,000.
MMM3	Areas categorised ASGS-RA 2 and ASGS-RA 3 that are not in MMM2 and are in, or within 15km road distance, of a town with population between 15,000 and 50,000.
MMM4	Areas categorised ASGS-RA 2 and ASGS-RA 3 that are not in MMM2 or MMM3, and are in, or within 10km road distance, of a town with population between 5,000 and 15,000.
MMM5	All other areas in ASGS-RA 2 and 3.
MMM6	All areas categorised ASGS-RA 4 that are not on a populated island that is separated from the mainland in the ABS geography and is more than 5km offshore.
MMM7	All other areas – that being ASGS-RA 5 and areas on a populated island that is separated from the mainland in the ABS geography and is more than 5km offshore.

Source: www.doctorconnect.gov.au

Figure 6 illustrates the MMM and density of the O&G workforce within these areas. The MMM is a classification system that better categorises metropolitan, regional, rural and remote areas according to both geographical remoteness and town size.

The system was developed to recognise the challenges in attracting health professionals to more remote and smaller communities. MMM1 indicates major cities and progresses to MMM7, which indicates very remote Australia; Table 2 below defines each of these MMM categories. As can be seen on the map, the O&G workforce is located throughout Australia, but highly concentrated in metropolitan and inner regional areas.

Figure 6: O&G clinicians by MMM



Source: NHWDS, Medical Practitioner 2016

Workforce Distribution Challenges

In common with other specialities, there are challenges in attracting health professionals to rural and remote areas. Often, trainees have established relationships and commitments prior to entering the training program which makes it difficult for them to relocate. Whilst the RANZCOG training program has a mandatory rural and regional training component, the challenge in building a sustainable workforce in these areas remains.

One attraction of regional training posts is the ability to gain diverse and extensive procedural experience. The data pertaining to procedural numbers is being made available to hospitals who may be able to utilise this information to attract trainees to these areas.

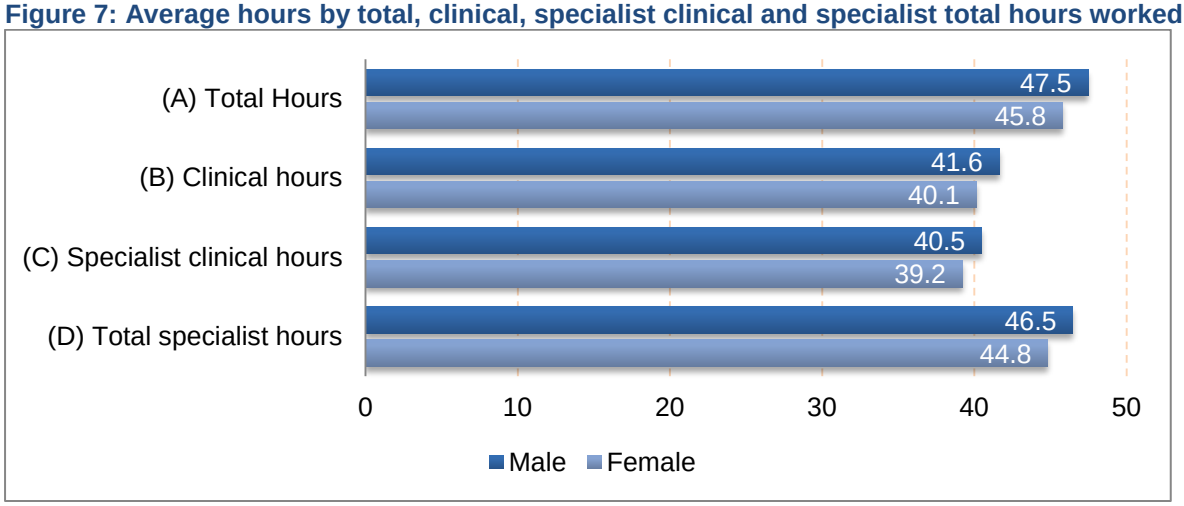
RANZCOG is also utilising data from online logbooks to identify areas where procedural experience is inadequate. In the future, these hospitals may be allocated fewer trainees.

Hours worked

There are a number of ways that the hours of a medical practitioner can be analysed. Appendix 4 outlines the methodology for determining the most appropriate measure of hours for specialists; resulting in considering the clinical and non-clinical hours of the speciality amassing to total specialist hours.

Figure 7 below shows the difference between the hours worked by the O&G workforce by gender. There is very little difference between the hours worked by males and females (just under two hours on average); with females working fewer hours on average. As expected, for both males and females, the total hours (A) are greater than the clinical hours (B) and these are again greater than the specialist clinical hours (C). The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical hours) component for the O&G workforce. On average almost six hours per week for both males and females (12 per cent of specialist hours), is spent performing clinical support in O&G.

Figure 7: Average hours by total, clinical, specialist clinical and specialist total hours worked



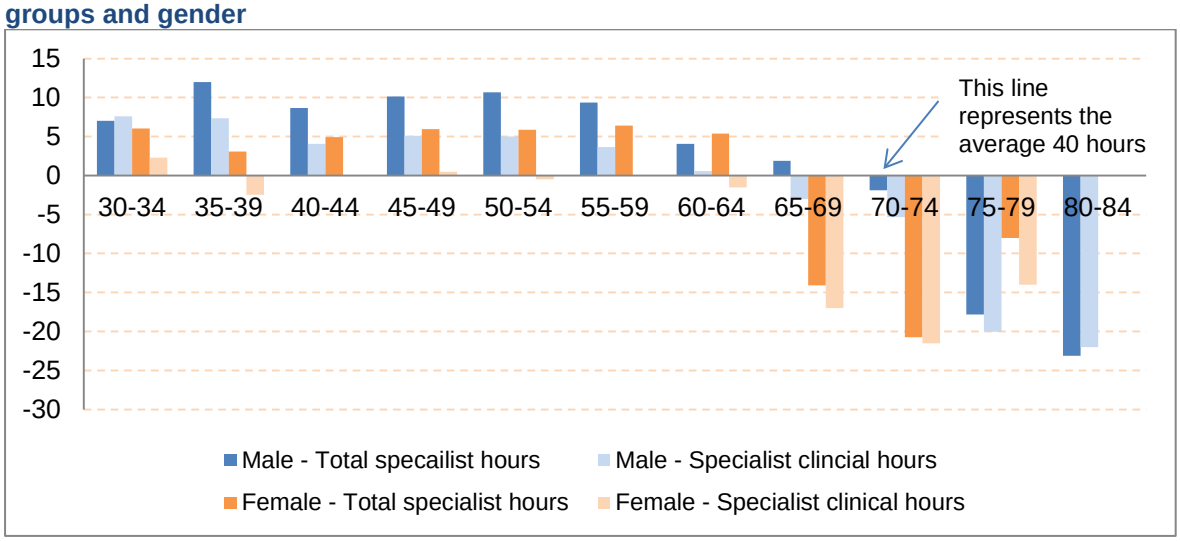
Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 8Figure 8. The x-axis is assumed to be average hours worked (40 hours) and the bars in positive or negative position show the hours worked greater or less than 40 hours by age and gender respectively.

As expected the younger age groups work greater than 40 hours and from 65 onwards the hours begin to reduce (less than 40 hours). The males aged 30-55 years tend to work the greater proportion of 40 hours per week, while females aged 65-74 work the higher proportion of less than 40 hours per week.

The total specialist hours tend to be greater than the clinical hours for both males and females between the ages of 35-64 years, while it shifts between the ages of 65-79 where the clinical hours are reduced more than the total specialist hours indicating that O&G in these age groups are spending slightly more time doing non-clinical work than clinical work.

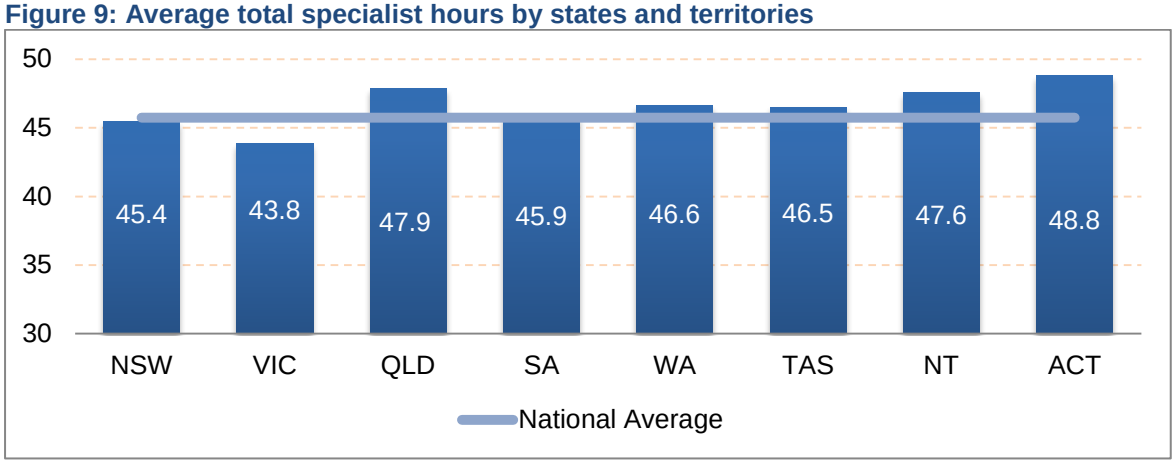
Figure 8: Total specialist and clinical specialist hours difference from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by state and territory is shown below (Figure 9). O&G specialist in the ACT, QLD, NT, WA and TAS tend to work more than the national average (45.7 hours), while those in VIC tend to work less than the national average.

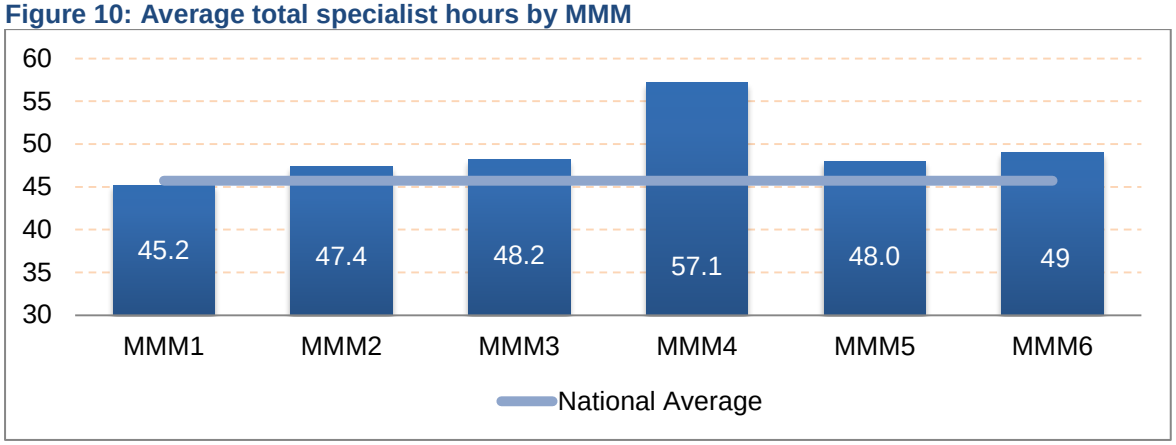
Figure 9: Average total specialist hours by states and territories



Source: NHWDS, Medical Practitioner 2016

Figure 10 shows there are larger variations in the total specialist hours worked by the O&G workforce in the more outer regional and remote areas; ranging from 57.1 hours per week in MMM4 to 45.2 hours per week in MMM1. The comparatively low number of specialists in MMM4 correlates with the highest number of hours worked per week.

Figure 10: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

Table 3 indicates O&Gs clinical workload between sectors and jurisdictions. The data shows that in all jurisdictions other than the NT, the majority of O&G specialist FTE is spent in the private sector. Nationally 63 per cent of O&G specialists clinical FTE is spent in the private sector. The majority of O&G specialists are located in the highly populated states of NSW, VIC and QLD and proportionally less in lower populous territories such as NT, ACT and TAS.

Table 3: O&G specialist clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

State and Territories	Headcount	Specialist clinical FTE	
		% Public	% Private
ACT	26	29.9	70.1
NSW	494	33.4	66.6
NT	19	71.3	28.8
QLD	330	37.2	62.8
SA	123	37.1	62.9
TAS	39	38.9	61.1
VIC	442	36.3	63.7
WA	163	42.3	57.7
Unknown	4	100.0	0.0
Total	**1640**	**36. 7**	**63.3**

Source: NHWDS, Medical Practitioner 2016

Scopes of practice in obstetrics and gynaecology

Members of the NMTAN and reinforced by RANZCOG, advised that it was important to ascertain the number of O&G specialists working predominately in gynaecology compared to those working in obstetrics and those doing both.

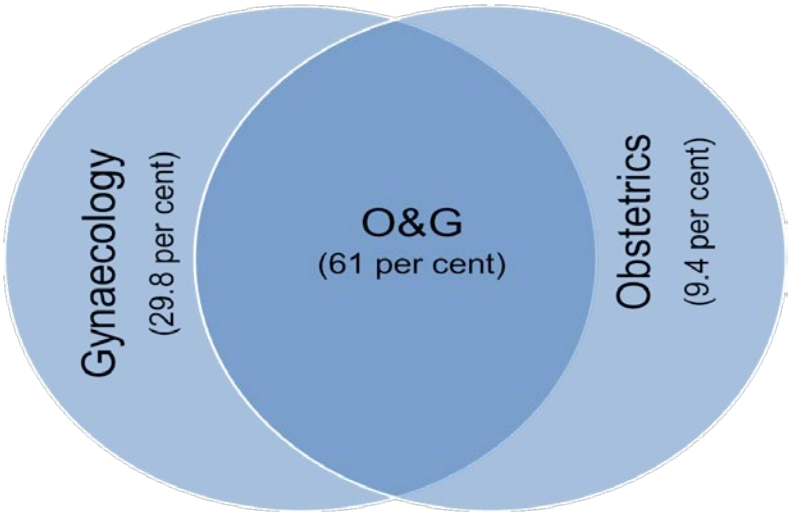
The best available data to attempt to determine this was through the practice profile survey of the college fellows; conducted through the RANZCOG. The de-identified data provided to the Department included the number of fellows and the combination of practice delivered under the obstetrics and gynaecology scope in a private or public setting in a metropolitan or rural location.

The data below is presented as a combination of unique headcounts (2,066 fellows) in combination with those that are practising in multiple settings, resulting in a much larger count (9,480 in total).

Scope of practice

The following section focusses on those fellows working exclusively in obstetrics or gynaecology and those that are working across both. The following Venn diagram represents the crossover between the scopes of practice. A large proportion of O&G fellows are working in both obstetrics and gynaecology. While a small proportion (just over nine per cent) only work in obstetrics and almost 30 per cent work exclusively in gynaecology. This data is based on the unique count of the RANZCOG fellows practice profile survey in 2016.

Figure 11: Intersecting scopes of practice



Source: RANZCOG practice profile survey, 2016

Further to this, the scopes of practice can be broken down by different aspects of practice as shown in Table 4. This table includes double counting of individuals within the different aspects of practice in addition to working in multiple sectors across the various aspects of practice. For example, there may be an O&G specialist who works in the O&G scope of practice in the aspect of colposcopy in the public and private sector which would be counted twice in addition to working in office gynaecology in the public and private sector which would also be counted twice; hence they have been counted four times. The data clearly indicates a preference to practising both O&G and with a greater emphasis on gynaecology throughout.

Table 4: Scopes of practice by the various aspects of practice

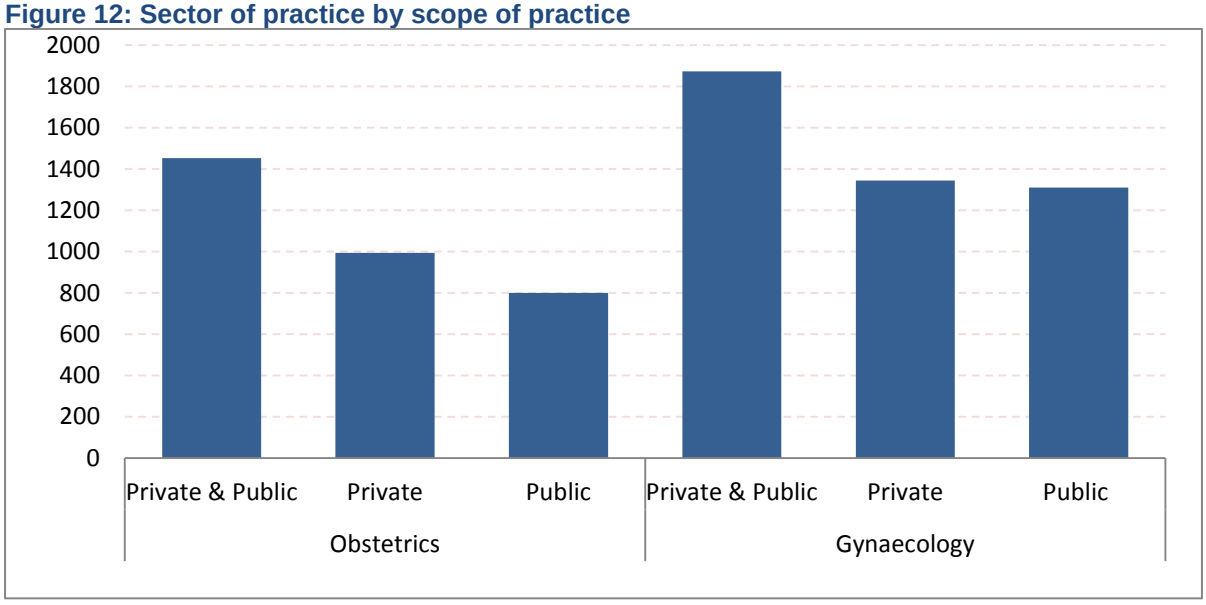
Aspects included in practice	Obstetrics and gynaecology	Gynaecology	Obstetrics	Total
Colposcopy	1,241	609	-	1,850
Fertility (inc IVF)	466	-	30	496
Obstetrics	857	-	154	1,011
Office gynaecology	1,590	750	-	2,340
Operative gynaecology	1,698	821	-	2,519
Ultrasound	816	-	147	963
Urodynamics	191	110	-	301
Total	**6,859**	**2,290**	**331**	**9,480**

Source: RANZCOG practice profile survey, 2016

Sector of practice

This section focusses on those that are practising in the private/public sector or both. The data in Figure 12 showed that there were a large number that worked in dual combinations (public and private sector) within obstetrics and gynaecology. In the gynaecology scope of practice the individual public and private sectors are almost equal whereas the private sector is more dominant within the obstetrics scope of practice.

Figure 12: Sector of practice by scope of practice



Source: RANZCOG practice profile survey, 2016

Practising by location

This section shows the location of the O&G fellows by MMM and RAs. In Table 5, the scopes of practice are divided into the aspects of practice, by the individual MMM and show the proportion of the workforce by sector. Again, this data has multiple duplicates.

The data shows that 68 per cent of the O&G workforce provides services in MMM1, largely in the private sector (41.3 per cent). MMM4 has a lower total proportion (0.31 per cent) than MMM5 (2.28 per cent). While MMM7 has a higher proportion (0.27 per cent) that MMM6 (0.08 per cent). O&G fellows provide no urodynamics or fertility (inc. IVF) outside of MMM5.

Table 5: Proportion of O&G scope and various aspects of practice by MMM

MMM	Scope	Aspect of practice	Private	Public	Grand Total
MMM1	Gynaecology	Colposcopy	8.38%	4.59%	12.96%
		Office gynaecology	9.95%	7.00%	16.95%
		Operative gynaecology	9.80%	8.19%	17.99%
		Urodynamics	1.16%	0.64%	1.80%
	Obstetrics	Fertility (inc IVF)	3.51%	0.39%	3.90%
		Obstetrics	3.66%	3.85%	7.51%
		Ultrasound	4.80%	2.19%	6.99%
MMM1 Total			**41.26%**	**26.86%**	**68.11%**
MMM2	Gynaecology	Colposcopy	1.09%	0.93%	2.01%
		Office gynaecology	1.15%	1.03%	2.18%
		Operative gynaecology	1.13%	1.23%	2.36%
		Urodynamics	0.38%	0.18%	0.56%
	Obstetrics	Fertility (inc IVF)	0.42%	0.01%	0.43%
		Obstetrics	0.42%	0.59%	1.01%
		Ultrasound	0.68%	0.35%	1.02%
MMM2 Total			**5.26%**	**4.32%**	**9.59%**
MMM3	Gynaecology	Colposcopy	0.49%	0.38%	0.86%
		Office gynaecology	0.47%	0.42%	0.90%
		Operative gynaecology	0.49%	0.62%	1.11%
		Urodynamics	0.09%	0.05%	0.15%
	Obstetrics	Fertility (inc IVF)	0.06%	0.00%	0.06%
		Obstetrics	0.07%	0.27%	0.35%
		Ultrasound	0.24%	0.21%	0.45%
MMM3 Total			**1.92%**	**1.96%**	**3.88%**
MMM4	Gynaecology	Colposcopy	0.02%	0.05%	0.07%
		Office gynaecology	0.02%	0.05%	0.07%
		Operative gynaecology	0.02%	0.05%	0.07%
		Urodynamics	0.01%	0.01%	0.02%
	Obstetrics	Fertility (inc IVF)	0.00%	0.01%	0.01%
		Obstetrics	0.00%	0.04%	0.04%
		Ultrasound	0.00%	0.01%	0.01%
MMM4 Total			**0.07%**	**0.23%**	**0.31%**
MMM5	Gynaecology	Colposcopy	0.21%	0.28%	0.50%
		Office gynaecology	0.24%	0.28%	0.53%
		Operative gynaecology	0.23%	0.36%	0.59%
		Urodynamics	0.13%	0.07%	0.20%
	Obstetrics	Fertility (inc IVF)	0.05%	0.02%	0.07%
		Obstetrics	0.06%	0.13%	0.19%
		Ultrasound	0.09%	0.11%	0.20%
MMM5 Total			**1.02%**	**1.26%**	**2.28%**
MMM6	Gynaecology	Colposcopy	0.00%	0.02%	0.02%
		Office gynaecology	0.00%	0.02%	0.02%
		Operative gynaecology	0.00%	0.02%	0.02%
	Obstetrics	Obstetrics	0.00%	0.01%	0.01%
		Ultrasound	0.00%	0.01%	0.01%
MMM6 Total			**0.00%**	**0.08%**	**0.08%**

MMM	Scope	Aspect of practice	Private	Public	Grand Total
MMM7	Gynaecology	Colposcopy	0.01%	0.05%	0.06%
		Office gynaecology	0.01%	0.05%	0.06%
		Operative gynaecology	0.01%	0.05%	0.06%
	Obstetrics	Obstetrics	0.01%	0.03%	0.04%
		Ultrasound	0.01%	0.03%	0.04%
MMM7 Total			**0.05%**	**0.22%**	**0.27%**
Unknown	Gynaecology	Colposcopy	1.27%	1.75%	3.02%
		Office gynaecology	1.75%	2.22%	3.97%
		Operative gynaecology	1.79%	2.57%	4.37%
		Urodynamics	0.24%	0.20%	0.44%
	Obstetrics	Fertility (inc IVF)	0.56%	0.19%	0.75%
		Obstetrics	0.32%	1.19%	1.51%
		Ultrasound	0.78%	0.64%	1.42%
Unknown Total			**6.71%**	**8.77%**	**15.47%**
Grand Total			**56.30%**	**43.70%**	**100.00%**

Source: RANZCOG practice profile survey, 2016

The following table shows the unique count of O&G fellows by scope of practice by remoteness area (RA). In Table 6 as in the previous table the large majority are located in metropolitan areas – with 67 per cent of fellows located in RA1. The fellows that work exclusively in obstetrics are located in RA1 at a higher rate (86 per cent) than O&G and gynaecology (which are both similar proportions [66-67 per cent]). RA4 and RA5 have very low numbers in the O&G scope of practice and none in the individual scopes of practice. These responses show slight variation to the workforce survey responses to their practising location, where there are at least 20 fellows stating they worked in remote areas (see Table 9).

Table 6: O&G scope of practice by RA

Remoteness area	Obstetrics and gynaecology	Gynaecology	Obstetrics	Total
RA1	841	407	166	1,414
RA2	143	62	np	211
RA3	57	19	np	78
RA4	np			np
RA5	np			np
Unknown	209	127	20	356
Total	**1,257**	**615**	**194**	**2,066**

Source: RANZCOG practice profile survey, 2016

Current trainees

Fellowship program

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) was formed in 1998 with the amalgamation of the two former Colleges, The Royal Australian College of Obstetricians and Gynaecologists (RACOG) and The Royal New Zealand College of Obstetricians and Gynaecologists (RNZCOG). Fellowship of the RANZCOG is the only post-graduate qualification which leads to recognition as a specialist obstetrician/gynaecologist in Australia or New Zealand.

To be eligible to apply for specialist O&G training through RANZCOG, applicants must possess an approved Australian or New Zealand primary medical degree, or have the Australian Medical Council certificate. Medical practitioners must also have general registration with the Medical Board of Australia. Prospective subspecialty trainees must apply through the annual National Selection Process for eligibility to enter the individual subspecialty training program.

In 2014, the College introduced a revised curriculum to guide the training and practice of obstetricians and gynaecologists. This curriculum applies to all trainees; however, trainees who commenced the program prior to 1 December 2013 are governed by a different set of regulations.

The RANZCOG Training Program comprises:

- Core Training Program (four years/184weeks)
  - Rotation through a number of different hospitals, with at least 46 weeks (12 months) in a tertiary hospital, 46 weeks (12 months) in a hospital other than the home base hospital and 23 weeks (six months) in a rural hospital;
  - Experience in gynaecological oncology sufficient to gain a working knowledge of the anatomy of the pelvic sidewall, particularly in regard to the ureter and major blood vessels;
  - Workshops (Basic Surgical Skills, Fetal Surveillance, Communication Skills);
  - Neonatal Resuscitation training;
  - Formative Appraisals, Summative Assessments, In-hospital Clinical Assessments, Procedural and Surgical Skills assessment;
  - Research Project;
  - Written Examination and Oral Examination.
    - Successful completion culminates in Membership of RANZCOG.
- Advanced Training Program (two year/92 weeks)
  - Trainees entering Advanced training are required to submit a plan, prospectively approved by the Chair of the relevant regional Training Accreditation Committee, for the 92 week program which is designed to meet their own educational needs e.g.:
    - Extending expertise in general obstetrics and gynaecology;
    - Extending expertise in gynaecological surgery;
    - Developing expertise in provincial practice (for the purpose of training 'provincial' is defined as more than 50km from the home base hospital of the integrated training program (ITP);
    - Developing research expertise;
    - Developing expertise in an area of special interest;
    - Developing expertise in practice in developing countries;
    - Commencing Subspecialty training;
    - Advanced trainees are also encouraged to complete relevant Advanced Training Modules (ATMs);
    - Successful completion culminates in Fellowship of RANZCOG.
- Subspecialist Certification Training Program (3 years - can commence after being awarded Fellowship (FRANZCOG) or during Advanced training):
  - formative and summative assessments;
  - completion of an approved research study;
  - written and oral examinations;
  - specific assessment requirements;
  - The Subspecialty programs are:
    - Certification in Gynaecological Oncology;
    - Certification in Obstetrical and Gynaecological Ultrasound;
    - Certification in Maternal-Fetal Medicine;
    - Certification in Reproductive Endocrinology and Infertility;
    - Certification in Urogynaecology.

SIMGs who have obtained primary and/or secondary medical qualifications outside Australia and wish to practice as specialist obstetricians and gynaecologists in Australia must apply to have their qualifications assessed for comparability to an Australian or New Zealand trained specialist in obstetrics and gynaecology by RANZCOG. Depending on the outcome of the assessment, the following training/upskilling may be required:

- A period of 12 months oversight;

- A minimum period of 12 months and maximum period of 24 months of prospectively approved, supervised training;
- In-hospital Clinical Assessments;
- MRANZCOG Written Examination (maximum four attempts);
- MRANZCOG Oral Examination (maximum four attempts);
- Communications Skills Workshop;
- The specified basic and advanced surgical procedures; and
- Future consideration for training pathways.

Provincial Integrated Training Program (PITP)

The RANZCOG PITP has been developed to address issues related to maldistribution and to encourage and support prospective trainees who are interested in working in rural or regional areas.

The goals of the Provincial Integrated Training Program are to:

- produce a Fellow with the skills required to work in a provincial setting;
- to enable medical practitioners who have a demonstrated commitment to rural health to undertake their specialist training and pursue a career in a regional area; and
- to encourage growth in the rural and regional O and G workforce.

PITP positions are selected annually via the RANZCOG National Selection Process and candidates applying for the PITP must satisfy a minimum of one of the following criteria:

- Have lived at least five years in an approved regional/rural location in Australia or New Zealand since the start of primary school education;
- Awarded a Medical Rural Bonded Scholarship (MRBS);
- Studied at medical school through the Bonded Medical Places (BMP) Scheme;
- Have worked a minimum of one year as a General Practitioner (GP) in a single approved regional/rural location in Australia or New Zealand;
- Have undertaken a minimum of 12 months of clinical training in an approved regional/rural location either as a medical student, intern, resident or registrar;
- There are currently two PITP posts at the moment; Mackay and Dubbo, with the intention of a new position commencing in 2019; and
- These positions are all ongoing with no end-date.

Trainee data

The NHWDS data is used to describe trainees (those that have identified as specialist-in-training (SIT) (Appendix 5)). For the purposes of modelling, the Department of Health (the Department) has used a combination of data from the RANZCOG and the NHWDS: Medical Practitioner 2016 survey, noting that there are variances between these data sources. This is largely due to the self-reported nature of the medical workforce survey data.

In comparison to the RANZCOG data, the 2016 NHWDS reported 58 more (10 per cent) O&G trainees. The main reason for this is the different time points of collecting the data which will result in slight variations, affecting the number of trainees counted in a given year.

The number of trainees by training level is also collected through the Medical Education and Training (MET) data collection each year from medical colleges and reported on in data tables. There are differences in the numbers in this report and the MET as the latter captures the number of trainees as at 30 June each year.

FRANZGOG undertaking subspecialty training

O&G training allows for subspecialisation, and subspecialty training can be undertaken during the advanced years of vocational training (before fellowship) or any time after fellowship is obtained. This means that, in the NHWDS and RANZCOG data, an individual

can be classified as a specialist/fellow and a trainee. This does not impact the modelling of the O&G specialty as only the hours worked in each specialty or subspecialty contribute towards the supply of O&G specialists. However, the headcounts presented in the specialist and trainee sections of this report will double count these people: once in the specialist section and once in the trainee section. According to the 2016 NHWDS, there were six O&G specialists/fellows undertaking subspecialty training (three were undertaking GO, two were undertaking MFM.

Trainee demographics

Table 7 details the trainees by age group, gender and self-reported training year according to the NHWDS. The main trend that can be seen is that trainees are predominantly in the 30-39 age groups (70 per cent of total), and that there are more female trainees (81 per cent of total).

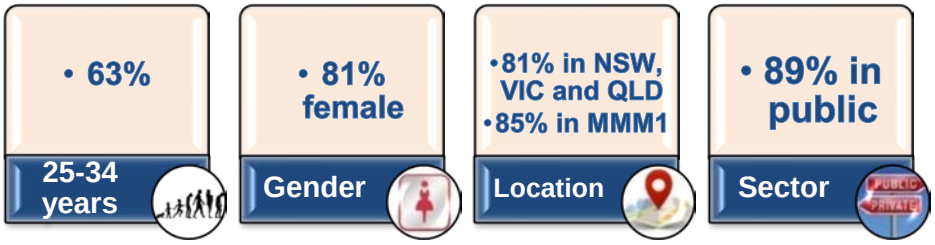
Table 7: Trainees by age group, gender and current training year

Age	1st	2nd	3rd	4th	5th	6th	7th	8th	Not Stated	Total
					MALE					
25-29	8	5	0	np	0	np	0	0	0	14
30-34	7	8	8	10	np	np	0	0	0	39
35-39	np	4	np	4	8	6	np	np	np	30
40-44	np	2	0	np	7	4	0	np	np	19
45-49	0	np	np	np	np	np	0	0	0	7
50-54	0	0	0	0	0	np	np	0	0	np
55+	0	0	1	0	0	0	0	0	0	np
Total	**18**	**20**	**14**	**18**	**19**	**17**	**3**	**3**	**1**	**113**
					FEMALE					
25-29	38	26	18	np	0	0	0	0	np	85
30-34	32	37	33	55	36	30	np	0	np	226
35-39	4	11	12	21	29	29	np	3	0	111
40-44	0	0	4	4	7	7	4	np	np	28
45-49	np	np	np	np	np	np	np	np	np	10
50-54	np	np	np	np	np	np	np	np	np	6
55+	0	0	0	np	np	0	0	0	0	np
Total	**75**	**76**	**69**	**83**	**77**	**69**	**8**	**5**	**5**	**467**
Grand Total	**93**	**96**	**83**	**101**	**96**	**86**	**11**	**8**	**6**	**580**

Source: NHWDS, Medical Practitioner 2016

According to the 2016 NHWDS, there were 580 O&G trainees in Australia, with the following characteristics:

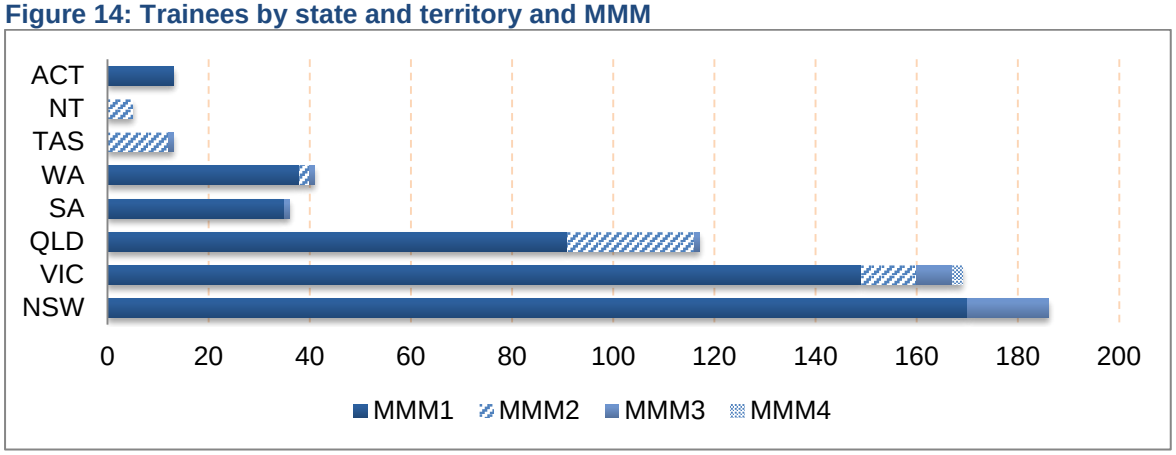
Figure 13: Demographics of O&G trainees



Source: NHWDS, Medical Practitioner 2016

Figure 14 outlines the distribution of trainees and shows that the majority of O&G trainees (86 per cent) are located in major cities (MMM1). Nine per cent of trainees were in MMM2, five per cent in MMM3 and 0.3 per cent in MMM4.

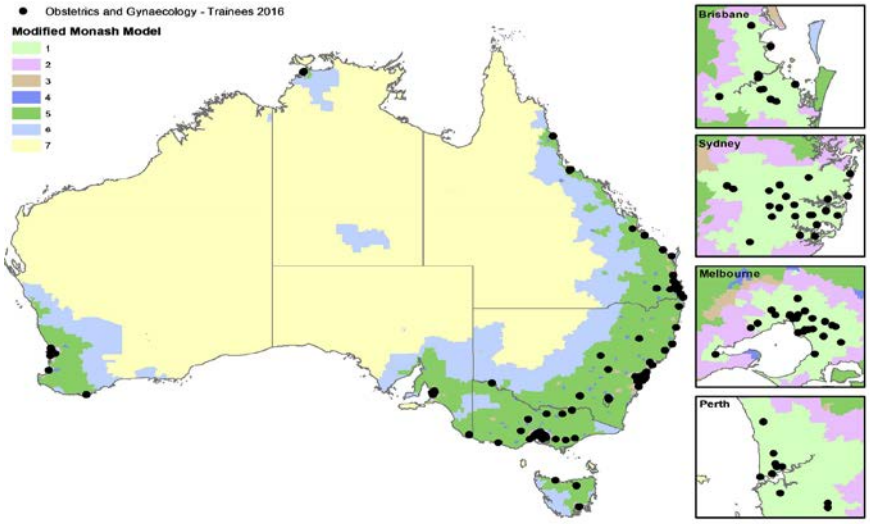
Figure 14: Trainees by state and territory and MMM



Source: NHWDS, Medical Practitioner 2016

The following map (Figure 15) gives a visual overview of the location of O&G trainees at the point in time of the survey collect point.

Figure 15: Distribution of O&G trainees



Source: NHWDS, Medical Practitioner 2016

Table 8 details the trainees (FTE) by location, current year of training and sector. Nationwide the public sector is still dominant with 87 per cent of training FTE spent in the sector.

Table 8: Trainee FTE (total hours) by training year and sector

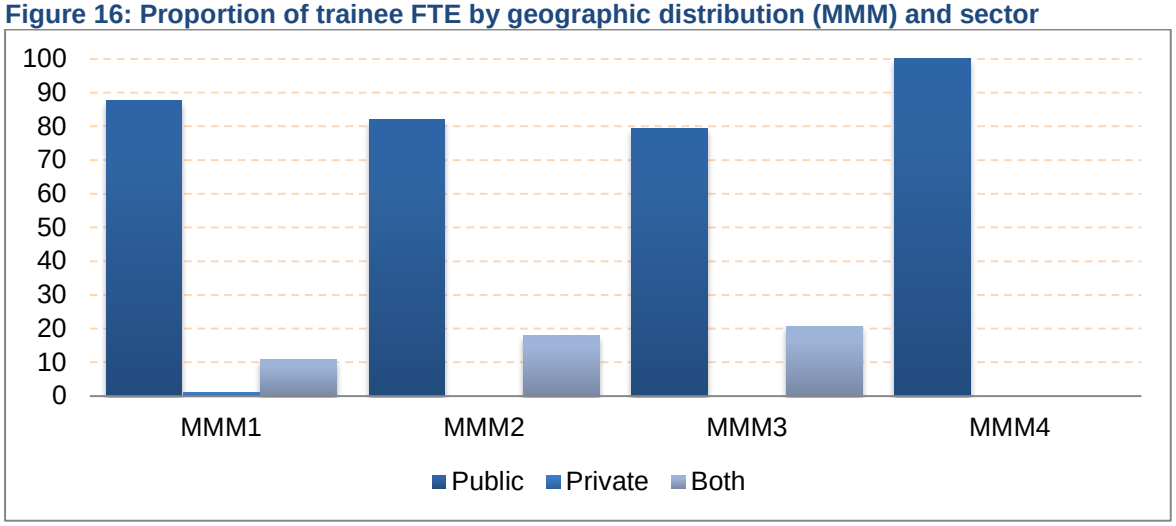
State	Sector	1st	2nd	3rd	4th	5th	6th	7th	8th	*	Total
NSW	Public	42.2	38.6	35.3	47.9	28.5	16.7	5.1	1.3	2.4	217.9
	Private	0	0	0	0	0	0	0	1.4	0	1.4
	Both	0	7.4	3.1	5.5	8.3	9.9	2	0	0	36.2
VIC	Public	33	38.6	27.5	21.6	22.3	33.2	1.5	3	2.4	183
	Private	0.9	0	0	1.1	1	1.1	0	0	0	4
	Both	2.8	2.5	4.7	2.9	6.9	6.1	0	0	1	26.8
QLD	Public	26.6	15	16.4	24.9	23.3	24.2	1	2.6	1.5	135.4
	Private	0	0	0.1	0	1.1	0	0	0	0	1.1
	Both	0	0	4.7	0	1.8	1	0	1.7	0	9.2
SA	Public	5.9	8.2	3.7	10.7	5.4	9.3	1.6	0	0	44.8
	Both	0	0	1.1	0	1	2.6	0	0	0	4.6
WA	Public	8.3	8.4	5	11.3	10.8	3.9	0	0	0	47.7
	Both	0	0	3	1.3	2.7	0	0	2	0	8.9

State	Sector	1st	2nd	3rd	4th	5th	6th	7th	8th	*	Total
NT	Private	0	2.8	0	1.1	3.7	0	0	0	0	7.6
ACT	Public	3.8	2.5	3.7	0	1.7	0	2	0	0	13.7
	Both	0	0	0	1.5	0	0	0	0	0	1.5
TAS	Public	2.4	2	3.8	3.4	0	1.3	0	0	0	12.8
	Both	0	1.5	0	0	1.6	1	0	0	0	4.1
Australia (%)	**Public**	**16**	**15.2**	**12.5**	**15.8**	**12.5**	**11.6**	**1.5**	**0.9**	**0.8**	**86.8**
	Private	**.11**	**0**	**0.01**	**0.14**	**0.27**	**0.14**	**0**	**0.18**	**0**	**0.85**
	Both	**0.37**	**1.49**	**2.17**	**1.46**	**2.91**	**2.68**	**0.26**	**0.48**	**0.13**	**11.95**

Source: NHWDS, Medical Practitioner 2016

The proportion of trainees by MMM (Figure 16) also adds to the view that public sector based trainings is dominant in a number of the MMM categories. Of the small proportion (0.85 per cent) that train in the private sector, this only occurs in MMM1.

Figure 16: Proportion of trainee FTE by geographic distribution (MMM) and sector



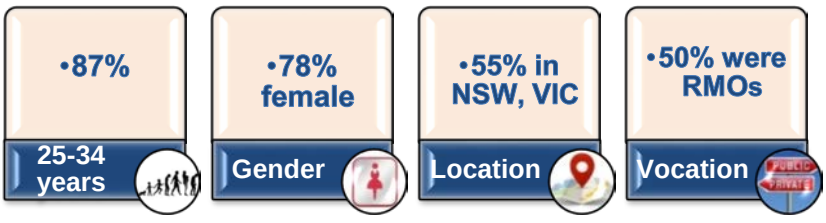
Source: NHWDS, Medical Practitioner 2016

Prevocational intentions

In 2013, new questions were included in the NHWDS Medical Practitioner Survey which identified those who intend to undertake vocational training. The information collected from these questions form part of the future planning process providing an indicative number of the future intentions of trainees (Appendix 5).

Figure 17 details the characteristics of the 325 hospital non-specialists (HNS) who indicated their intentions to undertake O&G training, according to the 2016 NHWDS:

Figure 17: Characteristics of HNS who intend to undertake O&G training

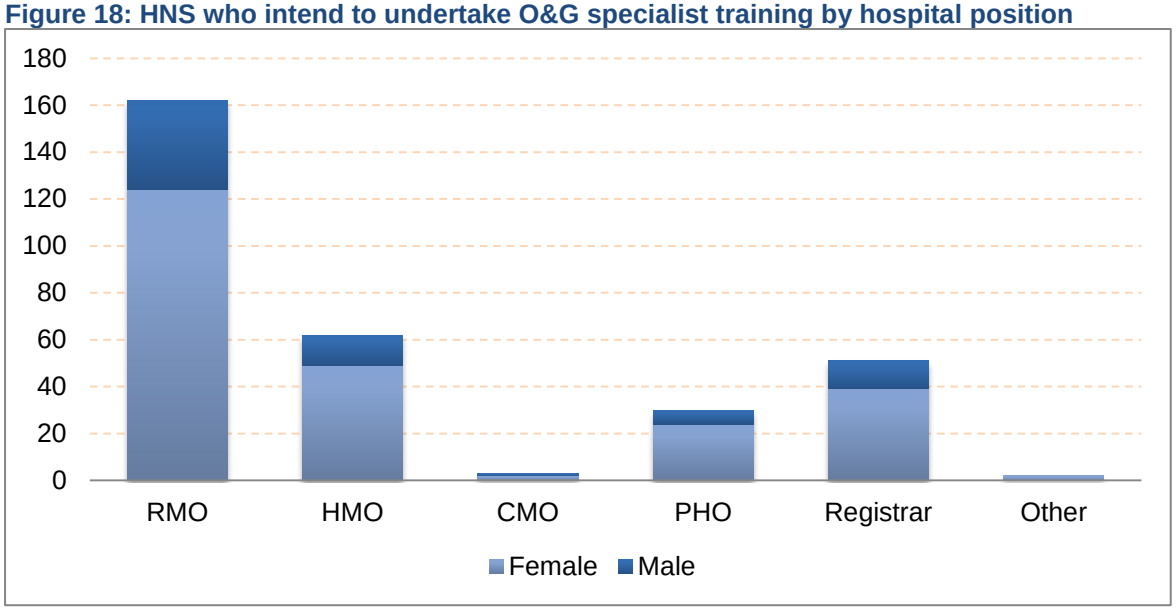


Source: NHWDS, Medical Practitioner 2016

Of the 325 hospital non-specialists (HNS) who indicated their intentions to undertake O&G training, some specified their intentions to train in subspecialties: 4 in urogynaecology, 15 in reproductive endocrinology and infertility, 12 in obstetrics and gynaecological ultrasound, 25 in maternal-fetal medicine and 11 in gynaecological oncology.

The primary group of HNS who intend to undertake O&G training are Resident Medical Officers (RMOs), followed by Registrars, Hospital Medical Officers (HMOs) and Principal House Officers (PHOs) (Figure 18).

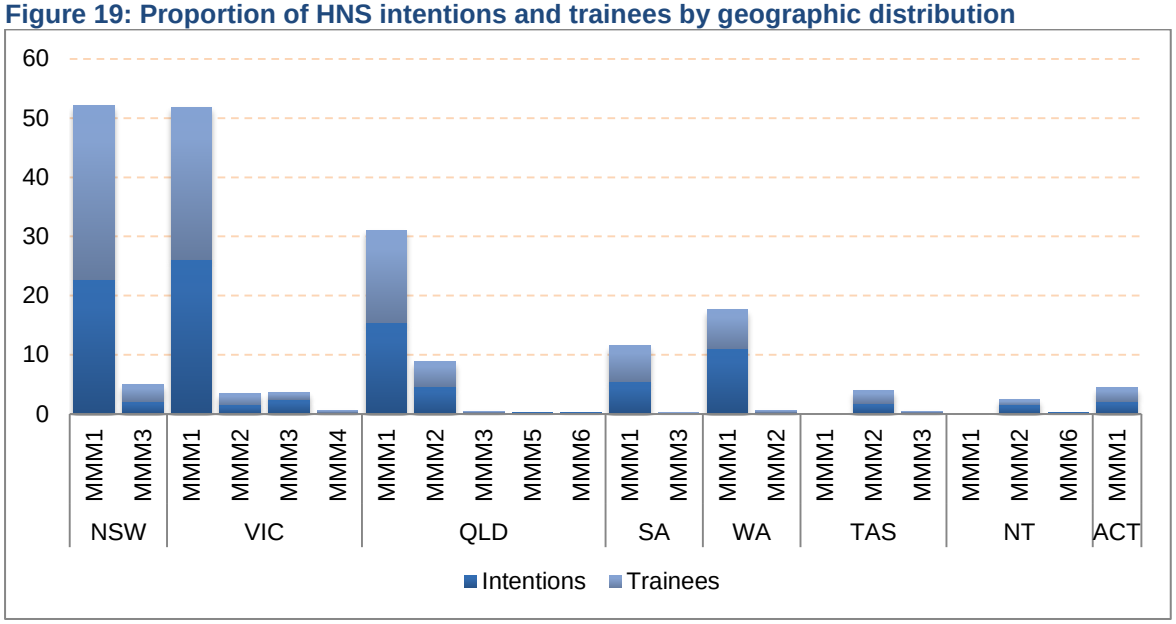
Figure 18: HNS who intend to undertake O&G specialist training by hospital position



Source: NHWDS, Medical Practitioner 2016

Similar to the location of trainees in Figure 14 and Figure 15, HNS with intentions of training in O&G are mostly located in areas similar to current trainees - primarily major cities in NSW, VIC and QLD (Figure 19). Relative to the number of current trainees, there are a large number of HNS with intentions to train in O&G in WA.

Figure 19: Proportion of HNS intentions and trainees by geographic distribution



Source: NHWDS, Medical Practitioner 2016

Summary of total workforce by remoteness classification

Table 9 is a broad summary of the population and remoteness characteristics of the O&G workforce. The number of O&G specialists and trainees per 100,000 female population is 21.6 in MMM1 areas, 18.5 in MMM2 areas and 17.3 in MMM3 areas. There are 10 or fewer O&G specialists/trainees per 100,000 female population in MMM4 and MMM7.

Table 9: Summary of O&G workforce (Headcount and FTE) by MMM

Modified Monash Category	2015 female population	Specialists and trainees (headcount)	Headcount per 100,000 population	Specialists and trainees (FTE)	FTE per 100,000 population
MMM1	8,518,707	1,841	21.6	2,151	25.3
MMM2	1,101,906	204	18.5	251	22.8
MMM3	782,212	135	17.3	166	21.2
MMM4	438,711	16	3.6	23	5.2
MMM5	871,058	6	0.7	7	0.8
MMM6	143,126	14	9.8	18	12.4
MMM7	95,130	0	0.0	0	0.0
Grand Total	**11,950,850**	**2,216**	**18.5**	**2,615**	**21.9**

Note – Trainee FTE is based on clinical hours and specialist FTE is based on total specialist hours.
Source: NHWDS, Medical Practitioner 2016

Table 10 details the O&G subspecialist workforce. As subspecialty training may be undertaken in the advanced years of training or after fellowship, some subspecialist trainees may also be working as O&G specialists (fellows). To avoid double counting, the subspecialty FTE is presented in the table below.

Table 10: Summary of O&G subspecialty workforce (FTE) by MMM

MMM Category	Subspecialist and trainee FTE					Subspecialist and trainee FTE per 100,000 female population				
	UG	REI	OGU	MFM	GO	UG	REI	OGU	MFM	GO
MMM1	39.6	58.9	76.1	58.0	58.5	0.5	0.7	0.9	0.7	0.7
MMM2	3.0	2.8	3.6	3.5	2.1	0.3	0.3	0.3	0.3	0.2
MMM3	0.0	1.5	0.0	0.0	1.0	0.0	0.2	0.0	0.0	0.1
MMM4	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Grand Total	**42.6**	**63.2**	**83.3**	**61.5**	**61.6**	**0.4**	**0.5**	**0.7**	**0.5**	**0.5**

Note – Trainee FTE is based on clinical hours and subspecialist FTE is based on total specialist hours.
Source: NHWDS, Medical Practitioner 2016

General Practitioners providing obstetric services

Background

There are three qualifications the RANZCOG offers in Women's Health for medical practitioners. In general, prospective trainees must hold a primary degree in Medicine and Surgery, be registered with the Medical Board of Australia and be in their second or subsequent postgraduate year[3].

Certificate of Women's Health (CWH)

The CWH is centred primarily on office-based obstetrics and gynaecology and generally involves 3 months of either practice or hospital-based training.

Diploma (DRANZCOG)

The DRANZCOG training program builds on the skills developed through the CWH training program. It is intended for general practitioners/residents who wish to gain skills in obstetrics and gynaecology that will enable them to safely undertake non-complex deliveries and basic gynaecological procedures.

Advanced GP Diploma (DRANZCOG Advanced)

The DRANZCOG Advanced is designed for medical practitioners who have gained skills in obstetrics and gynaecology through the basic DRANZCOG and who wish to further develop them to a level that would enable them to safely undertake complex deliveries, advanced gynaecological procedures and perform basic early and late pregnancy ultrasound scanning. The DRANZCOG Advanced consists of the following three curriculum areas:

- DRAV1 Advanced obstetrics: caesarean delivery, perform instrumental delivery (vacuum and forceps), repair of perineal tears.
- DRAV2 Advanced gynaecology: basic pelvic laparotomy, hysterectomy, miscarriage, termination.
- DRAV3 Ultrasound: transvaginal and transabdominal first trimester scanning, late pregnancy scanning.

Rural Health Workforce

The medical practice in rural and remote Australia, National Minimum Data Set (MDS) Report at 30 November 2016 seeks to quantify the number of rural and remote proceduralists. This data set uses the ASGC-RA geographical classification system. The survey responses showed that there were 910 GPs practising within RA2-RA5 in at least on procedural field (anaesthetics, obstetrics or surgery)[4]. There were at least 448 undertaking obstetrics normal delivery. This number is significantly higher than the numbers that are shown to be claiming Medicare Benefits Schedule (MBS) below in the following section.

Current MBS services

The MBS data is able to provide a partial picture of the GP obstetric workforce. This only includes GPs who have a Medicare provider number and bill Medicare for the obstetric

[3] https://www.ranzcog.edu.au/education-a-training/certificate-diploma-training.html

[4] http://www.health.gov.au/internet/otd/Publishing.nsf/Content/RA-intro

services. This does not include services provided in a public hospital. A different methodology would be needed to accurately determine the obstetric hours worked by GPs.

The definition of a GP obstetrician used in this report is based on the Medical Benefits Division Derived Medical Specialty (DMS), whereby each medical practitioner's derived major specialty is determined taking into consideration both their medical qualifications and their service pattern, and is based on the provider's main area of practice each quarter.

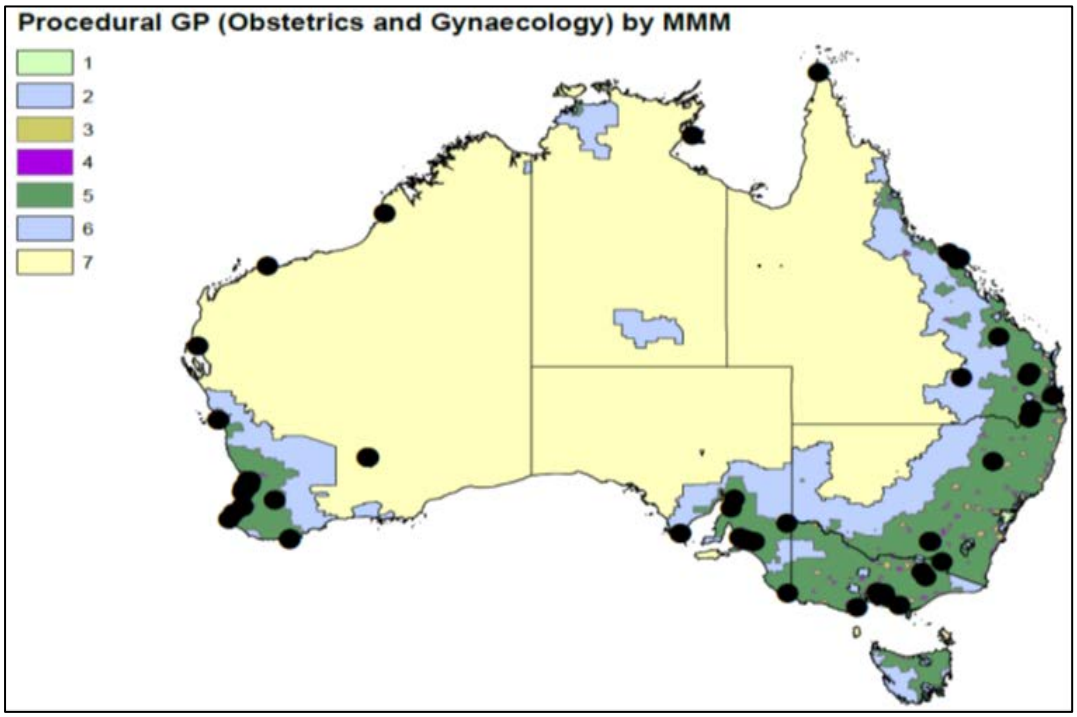
In 2017, there were 55 GP obstetricians (who had a Medicare provider number and bill Medicare for the obstetric services) delivering 98,417 services in 2016. This is around 3 per cent of the size of the overall obstetrics and gynaecology specialist workforce which in 2016, consisted of 1,640 specialists.

Table 11: Proportion of services by GP obstetricians

MMM (Monash Modified Model)	Providers	Number of Services
1	54%	82%
2	5%	9%
3	23%	7%
4	9%	1.5%
5+	9%	1.5%

The above table shows the location of procedural GP obstetrician services by MMM1 to MMM7. Just under half of all services provided by GP obstetricians were provided in MMM2-MMM7 and 12 per cent of services were provided in MMM5 or greater. Given that only roughly 18 per cent of specialist obstetricians are primarily working outside of MMM1, this clearly shows that GP obstetricians are meeting a community need by providing a higher level of service in areas outside MMM1.

Figure 20: Map of Procedural GP obstetrics and gynaecology services 2016 by MMM



The above map shows the distribution of GP obstetrics providers by MMM1-MMM7. Note that there are a significant proportion of providers outside of MMM1. This map shows the location of Medicare providers with the DMS of GP obstetrics in 2016 who delivered at least one service.

Table 12: Top 10 MBS items claimed by GP obstetricians

Item	Description	Number of Services
00023	LEVEL 'B' Professional attendance involving taking a selective history, examination of the patient with implementation of a management plan in relation to one or more problems, OR a professional attendance of less than 20 minutes duration involving components of an attendance of the type otherwise covered by Item 36, 37, 38, 40, 43, 44, 47, 48, 50 or 51 SURGERY CONSULTATION (Professional attendance at consulting rooms)	**16,273**
16500	Antenatal care (not including any service or services to which item 16516 or 16517 applies) where the attendances do not exceed 10 each attendance	**14,016**
00036	LEVEL 'C' Professional attendance involving taking a detailed history, an examination of multiple systems, arranging any necessary investigations and implementing a management plan in relation to one or more problems, and lasting at least 20 minutes, OR a professional attendance of less than 40 minutes duration involving components of an attendance of the type otherwise covered by Items 44, 47, 48, 50 or 51 SURGERY CONSULTATION (Professional attendance at consulting rooms)	**5,701**
16400	Antenatal service provided by a midwife, nurse or a registered Aboriginal Health Worker if: (a) the service is provided on behalf of, and under the supervision of, a medical practitioner; (b) the service is provided at, or from, a practice location in a regional, rural or remote area rrma 3-7; (c) the service is not performed in conjunction with another antenatal attendance item (same patient, same practitioner on the same day); (d) the service is not provided for an admitted patient of a hospital; and to a maximum of 10 service per pregnancy	**2,605**
00003	Professional attendance at consulting rooms (not being a service to which any other item applies) by a vocationally registered general practitioner for an obvious problem characterised by the straightforward nature of the task that requires a short patient history and, if required, limited examination and management each attendance	**2,498**
16590	Planning and management of a pregnancy that has progressed beyond 20 weeks provided the fee does not include any amount for the management of the labour and/or delivery - payable once only for any pregnancy that has progressed beyond 20 weeks	**1,753**
16514	Antenatal cardiotocography in the management of high risk pregnancy (not during the course of the confinement)	**1,190**
55703	Pelvis or abdomen, pregnancy-related or pregnancy complication, ultrasound scan of, by any or all approaches, where: (a) the patient is not referred by a medical practitioner; and (b) the dating of the pregnancy (as confirmed by ultrasound) is less than 12 weeks of gestation; and (c) the service is not associated with a service to which an item in Subgroup 2 or 3 applies; and (d) one or more of the following conditions are present: (i) hyperemesis gravidarum; (ii) diabetes mellitus; (iii) hypertension; (iv) toxaemia of pregnancy; (v) liver or renal disease; (vi) autoimmune disease; (vii) cardiac disease; (viii) alloimmunisation; (ix) maternal infection; (x) inflammatory bowel disease; (xi) bowel stoma; (xii) abdominal wall scarring; (xiii) previous spinal or pelvic trauma or disease; (xiv) drug dependency; (xv) thrombophilia; (xvi) significant maternal obesity; (xvii) advanced maternal age; (xviii) abdominal pain or mass; (xix) uncertain dates; (xx) high risk pregnancy; (xxi) previous postdates delivery; (xxii) previous caesarean section; (xxiii) poor obstetric history; (xxiv) suspicion of ectopic pregnancy; (xxv) risk of miscarriage; (xxvi) diminished symptoms of pregnancy; (xxvii) suspected or known cervical incompetence; (xxviii) suspected or known uterine abnormality; (xxix) pregnancy after assisted reproduction; (xxx) risk of fetal abnormality (NR)	**1,180**

Item	Description	Number of Services
16591	Planning and management of a pregnancy that has progressed beyond 20 weeks provided the fee does not include any amount for the management of the labour and delivery if the care of the patient will be transferred to another medical practitioner, payable once only for any pregnancy that has progressed beyond 20 weeks, not being a service to which item 16590 applies.	**840**
16406	32-36 week obstetric visit antenatal professional attendance, as part of a single course of treatment, at 32-36 weeks of the patient's pregnancy when the patient is referred by a participating midwife. payable only once for a pregnancy.	**790**

Assisted Reproductive Technology

Assisted Reproductive Technology (ART) services include a range of treatments to achieve pregnancy, involving laboratory or clinical techniques. ART is a group of procedures that involve the in vitro (outside of body) handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy. The anecdote seems to be that there is huge growth in this space, but the MBS data below shows that these services have plateaued from 2012, while the number of subspecialists is small; they have grown at a greater rate. For more information on the number of initiated ART treatment cycles, progression and outcomes, please see Appendix 6.

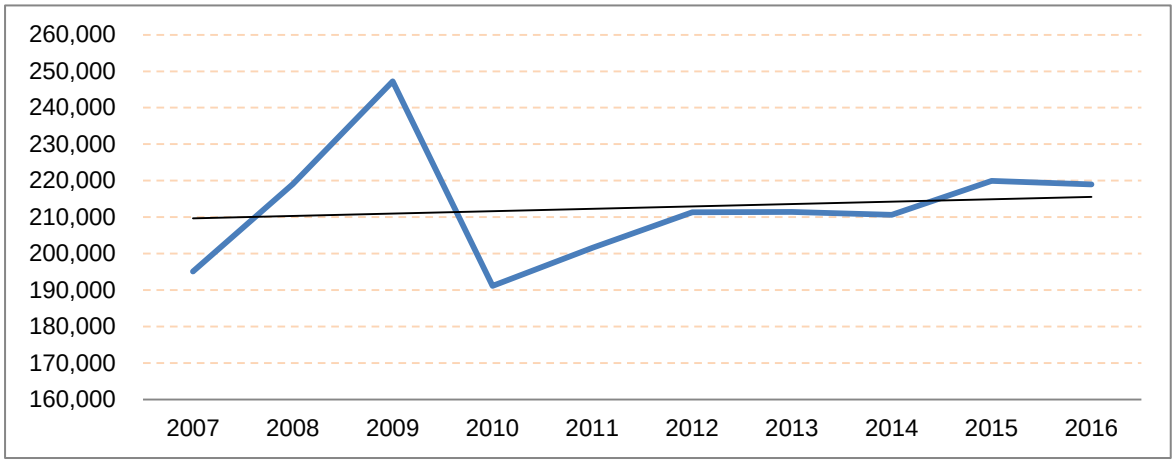
MBS analysis of ART

There are a number of MBS items for ART treatments with six of these items known as 'global items' as they cover all related services during an ART treatment cycle. Other ART treatment services are covered under separate MBS items.

Under the MBS only one global item can be billed for each treatment cycle. Medicare does not set a limit on the number of treatment cycles a patient can receive. However, Medicare rebates are only available for clinically relevant services, being services that meet peer-approved standards. Legislation prevents Medicare benefits being paid for surrogacy arrangements.

The following graph shows all MBS items grouped together that are associated with ART, Figure 21 shows the changes over the last nine years, which show a very small growth of 0.77 per cent over the period (2007-2016) for these combined items.

Figure 21: MBS ART grouped items (2007-2016)



Source: MBS 2007-2016

Private healthcare

Background

About 55 per cent of the total population hold some form of private health insurance and insurers pay $20 billion per year in benefits for treatments[5]. The ACCC report on private health insurance 2015-2016, submitted to the Senate in 2017 said that the cost of premiums is the main reason why many people decide not to take out private health insurance or drop or downgrade from existing levels of cover.

About a quarter of people with private health insurance choose to use the public system[6][7] when they require hospital care.

Private health insurance products

Private health insurance product design has been identified as an area of concern that RANZCOG addressed in their submission to the inquiry into value and affordability of private health insurance and out-of-pocket medical costs, July 2017.

RANZCOG highlighted the growth of low-cost policies which enable policy holders to gain the tax benefit of having private health insurance, but may not cover common O&G presentations. These policy holders can only access O&G services in the public system.

Interaction between public and private hospitals

Figure 22 shows the number of separations by private and public hospital sector over the last 12 years, where the average proportion between public and private have remained roughly the same over the period (2003-2015); 39 per cent and 61 per cent respectively for all O&G service related group.

Figure 22: Separations by hospital sector, 2003-2015

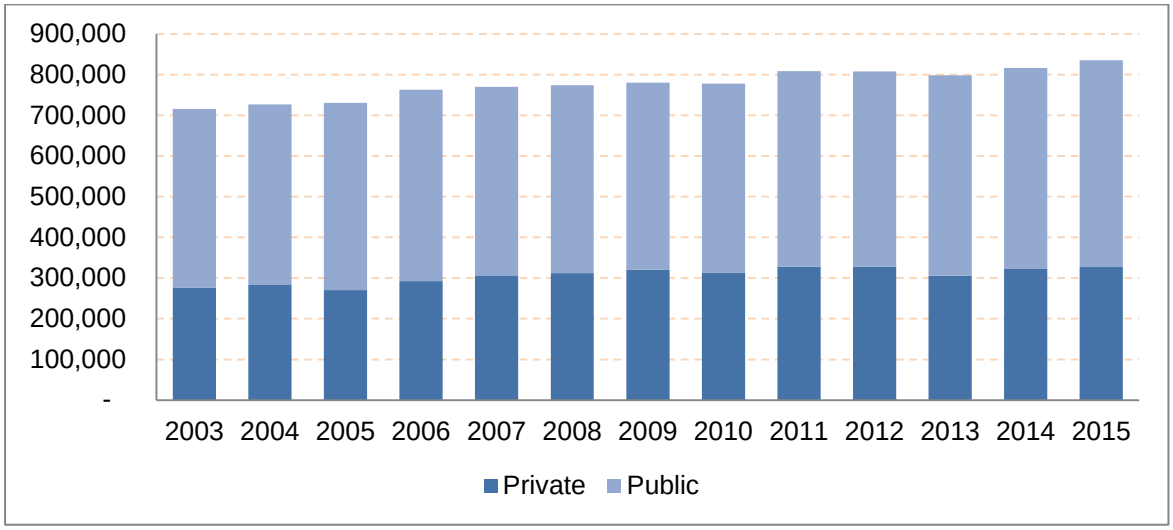


Figure 23 shows the time series of separations for hysterectomy related procedures by public and private sector. The proportion in the private sector has slowly increased from 56

[5] Private Healthcare Australia, Submission: ACCC report to the Senate 2015-16, 17 March 2017

[6] ABS, 4839.0.55.001 - Health Services: Patient Experiences in Australia, 2009

[7] Leslie Russell, The debate we're yet to have about private health insurance**,** The Conversation, April 2, 2015

per cent in 2003 to 59 per cent in 2015, while the public sector proportion has declined from 44 per cent in 2003 to 41 per cent. However, the private and public sector have seen strong growth over the 12 year period with 4.7 per cent and 3.7 per cent respectively.

Figure 23: Hysterectomy separations by hospital sector, 2003-2015

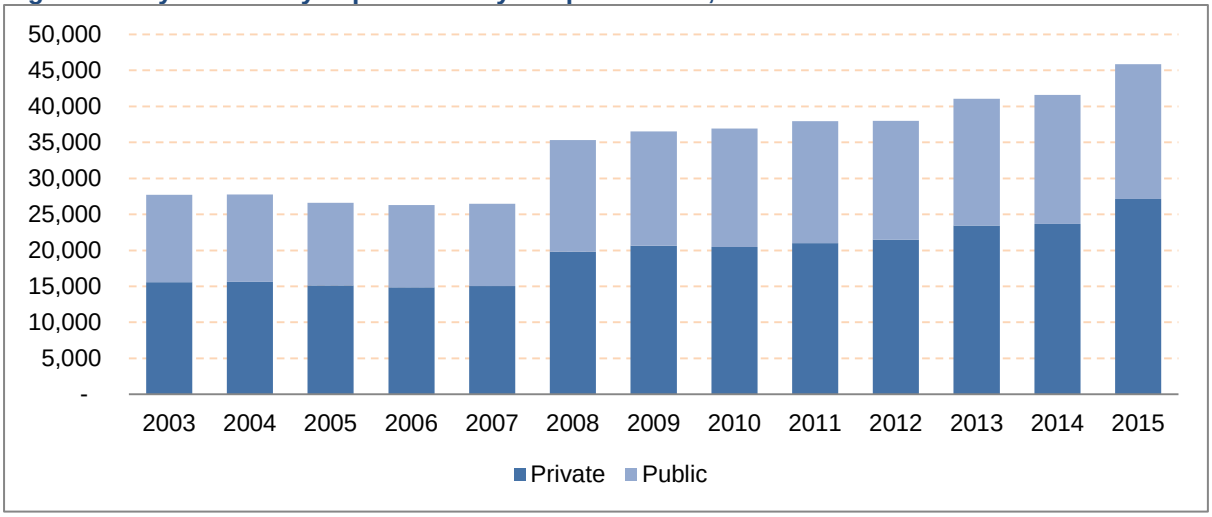
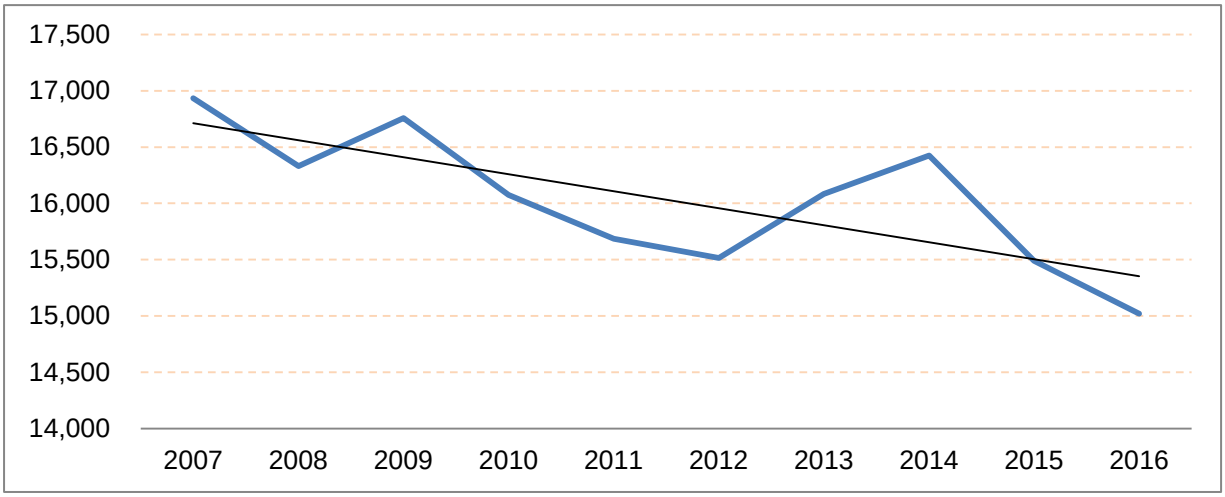


Figure 24 shows the MBS items associated with hysterectomies between 2007 and 2016 which has seen negative growth of 1.3 percent in the number of services. These services are predominately provided in MMM1 (over 80 per cent).

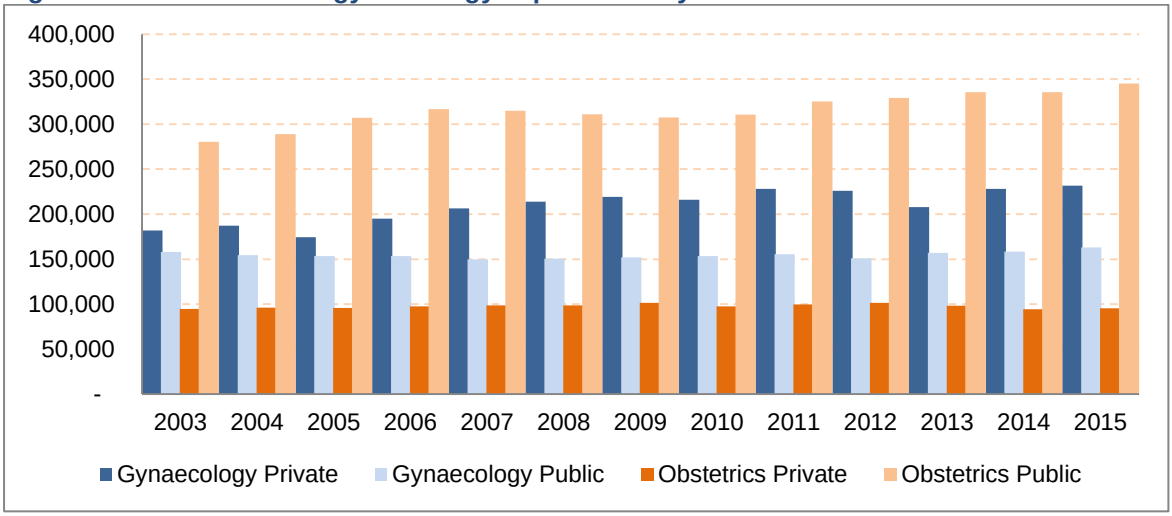
Figure 24: Total Hysterectomy MBS items, 2007-2016



Provision of services by hospital sector

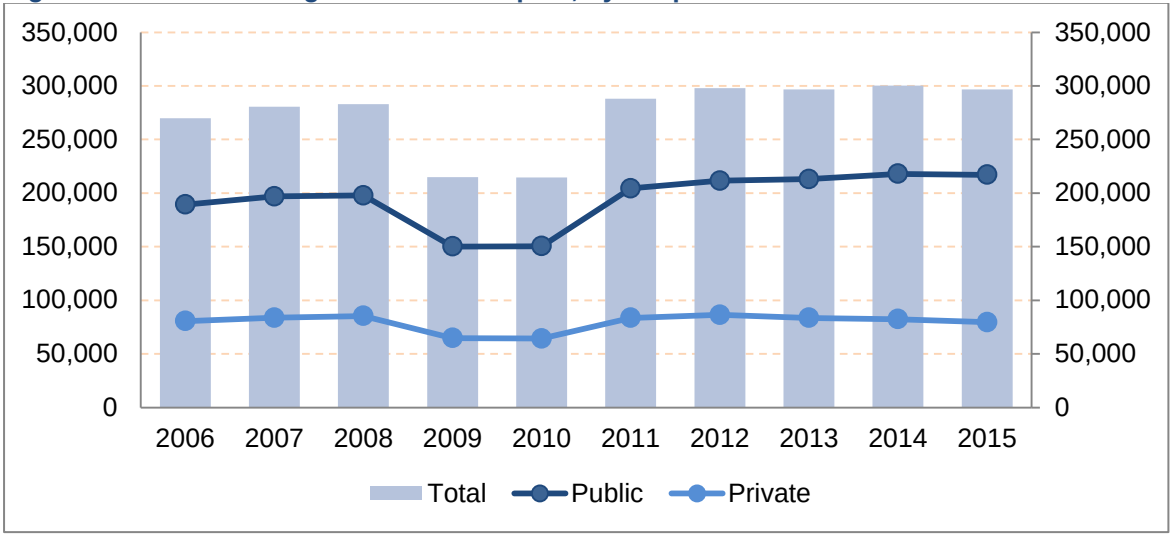
Most of the specialist training in O&G is undertaken in public hospitals, and one of the major problems facing RANZCOG is its provision of quality specialist training is that public hospitals focus on obstetrics largely. Figure 25 shows this; where the obstetric separations in the public sector are the largest; at a rate of 3.6 times greater than in the private sector. While the gynaecology separations are lower than the private sector; at a rate of 1.4 times, which dilutes gynaecological surgical training given that most of it occurs in the public sector. Furthermore within the public sector obstetrics separations occur at a rate of 2.1 more than gynaecological separations, while it is the opposite in the private sector where gynaecological separations occur at a rate of 2.4 times more than obstetrics.

Figure 25: Obstetrics and gynaecology separations by sector



Young couples planning for maternity care and birth are one of the main drivers for uptake of hospital policies, and almost one third of all births in Australia occur at private hospitals. As can be seen in the graph below, there have been a slight downward trend in the private hospital proportion – where over the years it has shifted from 30 per cent to 27 per cent in 2015. This shows that despite the overall increase in the total number of women giving birth the proportion of private hospital births is showing a decline. This has been attributed to changes in private health insurance as discussed above.

Figure 26: Women who gave birth in hospital, by hospital sector 2006-2015[8]



[8] Australian Institute of Health and Welfare, Australia's mothers and babies 2006 to 2015, Perinatal statistics series, Canberra: AIHW

Workforce projections

Supply

Health professionals who are registered as an O&G specialist through the Australian Health Practitioner Regulation Agency (AHPRA) have been identified using the NHWDS, which includes registrant data and other characteristics obtained through the voluntary medical workforce survey as shown in the demographic data in the sections above.

In this analysis, only those who were registered/accredited, employed clinicians in 2016 are included (i.e. does not include those in the categories of administration, teacher/educator, researcher and 'others'). Health professionals who are hospital non-specialists (HNS) or specialists-in-training (SIT) with intentions of entering O&G training, or working towards the specialisation, are excluded at this point of modelling.

Please see Appendix 2 and 5.

Demand

The demand forecasts use a combination of Acute Inpatient Hospital (AIH) and Medicare Benefits Schedule (MBS) data to measure increases/decreases in demand for O&G on a per capita basis. The acute inpatient hospital data used to form the basis of the public component and the MBS data the private component. Projected patient utilisation takes into account population growth and ageing, as well as clinical trends, by projecting O&G MBS services based on patient utilisation rates. The historical data uses the number of services and separations by age of patient captured as a monthly time series and forecasts the resulting estimates multiplied by the estimated residential female population.

The utilisation rates are examined at the individual age group level and forecast using a series of exponential smoothing models. Forecasts for each individual age group have been generated using the SAS statistical package. Exponential smoothing has been chosen due to its successful use by the Department in forecasting MBS services for financial modelling purposes.

Projections

A number of scenarios are presented below which use all the information outlined throughout the report and make assumptions based on historical trends of utilisation and behaviours of the O&G specialists in terms of hours worked and working patterns.

The initial year for the projections is 2016, and it is assumed that supply and demand is in balance in this year. The results show the projection for 2018, 2020, 2025 and 2030 and the gap between supply and demand. The demand rate for O&G is estimated to grow at **1.9 per cent**. The inflow of new fellows uses the results from the trainee pipeline, while the IMG new fellows are assumed to remain static over the same time period. The pipelining analysis for the O&G workforce can be found below in Table 14.

Sensitivity

The results presented are sensitive to changing assumptions. In particular towards changes in the exit rate, changes to the number of new college fellows and the hours worked.

Interpretation of results for workforce position

It is acknowledged that projections and workforce supply and demand modelling are an inexact science and rely on various assumptions holding true, therefore it is recommended that the final workforce position be interpreted with an error margin of ± three per cent. That is, if the workforce is projected to be in under or oversupply to the magnitude of three per cent or less, then the workforce is considered to be in balance.

Scenarios

The following projections are based on total specialist hours which incorporate both clinical and non-clinical (clinical support) hours (D) worked in the O&G specialty. Modelling has been historically conducted using total clinical hours; however due to feedback from stakeholders and improvements in data quality, total specialist hours are now used.

Scenario 1: Dynamic intake scenario

The projections in Table 13 indicate the workforce would be largely in balance throughout the projection period. By 2030, the slight oversupply accumulates to approximately 2.1 per cent of the required number of O&G specialists.

Table 13: Dynamic intake scenario 1

Headcount	2016	2018	2020	2025	2030
Supply	**1,640**	**1,726**	**1,815**	**2,055**	**2,246**
Supply (FTE)	**1,860**	**1,938**	**2,018**	**2,230**	**2,405**
New fellows	73	77	79	81	83
IMGS new fellows	24	14	28	28	28
Exits (% of supply)	*3.18%*	*3.12%*	*3.16%*	*3.19%*	*3.40%*
Demand	**1,640**	**1,720**	**1,801**	**2,007**	**2,199**
Demand (FTE)	**1,860**	**1,931**	**2,002**	**2,178**	**2,355**
Excess/Shortfall	**0**	**6**	**14**	**48**	**47**
Excess/Shortfall (FTE)	**0**	**7**	**16**	**52**	**50**

Legend:

No perceived shortage	In balance (± 3 per cent)	Only a slight perceived shortage	Perceived shortage

Scenario 2: Reduced migration scenario

SIMGs are often recruited to fill service need but may not be accredited by RANZCOG for training. Thus their appointment reduces capacity to train domestic graduates. Therefore this scenario reduced the number of SIMGs entering the O&G workforce by 50 per cent over the projection period. The projections in Table 14 indicate that the workforce would be largely in balance – still within the ± 3 per cent range with a shortfall of 1.45 per cent.

Table 14: Reduced migration scenario 2

Headcount	2016	2018	2020	2025	2030
Supply	**1,640**	**1,726**	**1,811**	**2,026**	**2,174**
Supply (FTE)	**1,860**	**1,937**	**2,013**	**2,196**	**2,321**
New fellows	73	77	79	81	83
IMGS new fellows	24	13	25	20	16
Exits (% of supply)	*3.18%*	*3.12%*	*3.17%*	*3.20%*	*3.43%*
Demand	**1,640**	**1,720**	**1,801**	**2,009**	**2,205**
Demand (FTE)	**1,860**	**1,931**	**2,002**	**2,178**	**2,355**
Excess/Shortfall	**0**	**5**	**10**	**17**	**-31**
Excess/Shortfall (FTE)	**0**	**6**	**11**	**18**	**-34**

Legend:

No perceived shortage	In balance (± 3 per cent)	Only a slight perceived shortage	Perceived shortage

Scenario comparison

The following figures show the differing effects of the scenario modelled over the projection period and how they come into balance by 2030. It also demonstrates the supply over the projection period, with the ± 3 per cent margin of error that is factored in. Scenario 1, the demand (orange dotted line) is closer to the lower range (-3 per cent) of the error margin. Whereas, scenario 2 the demand line has shifted to the higher range of the error margin (+3 per cent). Scenario 2 in comparison has a lower supply headcount than scenario 1, due to the reduction in the migration numbers of the projection period.

Figure 27: Scenario 1 supply and demand comparison

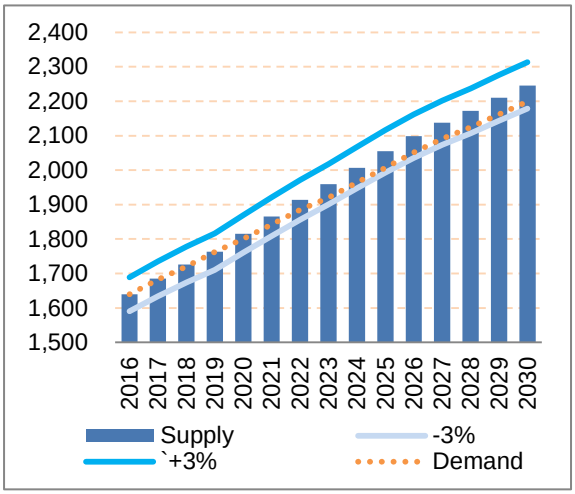
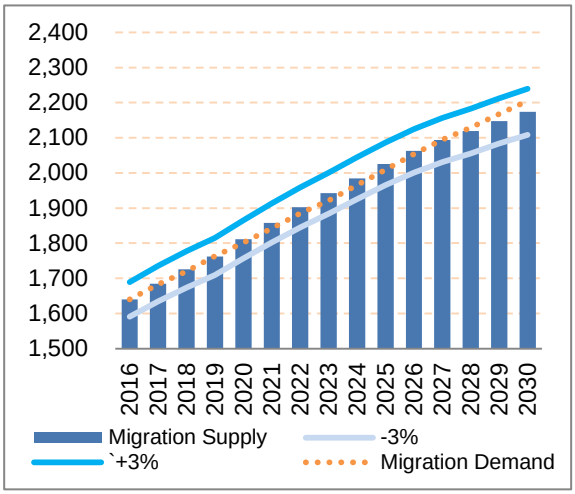


Figure 28: Scenario 2 supply and demand comparison



Ongoing monitoring

These supply and demand projections are only the first step of the process in determining supply and capacity. The next step is determining the training pathway and trajectory. The development of such a training plan begins to unpick the issues and recognise the drivers and/or barriers that a long term plan will need to address to maintain adequate supply to meet demand in the future. This will also be closely monitored by continually adjusting the modelling projection to address policy changes and other government initiatives that are likely to impact on the supply and demand for O&G. It, however, does not factor in unmet demand.

Training Analysis Pipeline (TAP)

The purpose of the training analysis pipeline is to project future vocational training numbers entering the training program as a basis for forecasting the number of domestic and SIMG new Fellows as inflows into the workforce projections.

Table 15 shows the predicted movement of trainees from entering the college training program right through to becoming a new Fellow (Domestic or SIMGs) in a dynamic pipeline.

The methodology focuses on moving through the training levels and is based on data requested from the College to assist in more accurately determining the movement. In the future, when data over more time points have been collected from the College, more accurate transition rates can be calculated.

Table 15: TAP transition calculations

Movements	Number	Comments
New intake	25%	Per cent of previous years basic trainees
Basic Training to Basic Training	76%	
Basic Training to Advanced Training	24%	
Advanced Training to Advanced Training	60%	
Advanced Training to New Fellow	38%	
Retention rate	99.0%	
Through rate	94%	If everyone FT and complete in 72 months
	90%	Actual (incorporates PT, waiting for rotation etc.)
IMGS	39	Average 2010-2015 (static)
Partially comparable	25%	Of IMGS
Substantially comparable	75%	Of IMGS
IMGS new fellow	72%	Per cent of IMGS in previous 2 years

The transition rates in

Table 15Table 15 are data driven and calculated from the changes between two time points (2013 MTRP data and 2016 RANZCOG data). These rates are then consistently applied to pipeline trainees and SIMG.

A number of assumptions are made in the TAP, these include:

- the number new intake is based on historical trends that increase by 25 per cent from the previous year.
- the actual through rate (90 per cent) is used to mimick trainees flowing through within a 6 year period, therefore the number is lower than expected as not all trainees will finish within the 6 year period. The other trainees are carried through to finish the training program in later years are the trends have indicated.
- the SIMG trainees are classified into substantially and paritally comparable, a proportion of these based on hisorical figures are flowed into the SIMG new fellow numbers the following year.
- feedback from the College has resulted in a higher number of SIMGs projected forward, than previously due to recent lower than usual SIMG numbers, but have been smoothed over the period and held constant over the projection period.

Table 16 below shows the method for the new intake each year. This pipeline takes the per cent of the previous year's core trainees (which has a more historic basis and is projected forward); the number of new fellows is a result of the actual completion rate that has been observed over the past few years. The movement from advanced training to new fellow is relatively low (38 per cent), while in 2014 there were 13 per cent of all trainees who had been in the training program for seven years or more and in 2015 this had decreased slightly to 10 per cent.

Table 16: Dynamic intake TAP, 2010 – 2030

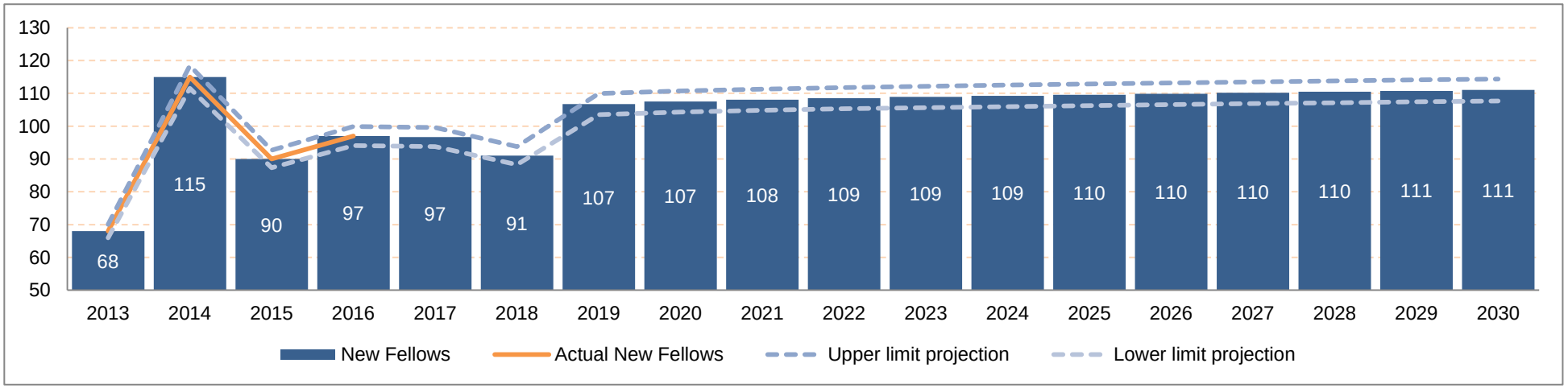
2003 program	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
New intake	77	87	83	89	86	89	90	90	90	91	91	91	92	92	92	93	93	93	94	94	94
CORE (YR1 - YR4)	295	330	351	356	373	363	364	366	367	368	369	371	372	373	374	376	377	378	380	381	382
ADVANCED (YR5 & YR6)	123	143	133	159	181	194	201	205	208	211	212	213	214	215	216	217	218	218	219	220	221
Domestic trainees	418	473	484	515	554	557	565	571	575	579	581	584	586	588	590	593	595	597	599	601	603
Substantially comparable	46	38	41	34	21	22	18	11	29	29	29	29	29	29	29	29	29	29	29	29	29
Partially comparable	9	10	8	12	16	14	6	8	10	10	10	10	10	10	10	10	10	10	10	10	10
SIMG trainees	55	48	49	46	37	36	24	19	39	39	39	39	39	39	39	39	39	39	39	39	39
Total trainees		521	533	561	591	593	589	590	614	618	621	623	625	628	630	632	634	636	638	640	642
Domestic new fellows	82	57	52	49	**68**	**64**	**73**	**76**	**77**	**78**	**79**	**80**	**80**	**81**	**81**	**81**	**82**	**82**	**82**	**82**	**83**
SIMG new fellows		33	29	19	47	26	24	21	14	28	28	28	28	28	28	28	28	28	28	28	28
Total New Fellows	82	90	81	68	115	90	97	97	91	107	107	108	109	109	109	110	110	110	110	111	111

MTRP | College data | Calculated | Projected | Projected

Results of pipelining

Figure 29 shows the historical number of new Fellows (2013 to 2016) and the projected number of new Fellows, based on the above transition rates. A lower and upper limit of ± three per cent has been included to show the range of the future projection of new fellows (domestic and SIMGs).

Figure 29: New Fellows pipeline projections



Source: MTRP reports and TAP

Capacity and Distribution for Training

Vocational medical training is undertaken by most medical practitioners. The process of gaining a vocational training position is competitive, with training provided through the College. The vocational medical training pipeline enables the number of training positions required under various scenarios to be modelled. It provides a representation of the medical workforce from the graduate level through to specialty Fellowship. The model draws together the known flows and inter-dependencies at each stage of the medical education and training pipeline in a dynamic, system wide projection of each component over the period to 2030.

Graduate numbers are only one component of the medical education pathway. The vocational medical training pipeline analysis highlights that, based on the existing demand for specialist services being carried forward (and other factors such as the number of expected graduates and a continued migration flow being held constant), there will be more medical practitioners seeking a vocational training position than places available; not just for O&G, but all medical specialties.

Training capacity also impacts on vocational medical training. It recognises training capacity pressures are increasing as the larger cohorts of medial graduates move from intern to prevocational to vocational training positions. This is reflected in the 37 per cent in vocational training positions with 15,478 in 2011 moving to 21,224 by 2016 with unclear links to future workforce requirements and the continued reliance on IMGS places additional burden on the training capacity of the system.

The Department has continued to support the initiative to expand training capacity through the commitment to continue funding for the Specialist Training Program (STP) and seeks to extend vocational training for specialist registrars into settings outside traditional metropolitan teaching hospitals, including regional, rural, remote and private facilities. The program aims to improve the quality of the future specialist workforce by providing registrars with exposure to a broader range of healthcare settings. STP also aims to have a positive influence on future workforce distribution.

The STP provides funding for up to 1077 ongoing positions in 2018. These numbers include the 100 dedicated rural training positions under the Integrated Rural Training Pipeline Initiative. The program funds between 5 and 7 per cent of all specialist training positions nationally and is currently funded through 13 specialist medical colleges under standard funding agreements with the Department for the 2018 – 2020 period.

However, this is only a small contributor to the overall number of training places nationally through funding of the STP posts. Responsibility for funding of and organising vocational training lies with many parties: jurisdictions (for post-graduate and specialist training in the public sector) and Colleges (who operate Australia and New Zealand wide). To add to the complexity, medical practitioners will often cross jurisdictional, sectoral, specialty college and international boundaries throughout their training pathway. As a result of the division of responsibilities and the potential myriad of individual medical practitioner's pathways, imbalances in the vocational training pipeline are complex to manage and resolve, and will require partnerships between governments, employers, the College and professional bodies.

Results of consultation

The NMTAN is aware that whilst supply and demand studies are a mix of science and art, understanding the current situation and future scenarios can be challenging, the Department therefore consulted with both the College and jurisdictions on the report.

The following section presents the views of the RANZCOG.

Supervisory capacity requirements

The RANZCOG has indicated the following:

- There is increasing pressure on the capacity of supervisors to provide adequate supervision as demand for public hospital access grows and demand for private practitioner's decreases.
- Training sites must provide adequate non-clinical time for supervisors but this is sometimes compromised by increased service-delivery demands.
- If clinical support time of specialists is further eroded there will be insufficient time for teaching and scholarly activity and this will impact on training.
- The O&G workforce is heavily female dominant, which may have the potential to impact supervisory capacity as more women elect to work part-time. Over 80 per cent of new entrants to the training program are female, which has the potential to influence the projected workforce numbers and supervisory capacity.

Identify non-workforce based requirements and limitations

The RANZCOG has indicated the following:

- If the job market is saturated and employment prospects low, this could impact on the popularity of the specialty and the number of applicants could fall.
- Access to procedural experience for trainees may be impacted by the presence of overseas-trained specialists who are recruited to meet service delivery requirements. Jurisdictions that fail to provide adequate training may have trainee numbers reduced.

Mapping of training capacity

The College has indicated the following:

- With the introduction of the College's e-log book, it is possible to identify the capacity for training in individual sites. This enables the College to identify those sites that are providing inadequate training.
- In general, trainees in regional and rural hospitals receive greater access to procedural training compared with trainees working in metropolitan hospitals.

Specialist Training Program

The RANZCOG has indicated that:

The STP has been successful in providing opportunities for expanding training posts in rural and regional areas which has greatly benefited the objective of improving access to rural training and RANZCOG supports the maintenance and expansion of this program.

The funding provided for support projects has greatly enhanced the College's ability to provide enhanced support for rural and regional trainees, particularly in the area of mentoring and support for trainees in difficulty and through the provision of online training modules.

Jurisdictional perspective

The following section presents the jurisdictional perspective of O&G from their own experiences. These different views above and below highlights the need to update the modelling on a regular basis to ensure the latest data and understanding of the workforce is reflected in the studies

1. Is the speciality in under or over supply from a state/territory perspective?	
Victoria point of view	**Programs or strategies to address the situation**
• Considers the workforce to be in balance but there are geographical distribution issues.	• VMO model and use GP VMO
Western Australia point of view	**Programs or strategies to address the situation**
• Supply in WA was well below demand with a medium risk shortfall identified in 2015, projected to increase to a high shortfall risk by 2021. • Currently only 29 specialists work 1 FTE in the public sector, with the rest have variable sessional appointments. • In 2018 there are 21 specialists over the age of 65 and a further 30 expected to retire in 10 years.	• The Office of Chief Medical Officer, Department of Health Western Australia, is developing strategies in conjunction with local services, to address discipline specific needs and encouraging the development of both educational and operational networks supported by predictive data modelling where possible.
Tasmania point of view	**Programs or strategies to address the situation**
• No. This is indicated by all funded positions being filled as at 16/3/2018.	• Specialist positions are retained in the HR system (if unfilled), this mitigates the lengthy *'re-creation of positions'* process each time a specialist leaves. • In terms of under supply, this is governed by the College to ensure an adequate number of specialists is available to meet the college requirements for supervision/training of junior doctors.
Northern Territory point of view	**Programs or strategies to address the situation**
• Overall under supplied. • Understaffed in subspecialties of Ultrasound, Maternal-Fetal medicine, Infertility and Urogynaecology – i.e. no subspecialists. – Visiting Gynaecologist – No Obstetric Physician – No perinatal pathologist	• Ongoing active recruitment. • To develop a whole of service strategy that involves recruiting and training senior registrars to retain as consultants. • Active engagement in EBA negotiations • No specific strategy to attract subspecialists has yet been developed.

2. Is the specialty over or under supply from geographical perspective?	
Victoria point of view	**Programs or strategies to address the situation**
• Undersupply in regional and rural VIC. • Possibly a degree of reliance on outreach services for rural locations but the extent of this is not possible for VIC to determine due to data limitations. • The large majority of non-metropolitan regions have considerably fewer O&G per head than the average across the State. • Median times for gynaecological treatment in public hospitals average 27 days across the State and vary from four days to 57 days.	• Midwife led models/GP VMO/models of shared care.

2. Is the specialty over or under supply from geographical perspective?	
Western Australia point of view	**Programs or strategies to address the situation**
• In 2015 there was a geographical imbalance between metropolitan and rural locations with 89 per cent of specialists registering their principal place of practice as metropolitan. In rural areas of WA the obstetrics workforce are supported by GP proceduralists. • In 2016 O&G Specialists remain predominantly metropolitan based (90.8 per cent) only 9.2 per cent were regionally and remotely based.	• The Office of Chief Medical Officer, Department of Health Western Australia, is developing strategies in conjunction with local areas, to address discipline specific needs and is encouraging the development of both educational and operational networks supported by predictive data modelling where possible. • As part of the WA GP program, GP obstetrical procedural training will be reviewed with the intent of reviewing some of the metro-rural & remote imbalances.
Tasmania point of view	**Programs or strategies to address the situation**
• No concerns in TAS, however, it is not uncommon to start seeing changes in the specialist staff numbers for Overseas trained Doctors they can start leaving after 12 months. This is usually if they are not integrated and/or in Australia without their families. For those who bring their families, it's not uncommon to see them move interstate around year 2 or 3 for better opportunities interstate.	• Australian trained specialists are more flexible and will stay longer but are lured by other/interstate hospitals offering more incentives to relocate
Northern Territory point of view	**Programs or strategies to address the situation**
• Under supplied in the Top End and currently there are no vacancies in another location. However that can change quickly and it generally requires two years advanced planning to recruit to these locations.	• Expanding to have 2 General Practice trainee's rural generalist places in Advanced Obstetrics.

3. Are there any concerns with the training or supervision of the speciality?	
Victoria point of view	**Programs or strategies to address the situation**
• Need to expand/encourage rural and regional training capacity – the College needs to review existing accreditation processes for training sites to explore use of innovative solutions in rural areas where onsite supervision may not be possible.	• Collaborating with Commonwealth Regional Training Hubs and Rural Workforce Agency, Victoria. • Awaiting COAG Health Council decision on accreditation systems review.
Western Australia point of view	**Programs or strategies to address the situation**
• In 2015, there were 39 vocational trainees in WA. To address projected growth in demand and retirements, 12.5 specialists were required per annum to 2025. The 2015 estimated vocational trainee throughput of 4.55 specialists per annum would be insufficient to replace approaching retirements. • In 2018, while the number of trainees has increased it is still insufficient to meet the demand & retirement as outlined in 2015; there is also concern regarding appropriate surgical exposure for current trainees.	• The Office of Chief Medical Officer, Department of Health Western Australia, is developing strategies in conjunction with local areas, to encourage the development of both educational and operational networks across the state, and even nationally, to ensure appropriate competency for independent practice is achieved.

3. Are there any concerns with the training or supervision of the speciality?	
Tasmania point of view	**Programs or strategies to address the situation**
• No concerns at this time. All positions were filled as at 16/3/2018.	• When Specialists leave the organisation, there is more pressure on remaining Specialists who take up additional supervision of Registrars. At these times a major recruitment campaign is undertaken.
Northern Territory point of view	**Programs or strategies to address the situation**
• Top End granted provisional reaccreditation for specialist training in 2017. • While another areas accreditation status only take advanced year four Registrars; which are difficult to recruit.	• Appointment of a new Director in Top End with extensive registrar training experience with the position being half time administrative has ensured full registrar staffing levels in 2018. • A further four specialists to undertake training supervisor education. • Actions to address deficiencies identified in the accreditation: – specific unit orientation – more structured teaching within protected training time in afternoons – set registrars rosters with greater predictability – plan to move to a team structure in the medium term – increased operating lists once Palmerston Regional Hospital comes online – task shifting routine obstetric service away from registrars to GP obstetricians

4. Are you currently recruiting overseas for this specialty?	
Victoria point of view	**Programs or strategies to address the situation**
• No, but more than 40 per cent of existing workforce was born in a non-English speaking country. • Only 11 individuals in this field had short-term working visas as of 30 June 2017 in VIC and only seven as of December 2017, according to the most recent available migration data.	
Western Australia point of view	**Programs or strategies to address the situation**
• Since the last 2015 report in WA four consultants have been recruited from overseas and sites continue to request Area of Need (AoN) placements in this discipline.	• IMGs continue to address short to medium term staffing shortfalls in WA and meet gaps in service delivery, and it is likely to continue for some time to come; work on varying models of care is also underway.
Tasmania point of view	**Programs or strategies to address the situation**
• No, as all positions were filled in, as at 16/3/2018.	• Overseas Trained Doctors recruitment occurs if TAS is unsuccessful in recruiting specialists locally or nationally.
Northern Territory point of view	**Programs or strategies to address the situation**
• Yes, but unsuccessful.	

5. Are there currently unfilled vacancies in the specialty?	
Victoria point of view	**Programs or strategies to address the situation**
Nil response	
Western Australia point of view	**Programs or strategies to address the situation**
• Yes, but currently only anecdotal evidence is available in WA.	• Data analysis is currently underway to allow specific definition of shortages in this discipline at site, Area and State-wide levels in both public and private sectors.
Tasmania point of view	**Programs or strategies to address the situation**
• No, all positions were filled, as at 16/3/2018.	
Northern Territory point of view	**Programs or strategies to address the situation**
• Yes there are currently unfilled vacancies.	• Less focus on trying to recruit from elsewhere and more focus recruiting senior trainees to retain as consultants.

6. Are there any innovative models of care in place to address supply or demand of the specialty?	
Victoria point of view	**Programs or strategies to address the situation**
	• Shared care models/GP VMO/midwife- led models in VIC.
Western Australia point of view	**Programs or strategies to address the situation**
• Yes	• Models of Midwifery substitution have been suggested statewide in WA. • Obstetric Service reviews undertaken. • Improvements in procedural GP training being progressed.
Tasmania point of view	**Programs or strategies to address the situation**
• No	• None at this stage for TAS.
Northern Territory point of view	**Programs or strategies to address the situation**
• Yes, a major change on the structure of Top End health service: 1. Re-engage with the non-procedural GP workforce to undertake shared antenatal care 2. train and recruit Procedural GP obstetricians (DRANZCOG Advanced) to assist in workload 3. shift some of the workload to the new hospital with a GPO/midwifery model of care 4. Strengthen the GP obstetric (GPO) service in regional centres and reinstate the GP obstetric service to sustainable levels to decrease referral to the Royal Darwin Hospital.	• Ensuring the recruitment of senior management with extensive experience in GPO training and mentorship. • Actively encourage junior medical staff to go onto procedural GP training. • Aim to become the hub of GP obstetric training through provision of Surgical Skills and other procedural GPO focussed workshops, engagement with ACCRM by convening a GPO skills day at conference in 2018.

Appendices

Appendix 1: Summary of modelling inputs

Updating supply and demand

The supply side of the planning equation is determined using the characteristics of the known current workforce and projecting this forward with known and projected trainee inflows and exit trends from the workforce. The demand side uses historical service utilisation patterns and projects these forward based on population growth. It also relies on other factors that have shown to influence the utilisation patterns i.e. funding of specific programs that have either increased or decreased usage of services or seasonal patterns.

Descriptive characteristics of the O&G workforce

The demographic characteristics of the current O&G workforce are outlined as well describing the trainees and those intending to train. It is an important component in understanding the current supply and what is likely to be required into the future.

Capacity

The rapid growth in domestic medical graduates will continue to place pressure on medical training capacity. A significant amount of work has occurred to expand clinical training capacity across professional entry, intern and vocational training levels and additional work is underway to explore internships, however more needs to be done. While there have been recent expansions in medical training in alternate settings, medical training has traditionally been highly concentrated in public hospitals and in particular acute wards. It is important as medical training requirements continue to grow that capacity to expand medical training is considered.

Distribution

The growth in domestically trained medical graduates also presents an opportunity to distribute domestically trained doctors more effectively both geographically and into the traditionally less popular specialties. It has been argued that changing the distribution of medical training might contribute to an improvement in the distribution of the medical workforce. Based on evidence collected by Australian Rural Clinical Schools, it is proposed that if in the course of their training doctors could spend more time in rural locations or in primary care settings, they may be more likely to stay and practice in those settings.

Modelling inputs

The following information details the inputs that will be used in undertaking the modelling for the O&G workforce. The O&G workforce is defined by those medical practitioners that have an accreditation in O&G and have identified O&G as one of their main specialties of practice by age, gender and average hours worked, along with the number of new fellows and the number of active trainees by year of training.

The following parameters were specified as inputs for the projection modelling:

Flows in

- Workforce stock
- Domestic new fellows
- International new fellows

- Temporary migration (held at a constant total level)
- Skilled migration (exemptions)

Flows out

- Exits from the workforce include all permanent and temporary flows out of the workforce.

Supply assumptions

- Medical practitioners who are registered O&G specialists or subspecialist through Australian Health Practitioner Regulation Agency (AHPRA) have been identified through the use of the National Health Workforce Data Set (NHWDS), which includes registrants and the workforce survey.
- The O&G workforce is defined as those that:
    - Are employed (excluding those on leave for more than three months)
    - Have clinician status
    - Have specialist accreditation in O&G
    - Work the most or second most hours in the specialty field of O&G.
- Inputs to the O&G workforce are based on 2016 data and additional data from the RANZCOG as required.
- The trainees that have been identified through the workforce survey have been defined through the following methodology, that assumes that they:
    - Are employed (excluding those on leave for more than three months)
    - Currently undertaking specialist training in O&G as their first field of training (excluding the second specialty field)
    - Include those who have transitioned from trainee to holding a specialist accreditation in O&G due to timing issues of registration and workforce survey.
    - Includes those who were originally classified as intentions and trainees (due to AIHW imputation), these have been classified to be trainees only
    - Includes those who were originally classified as trainee and specialist clinicians, if:
        - o They don't have specialist accreditation, or
        - o If they do have specialist accreditation, but the principal area of their main job in medicine was not specialist
- SIMG enter into the model through either the temporary or permanent migration streams. The inflow of O&G specialists via migration is obtained from Department of Home Affairs and reconciled with the RANZCOG data.
- Hours worked are calculated and applied separately for each age/gender cohort for O&G specialists. The data from which hours worked is calculated is taken from the hours reported by O&G specialists on the relevant workforce survey items for 2016.
- Exit rates are calculated on a unique basis for O&G specialists for each five year age/gender cohort.
- Exit rates are calculated by carrying forward the current distribution of ages of the workforce and assuming the same distribution in the future. The rates are based on observed retirements over recent years, not on retirement intentions.

- Exit rates are a composite measure including all forms of removal from the workforce, permanent or temporary.
- All O&G specialists are assumed to remain in the workforce, even in situations of oversupply. That is, exit rates are not adjusted to take account of possible movements away from a profession in an oversupply situation.

Demand assumptions

- The demand forecasts consider both public and privately delivered services.
- Projections of acute inpatient utilisation take into account female population growth and ageing, as well as clinical trends, by projecting age by females for same day or overnight stays, specialty-specific trends in admission rates and length of stay.
- Similarly the historical MBS data uses the number of services received by age of patient captured as a quarterly time series and forecasts the resulting estimates multiplied by the estimated residential population[9].
- The utilisation rates are examined at the individual age group level and forecast using a series of Exponential Smoothing models. Forecasts for each individual age group have been generated using the SAS statistical package. Exponential smoothing has been chosen due to its successful use in the Department at forecasting MBS services for financial modelling purposes.
- Demand and supply start from an 'in balance' position.
- The demand growth rate for obstetrics and gynaecology is currently in the range of 1.9 per annum.

[9] Forecast services use ABS catalogue 3222 Population Projections Series B.

Appendix 2: Definition of a Specialist (example for anaesthetist)

There are two sources of information used to determine the current supply of specialists; the medical workforce survey data and the AHPRA registration data. These two sources of information are combined by the AIHW into the *National Health Workforce Dataset: Medical Practitioners* (NHWDS). The NHWDS is used to determine whether a medical practitioner should be classified as a specialist (in up to two specialities). These classifications are sued to determine supply for the purposes of modelling the medical workforce.

The Medical Workforce Survey provides a rich source of information regarding the current activities of medical practitioners. The answers to this survey are critical to ensure that data remains an accurate snapshot of medical workforce trends.

The following example details the method for using the NHWDS data and associated survey questions to classify a medical practitioner as a specialist and therefore 'supply' in the specialty demand and supply modelling. This method applies to all specialities, but anaesthesia is used in this example.

In order to be classified as a specialist a record must pass three initial conditions.

- Be currently registered as a medical practitioner;
- Be accredited as an Anaesthetist;
- Be currently employed in the medical profession; and
- Be currently working as a clinician.

Current registration as a medical practitioner and specialist accreditation in anaesthesia are data items maintained by AHPRA.

The following survey questions relate to whether the medical practitioner is employed and working as a clinician. To be classified as a specialist they must have answered that they are currently employed and working as a clinician.

Figure 30: Survey questions relating to Employment Status

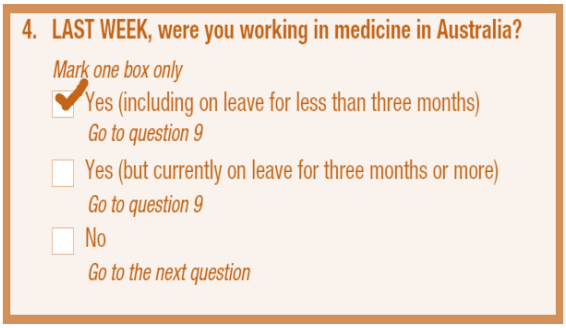
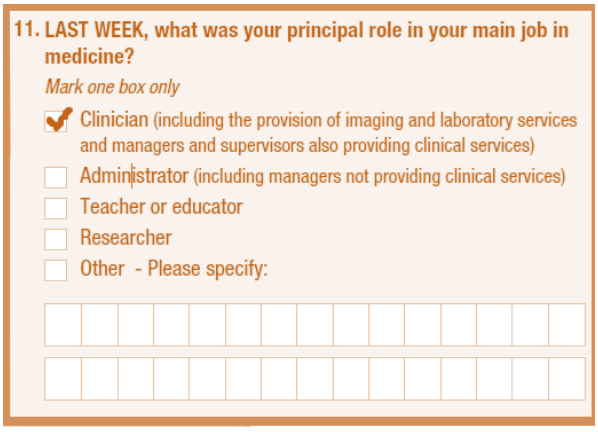
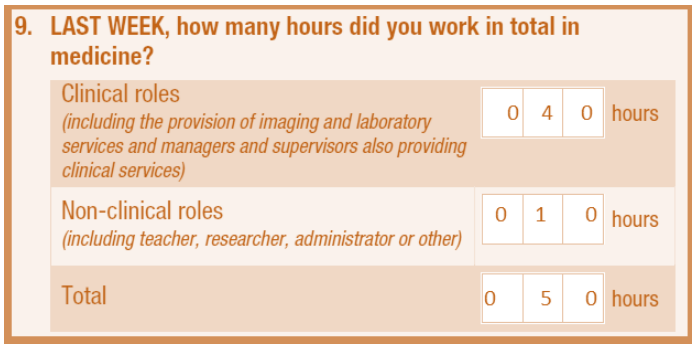


Figure 31: Survey questions relating to Clinician Status



In addition medical practitioners are required to specify that they are working clinical hours. If the practitioner specifies that they are working only non-clinical hours, then they will not be counted.

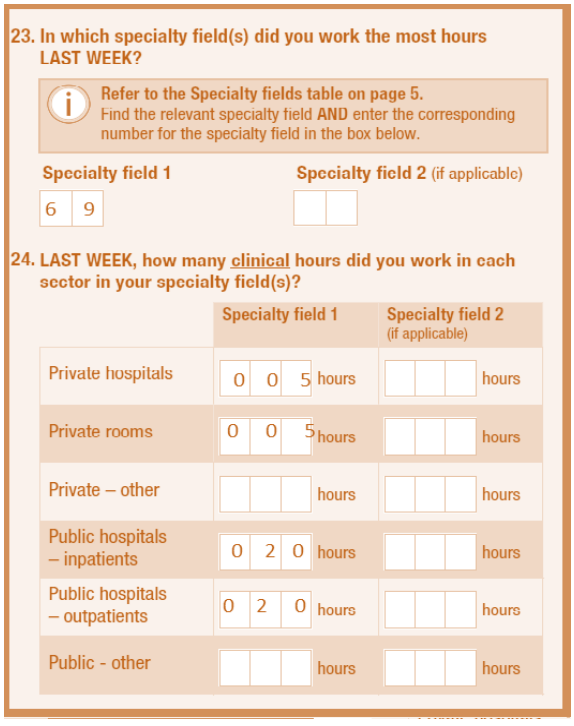
Figure 32: Survey questions relating to clinical and non-clinical hours



These conditions are applied initial to ensure a rigorous estimate of the current workforce based on the employment and accreditation status of medical practitioners. For example, to avoid counting medical practitioners who are in retirement the process checks to ensure that medical practitioners are currently employed and working as clinicians. This also avoids counting medical practitioners who are currently working as administrators and teachers.

The next step looks at the main area in which the medical practitioner is employed. This is the step where medical practitioners have the opportunity to specify on the survey, in which area of medicine they are currently employed. There is space to fill out *two* professions.

Figure 33: Survey questions relating to principal field of main specialties



The above survey question is crucial to the inclusion of a medical practitioner as an anaesthetist. This question indicates that the medical practitioner will be classified as a specialist in the recorded specialty provided that all previous criteria have been met.

If the medical practitioner is currently registered and is;

- employed,
- working as a clinician
- and has accreditation with AHPRA in Anaesthesia

At this point they will be counted as an Anaesthetist provided they have indicated so in question 23.

With the exception of 3 cases, that is the end of the classification process.

Case 1: Specialist and trainee

If the medical practitioner has also indicated that they are a current anaesthesia trainee and their year of completion is the year of the survey then they will be classified as a trainee and not a specialist. This can occur due to timing issues; the medical practitioner is in a training program on the date they complete the survey, however on the date of data extraction (which can be up to 2 months later) the medical practitioner has obtained fellowship and AHPRA has recorded them as an accredited specialist. The decision was made to classify the medical practitioner according to the date of completion of the survey. In this instance the medical practitioner will be classified as an anaesthetist in the following year.

Figure 34: Survey questions relating to training

If the medical practitioner fails to answer question 23 but currently is a registered medical practitioner and is;

- employed,
- working as a clinician
- has accreditation with AHPRA in Anaesthesia
- and has two or fewer specialities accredited with AHPRA

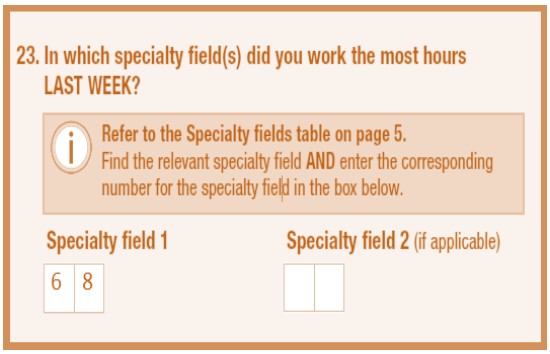
then their survey response to question 23 is imputed as anaesthesia (69) and they are counted as a Specialist.

Case 2 – fails to answer question 23

Case 3 - Erroneous answer recorded in question 23

The medical practitioner responds to the survey indicating that they are currently working as a vocationally registered GP. They do not currently have accreditation with APHRA as a GP but they do have current accreditation as an anaesthetist and are; currently registered as a medical practitioner, employed, and working as a clinician. The response to question 23 is imputed as Anaesthesia (69) and they are classified as an anaesthetist.

Figure 35: Erroneous answer recorded in question 23



Appendix 3: Subspecialty workforce demographics

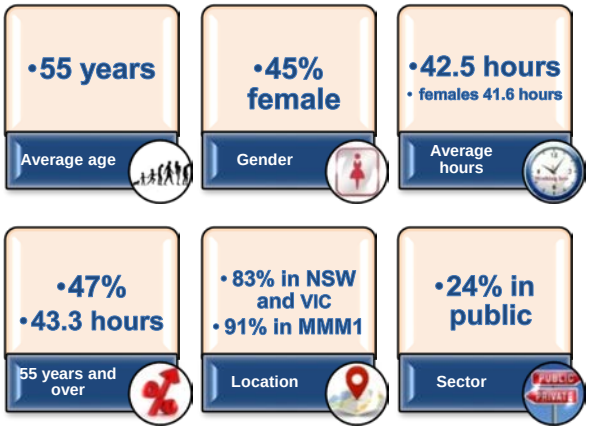
Subspecialists: Obstetric and gynaecological ultrasound (OGU)

A certified Obstetrical and Gynaecological Ultrasound (OGU) subspecialist has successfully completed a formal training program of ultrasound diagnosis relating to obstetrics and gynaecology, including ultrasound guided interventional diagnostic and therapeutic techniques.

An obstetrical and gynaecological ultrasound subspecialist must spend at least 66 per cent of their clinical time working in obstetrical and gynaecological diagnostic ultrasound practice. It is desirable but not mandatory that they work part of this time in a 'tertiary care' institution where the ultrasound department provides a comprehensive diagnostic service to general obstetrics and gynaecology and to the subspecialties.

According to the 2016 NHWDS, there were 66 OGU subspecialists who indicated they were employed and working as clinicians with the following characteristics:

Figure 36: Demographics of the OGU subspecialty workforce

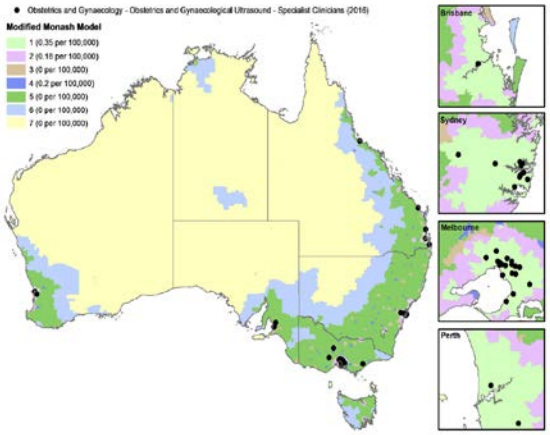


Source: NHWDS, Medical Practitioner 2016 (Average total specialist hours worked per week)

Distribution

Figure 37 illustrates the MMM and density of the OGU subspecialist workforce within these areas. For more information on the MMM please see the NHWDS, medical practitioner distribution section, page 8. As can be seen in the map below, the OGU workforce is located throughout Australia, except Tasmania and the ACT, and almost exclusively concentrated in Metropolitan areas (91 per cent in MMM1).

Figure 37: OGU subspecialty workforce (clinicians) by MMM

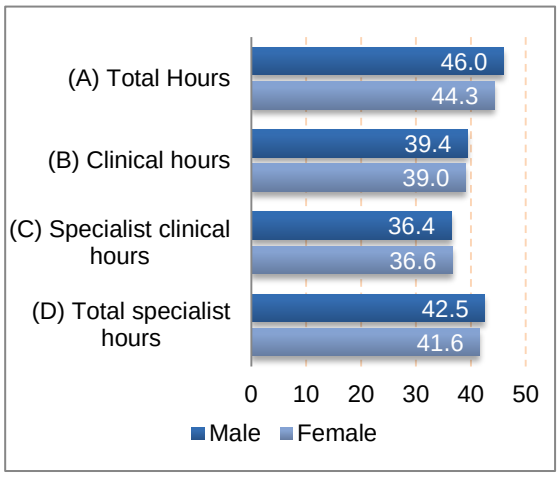


Source: NHWDS, Medical Practitioner 2016

Hours worked

Figure 38 below shows the difference between the hours worked by the OGU workforce, by gender. There is a small difference between males and females; with males working fewer hours on average. As expected, for both males and females, the total hours are greater than the clinical hours and these are again greater than the specialist clinical hours. The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical hours) component for the OGU workforce. On average 6.1 hours for males and 5.0 hours per week for females, is spent performing clinical support in OGU.

Figure 38: Average hours by total, clinical, specialist clinical and specialist total hours

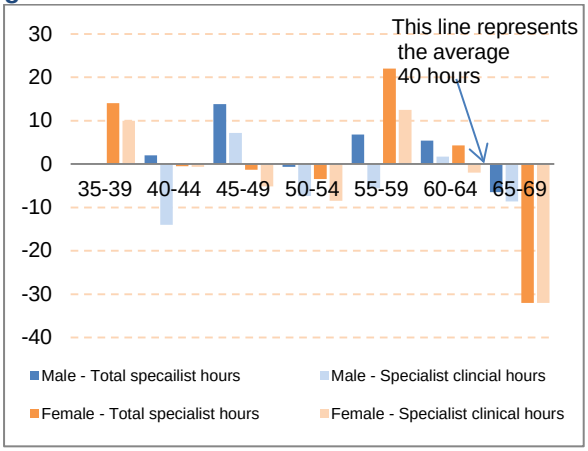


Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 39.

The x-axis is assumed to be average hours worked (40 hours) and the bars in positive or negative position show the hours worked greater or less than 40 hours. Given that it is a relatively small workforce, the impact of one person will greatly affect the difference in the graph below. Nonetheless the total specialist hours tend to be greater than the clinical specialist hours for both females and males across all the age groups. This indicates that both males and females do clinical support work in the form of non-clinical hours at 6.1 and 4.1 hours respectively.

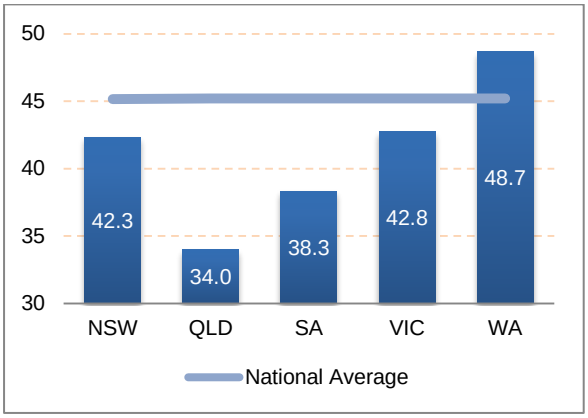
Figure 39: Difference between total specialist and clinical specialist hour's from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by states and territories is shown below OGU subspecialists in WA tend to work more than the national average (45.2 hours), while those in QLD, SA, NSW and the NT tended to work less than the national average. There were no OGU subspecialists in TAS or the ACT.

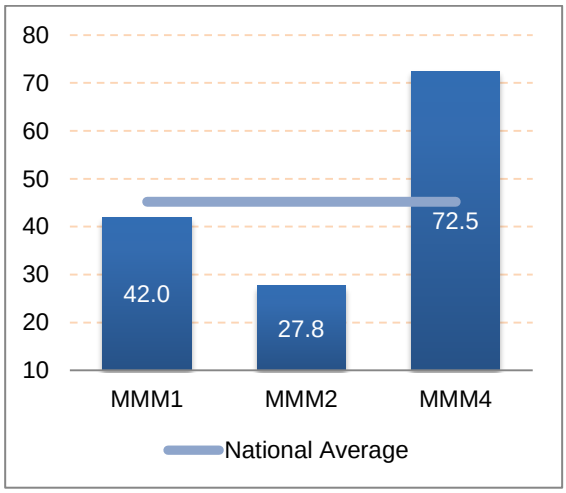
Figure 40: Average total specialist hours by states and territories



Source: NHWDS, Medical Practitioner 2016

Figure 41 shows that, on average, OGU subspecialist are located in MMM4 and work the most total specialist hours. There were no OGU subspecialists in remote areas (MMM3 and MMM5 - MMM7).

Figure 41: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

Table 17 indicates OGUs clinical workload between sectors and jurisdictions. The data shows, on average the majority of OGU subspecialists FTE is spent in the private sector (75 per cent) with 25 per cent in the public sector, although this varies greatly by jurisdiction. NSW had the highest proportion of clinical FTE in the private sector (81 per cent) while NT, TAS and ACT had none. The vast majority of OGUs are located in VIC (65 per cent).

Table 17: OGU clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

State and Territories	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	12	19.3	80.7
QLD	5	42.6	57.4
SA	3	20.0	80.0
VIC	43	23.3	76.7
WA	3	31.8	68.3
Total	**66**	**24.6**	**75.4**

Source: NHWDS, Medical practitioner, 2016

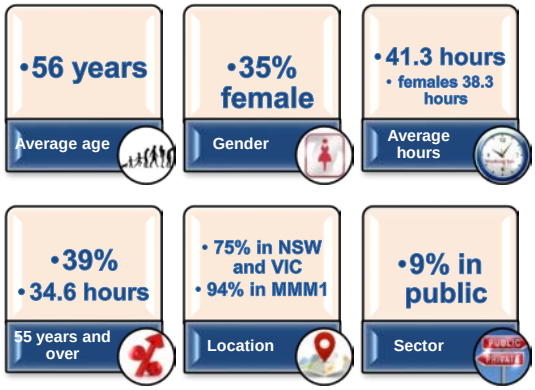
Subspecialists: Reproductive endocrinology and infertility (REI)

A certified Reproductive Endocrinology and Infertility (REI) subspecialist has successfully completed an additional prescribed program of training in the comprehensive management of patients with reproductive endocrine disorders and infertility.

A REI subspecialist must spend at least 66 per cent of their clinical time working in the area of their specialty, the remainder being split between obstetrics and gynaecology. At least part of this work must be within a professional setting that provides a comprehensive service for patients with infertility or gynaecological endocrine disorders (this may include private units as well as public hospitals).

According to the 2016 NHWDS, there were 49 REI subspecialists who indicated they were employed and working as clinicians with the following characteristics:

Figure 42: Demographics of the REI subspecialty workforce

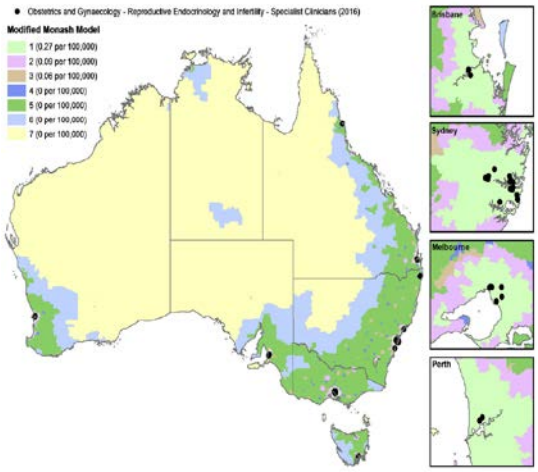


Source: NHWDS, Medical Practitioner 2016

Distribution

Figure 43 illustrates the Modified Monash categories and density of the REI workforce within these areas. For more information on the MMM please see NHWDS medical practitioner, 2016 distribution section, page 8. As can be seen in the map, the REI workforce is located throughout Australia, except the NT and ACT, and almost exclusively concentrated in Metropolitan areas (94 per cent in MMM1).

Figure 43: REI subspecialty workforce (clinicians) by MMM

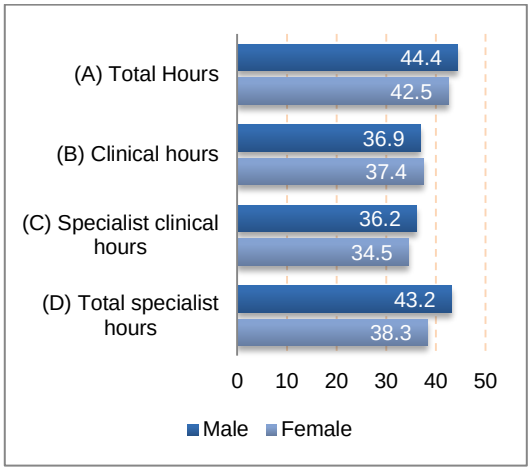


Source: NHWDS, Medical Practitioner 2016

Hours worked

The figure below shows the difference between the hours worked by the REI workforce, by gender. Males and females work similar clinical and specialist clinical hours; however, males tend to work more total specialist hours. The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical) hours of the REI workforce. On average 7 hours for males and 4 hours per week for females, is spent performing clinical support (non-clinical work) in REI.

Figure 44: Average hours by total, clinical, specialist clinical and total hours worked

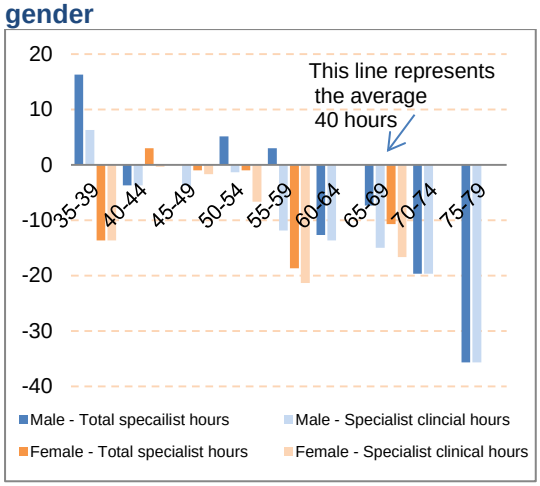


Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 45. The x-axis is assumed to be average hours worked (40 hours) and the

bars in positive or negative position show the hours worked greater or less than 40 hours by age and gender respectively. The vast majority of the age groups regardless of gender tend to work fewer than 40 hours between the ages of 55-79 years.

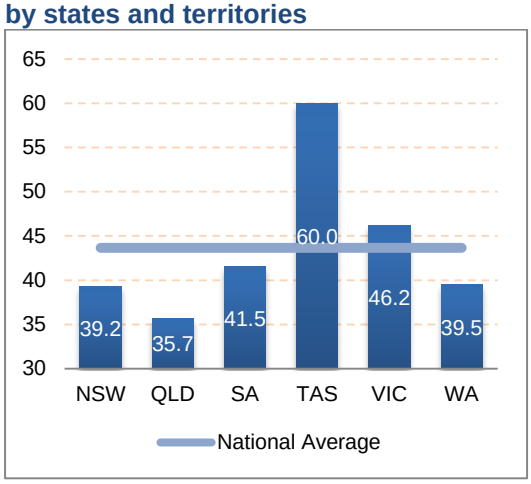
Figure 45: Difference between total specialist and clinical specialist hour's from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by states and territories is shown below (Figure 46). REI subspecialists in TAS and VIC tend to work more than the national average (43.7 hours), while those in QLD tend to work less than the national average. There were no REI subspecialists in the NT or ACT.

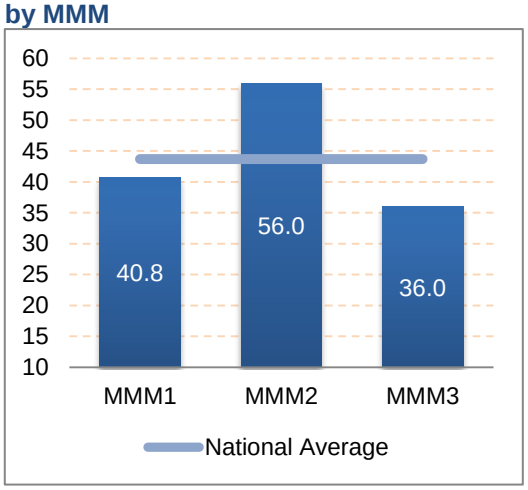
Figure 46: Average total specialist hours by states and territories



Source: NHWDS, Medical Practitioner 2016

While the majority of the REI workforce is predominately located in MMM1 (93 per cent) those located in MMM2 worked more hours than the national average (Figure 47). There were no REI subspecialists in outer regional or remote areas (MMM4 - MMM7).

Figure 47: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

Table 18 indicates REIs clinical workload between sectors and jurisdictions. The data shows nationwide the majority of REI subspecialists FTE is spent in the private sector (91 per cent) with almost nine per cent in the public sector. TAS had the highest proportion of clinical FTE in the private sector (95 per cent) while SA had the lowest (88 per cent). The majority of REI subspecialists are located in the highly populated states of NSW and VIC.

Table 18: REI clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

State and Territories	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	24	5.8	94.2
QLD	1	24.0	76.0
SA	4	3.8	92.5
TAS	1	5.5	94.6
VIC	11	9.8	89.1
WA	1	50.0	50.0
Total	**42**	**8.5**	**90.8**

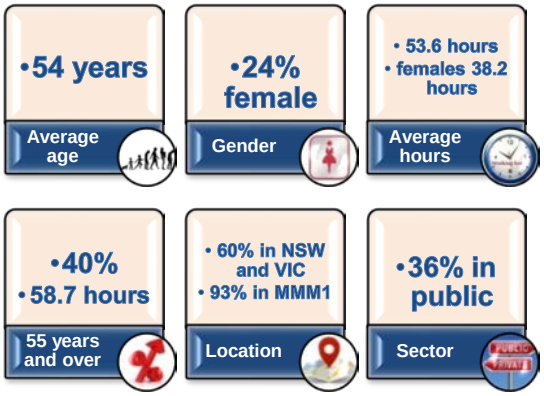
Source: NHWDS, Medical Practitioner 2016

Subspecialists: Gynaecological oncology (GO)

A certified Gynaecological Oncologist (GO) subspecialist has successfully completed a formal training program in gynaecological cancer care and is competent in the comprehensive management of women with a genital malignancy. The subspecialist will work in gynaecology with at least 66 per cent of the time in gynaecological oncology. They will submit for recertification every three years, and only those actively practising will continue to be certified.

According to the 2016 NHWDS, there were 41 GO subspecialists who indicated they were employed and working as clinicians with the following characteristics:

Figure 48: Demographics of the GO subspecialty workforce

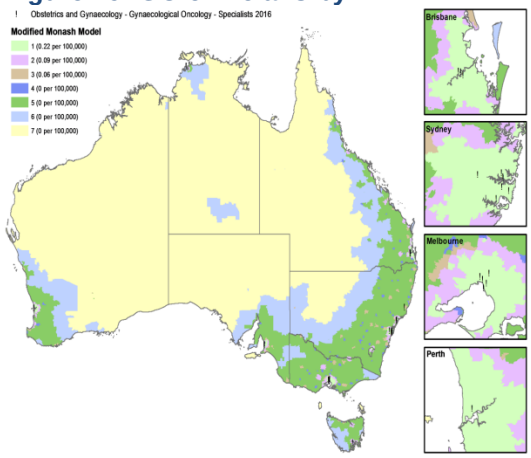


Source: NHWDS, Medical Practitioner 2016

Distribution

Figure 49 illustrates the MMM and density of the GO workforce within these areas. For more information on the MMM please see the NHWDS, medical practitioner 2016, section, page 8. As can be seen in the map, the GO workforce is located throughout Australia, except the ACT, and almost exclusively concentrated in Metropolitan areas (93 per cent in MMM1).

Figure 49: GO clinicians by MMM

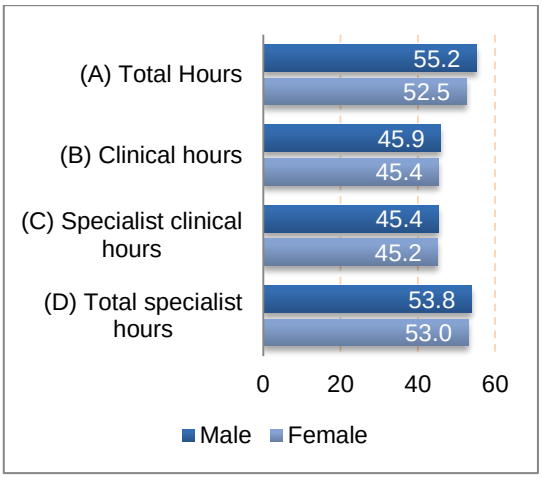


Source: NHWDS, Medical Practitioner 2016

Hours worked

Figure 50 below shows the difference between the hours worked by the GO subspecialist workforce by gender. There is a small difference between males and females; with males working fewer clinical hours and specialist clinical hours on average. The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical hours) component for the GO workforce. On average 8.4 hours for males and 7.8 hours per week for females, is spent performing clinical support in GO.

Figure 50: Average hours by total, clinical, specialist clinical and specialist total hours worked

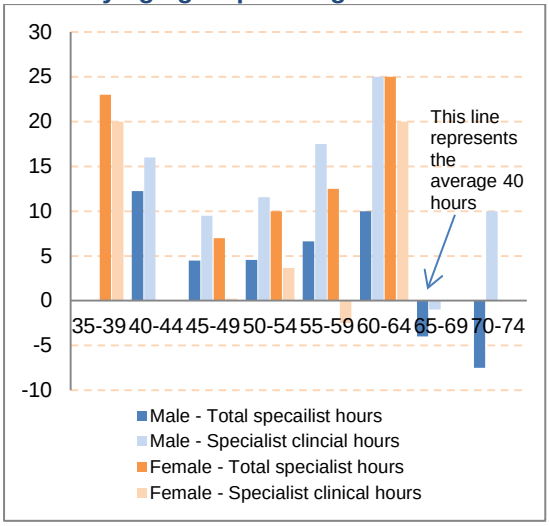


Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 51. The x-axis is assumed to be average hours worked (40 hours) and the bars in positive or negative position show the hours worked greater or less than 40 hours by age and gender respectively. The

vast majority of the age groups regardless of gender tend to work more than 40 hours between the ages of 35-64 years. Whereas from the age of 65 onwards the hours begin to decrease in most instances; with the exception of males aged 70-74 that are working 50 hours per week.

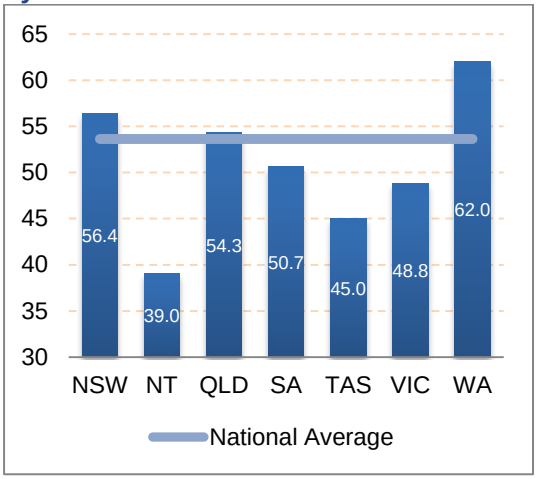
Figure 51: Difference between clinical and total specialist hour's from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by states and territories is shown below (Figure 52). GO subspecialists in WA, NSW and QLD tend to work more than the national average (53.6 hours), while those in VIC, TAS and the NT tend to work less than the national average. There were no GO subspecialists in the ACT.

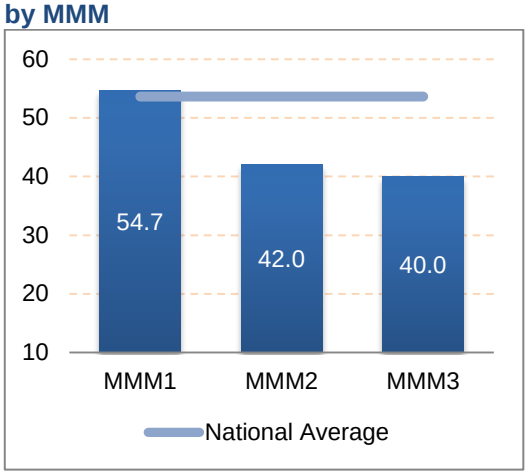
Figure 52: Average total specialist hours by states and territories



Source: NHWDS, Medical Practitioner 2016

Figure 53 shows that GO subspecialist in MMM1–MMM3; those in MMM1 worked more hours than the national average (53.6 hours) than those in MMM2 and MMM3. There were no GOs outside of inner regional areas (MMM4 - MMM7).

Figure 53: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

Table 19 indicates GOs clinical workload between sectors and jurisdictions. The data shows nationwide, there was a relatively even split between public and private sector, however this varied between jurisdictions. Where NSW and SA had the highest proportion of clinical FTE in the private sector (greater than 65 per cent) while NT had none and TAS had 29 per cent. The majority of GO subspecialists are located in NSW, VIC and QLD (78 per cent).

Table 19: GO clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

State and Territories	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	14	33.14	66.86
NT	1	100	0
QLD	7	38.69	61.31
SA	3	34.07	65.93
TAS	1	71.43	28.57
VIC	10	45.03	54.97
WA	4	55.19	44.81
Total	**40**	**41.94**	**58.06**

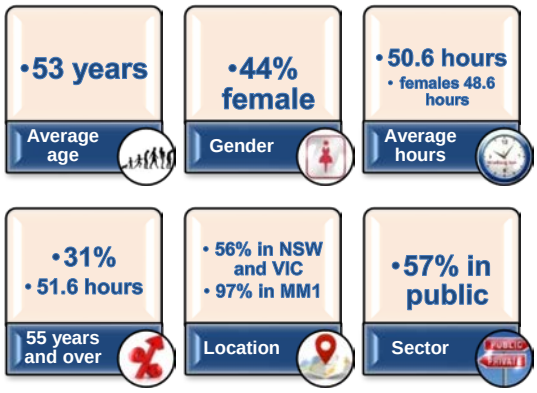
Source: NHWDS, Medical Practitioner 2016

Subspecialists: Maternal-fetal medicine (MFM)

A certified Maternal-Fetal Medicine (MFM) subspecialist has successfully completed an additional prescribed program of training to gain advanced knowledge of the obstetrical, medical and surgical complications of pregnancy and their effect on both the mother and the fetus. They have expertise in the most current approaches to diagnosis and treatment of patients with complicated pregnancies in settings where requisite technical support is available. MFM subspecialists have advanced knowledge of newborn adaptation which is necessary to ensure a continuum of excellence in care from the fetal to newborn periods.

According to the 2016 NHWDS, there were 32 MFM subspecialists who indicated they were employed and working as clinicians with the following characteristics:

Figure 54: Demographics of the MFM subspecialty workforce

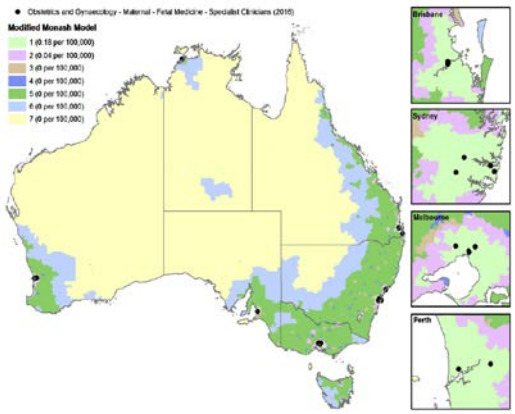


Source: NHWDS, Medical Practitioner 2016

Distribution

Figure 55 illustrates the MMM and density of the MFM workforce within these areas. For more information MMM please see NHWDS Medical practitioner section, page 8. As can be seen in the map below, the MFM workforce is located throughout Australia, except the ACT and TAS, and almost exclusively concentrated in Metropolitan areas.

Figure 55: MFM subspecialty workforce (clinicians) by MMM

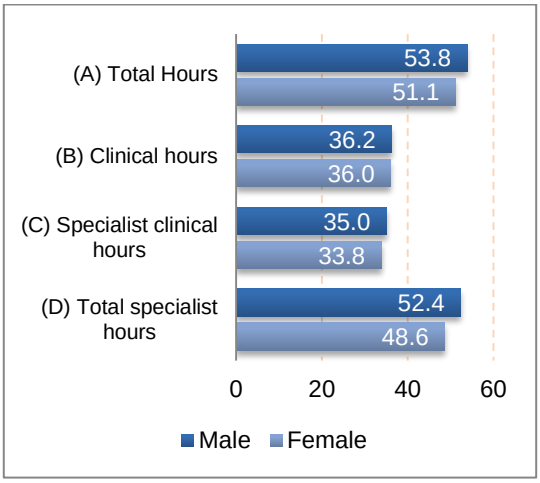


Source: NHWDS, Medical Practitioner 2016

Hours worked

The figure below shows the difference between the hours worked by gender. There is a small difference between clinical and specialist clinical hours for males and females; although females work fewer total and total specialist hours on average. The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical hours) component for the MFM workforce. On average 17.4 hours for males and 14.8 hours per week for females, is spent performing clinical support in MFM.

Figure 56: Average hours by total, clinical, specialist clinical and specialist total hours worked

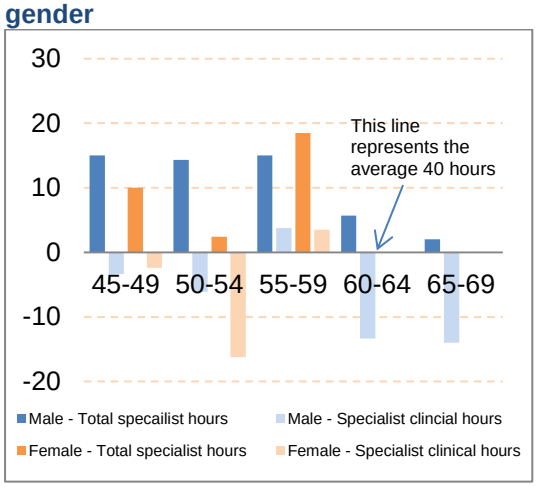


Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 57. The x-axis is assumed to be average hours worked (40 hours) and the bars in positive or negative position show the hours worked greater or less than 40

hours by age and gender respectively. The vast majority of the age groups regardless of gender tend to work more than 40 hours between the ages of 45-69 years, with a few exceptions in the males specialist clinical hours across the age groups that have worked less hours – on average 9 hours less than the average 40 hours.

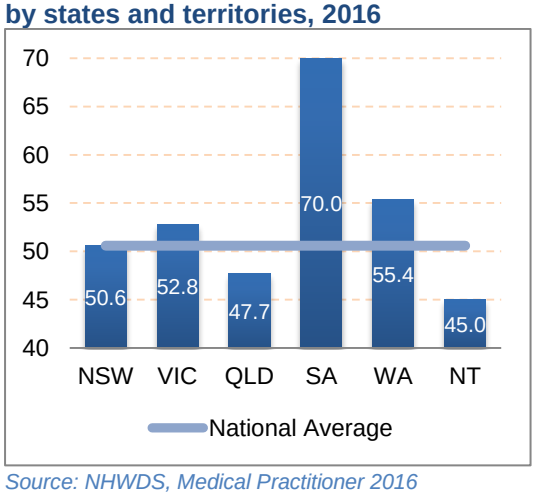
Figure 57: Difference between total specialist and clinical specialist hour's from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by states and territories is shown below (Figure 58). The MFM subspecialists in the SA, WA and VIC tend to work more than the national average (50.6 hours), while those in QLD and NT work less than the national average. There were no MFM subspecialists in TAS or the ACT in 2016.

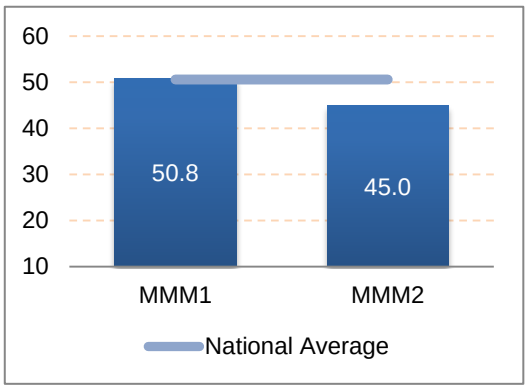
Figure 58: Average total specialist hours by states and territories, 2016



Source: NHWDS, Medical Practitioner 2016

Figure 59 shows that, the MFM specialists are predominately in MMM1 and MMM2 working on average 5 to 10 hours greater than the average 40 hours per week. There were no MFM specialists outside of inner regional areas (MMM3 - MMM7).

Figure 59: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

The table below shows the MFM specialist clinical workload between sectors and jurisdictions. The data shows nationwide the MFM specialist FTE is primarily in the public sector (61 per cent). The NT had the highest proportion of clinical FTE in the private sector (100 per cent) while SA had the lowest proportion in the private sector (22 per cent). The majority of MFM specialists are located in the highly populated states of NSW, VIC and QLD (66 per cent).

Table 20: MFM clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

State and Territories	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	7	80.4	19.6
NT	1	0	100
QLD	6	32.6	53.3
SA	1	78.1	21.8
VIC	8	48.8	51.2
WA	5	77.6	22.4
Total	**32**	**61.1**	**38.9**

Source: NHWDS, Medical Practitioner 2016

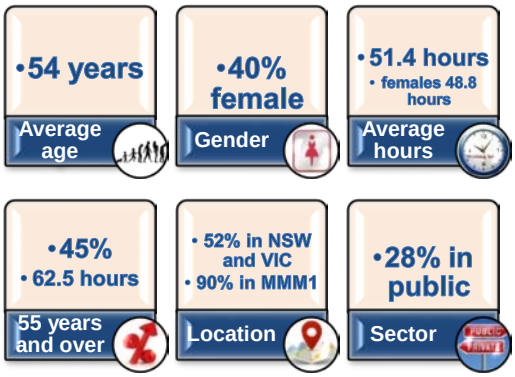
Subspecialists: Urogynaecology (UG)

A certified Urogynaecology (UG) subspecialist has successfully completed an additional prescribed program of training in the comprehensive management of patients with urogynaecological disorders.

An urogynaecologist specialist must spend at least 66 per cent of their clinical time working in the area of their specialty, the remainder being split between either obstetrics or gynaecology.

According to the 2016 NHWDS, there were 29 UG specialists who indicated they were employed and working as clinicians with the following characteristics:

Figure 60: Demographics of the UG subspecialty workforce

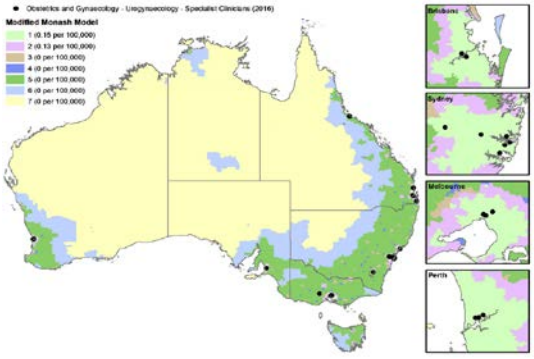


Source: NHWDS, Medical Practitioner 2016

Distribution

Figure 61 illustrates the Modified Monash categories and density of the UG specialist workforce within these areas. For more information on the MMM please see NHWDS, medical practitioner distribution section, page 8. As can be seen in the map, the UG specialist workforce is located throughout Australia, except the NT and TAS, and almost exclusively concentrated in Metropolitan areas (90 per cent in MMM1).

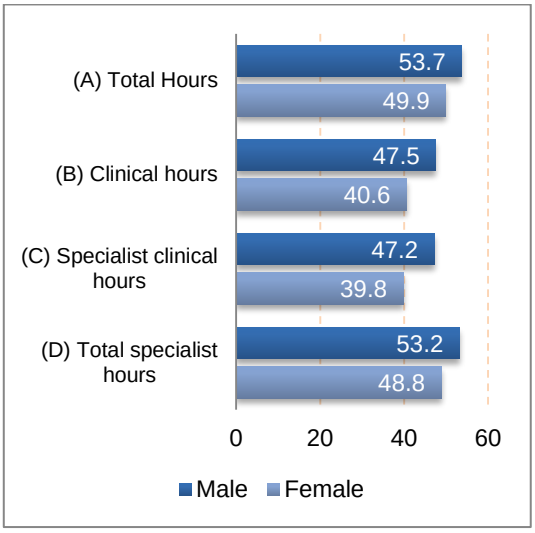
Figure 61: UG subspecialty workforce (clinicians) by MMM



Hours worked

Figure 62 below shows the difference between the hours worked by the UG specialist workforce, by gender. Males work more hours across the range of hour categories. The difference between the total specialist (D) and specialist clinical (C) hours indicates the clinical support (non-clinical hours) component for the UG workforce. On average 6 hours for males and 9 hours per week for females, is spent performing clinical support in UG.

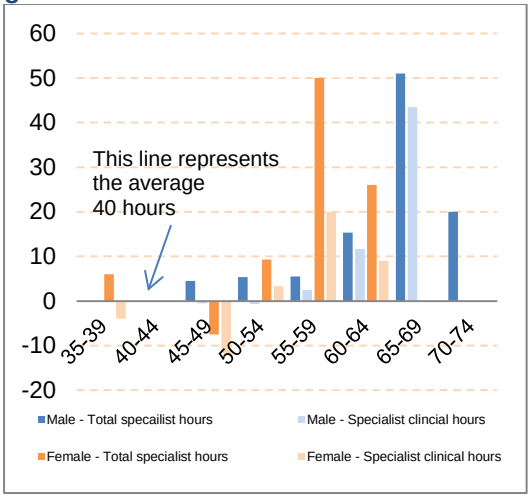
Figure 62: Average hours by total, clinical, specialist clinical and specialist total hours worked



Source: NHWDS, Medical Practitioner 2016

The difference between the total specialist hours (D) and clinical specialist hours (C) by gender and age group are shown in Figure 63. The x-axis is assumed to be average hours worked (40 hours) and the bars in positive or negative position show the hours worked greater or less than 40 hours by age and gender respectively. The vast majority of the age groups regardless of gender tend to work more than 40 hours between the ages of 35-74 years, with a few exceptions in the females cohorts in the age groups of 35-39 and 45-49 years – on average seven hours less than the average 40 hours.

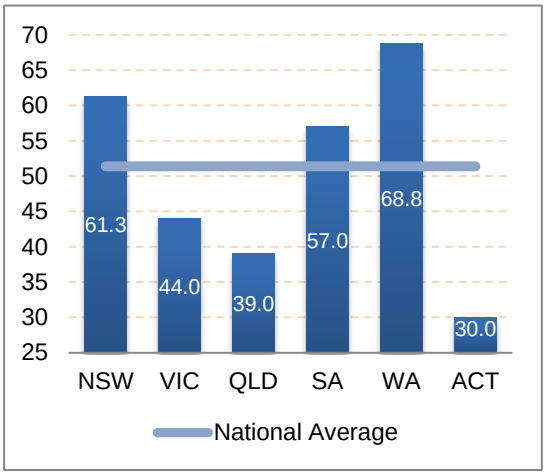
Figure 63: Difference between total specialist and clinical specialist hour's from average hours by age groups and gender



Source: NHWDS, Medical Practitioner 2016

The average total specialist hours worked by states and territories is shown below (Figure 64). UG specialists in WA, NSW and SA work more than the national average (51.4 hours), while those in QLD and ACT work less than the national average. There were no UG specialists in TAS or the NT.

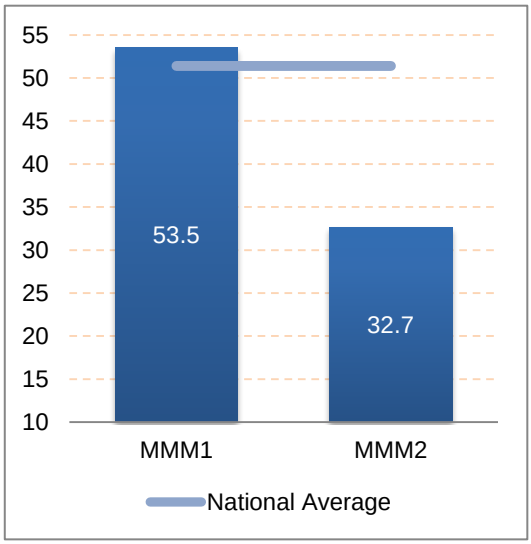
Figure 64: Average total specialist hours by states and territories



Source: NHWDS, Medical Practitioner 2016

Figure 65 shows that there are UG specialists in MMM1 and MMM2 only, where those in MMM1 work more hours than the national average of 51.4 hours per week.

Figure 65: Average total specialist hours by MMM



Source: NHWDS, Medical Practitioner 2016

Table 21 indicates UG specialist clinical workload between sectors and jurisdictions. The data shows nationwide the majority of UG specialists FTE is spent in the private sector (~73 per cent) with 32 per cent in the public sector.

SA only had one UG specialists that was in the private sector, while VIC had the lowest (53 per cent) proportion of UG specialists in the private sector. The majority of UG specialists are located in NSW, QLD and VIC accounting for 79 per cent of the workforce.

Table 21: UG subspecialty clinicians (headcount and sector: proportion of specialist clinical FTE in public and private) by state and territory

	Headcount	Specialist clinical FTE	
		% Public	% Private
NSW	9	31.3	68.7
VIC	6	46.7	53.3
QLD	8	35.5	64.5
SA	1	0	100
WA	4	22.1	77.9
ACT	1	26.7	73.3
Total	**29**	**31.9**	**72.6**

Source: NHWDS, Medical Practitioner 2016

Appendix 4: Hours worked

The Medical Practitioner Workforce Survey (Appendix 7) captures the hours worked at three levels as shown in Figure 66 below. The first row (A) is where a practitioner identifies the total hours they worked in the previous week. They are asked to split their total hours into (B) time spent in clinical roles and non-clinical roles. Non-clinical is defined as "including teacher, researcher, administrator and other". They are then asked to split their clinical hours into (C) time spent in up to two specialities (clinical hours in specialty 1 and clinical hours in specialty 2).

For example, two per cent (28) of O&G specialists worked hours in another specialty in addition to O&G (most commonly general practice, physician, sexual health medicine and pain medicine). For this group of dual specialists, 57 per cent of their FTE was spent in O&G, while 43 per cent was spent in their other specialty.

The grey 'unknown' area in row (C) can occur when the hours reported in specialty 1 and specialty 2 do not add up to the clinical hours (B). The unknown clinical hours may be due to an error when completing the survey form (the medical practitioner miscalculates their hours) or it may represent time worked as a non-vocationally registered General Practitioner (Non-VRGP) or in a third specialty. The unknown hours were not used in the modelling inputs. Furthermore, as can been seen in the grey 'not asked in survey' area in row (C), the non-clinical hours worked in each specialty are not captured in the survey.

Previously, specialty modelling was conducted using clinical hours. Figure 66 shows how the use of clinical hours (highlighted in row B) is flawed for the purposes of modelling individual medical specialties. As can be seen, the clinical hours can be much higher than the individual specialist clinical hours (C) as total clinical hours comprises hours worked in another speciality (other than the one being modelled) as well as unknown clinical hours. This results in the FTE being overestimated. Furthermore, using clinical hours only excludes an essential component of the workforce – the time spent undertaking clinical support (non-clinical hours).

Figure 66: Hours worked as captured in the workforce survey.

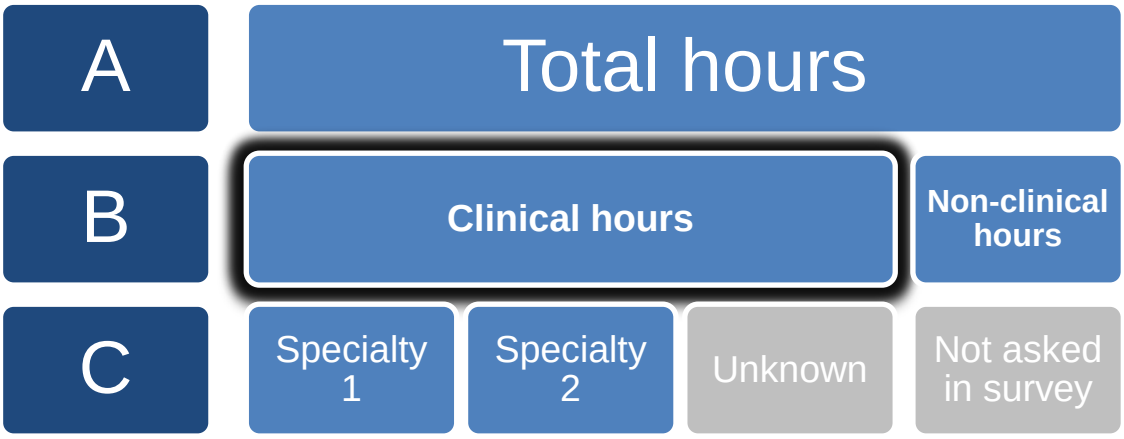


Figure 67 below shows how the hours for individual specialties have been estimated for modelling purposes in this report. In order to calculate (D), the total hours worked in O&G (clinical and non-clinical), the non-clinical hours spent in the speciality needed to be estimated (orange boxes in row D). The proportion of the clinical hours for each of the specialities were used to attribute non-clinical hours to the specialties to give an indication of the total specialist hours (clinical and non-clinical) a practitioner is working in a given speciality.

Figure 67: Estimating total specialty hours

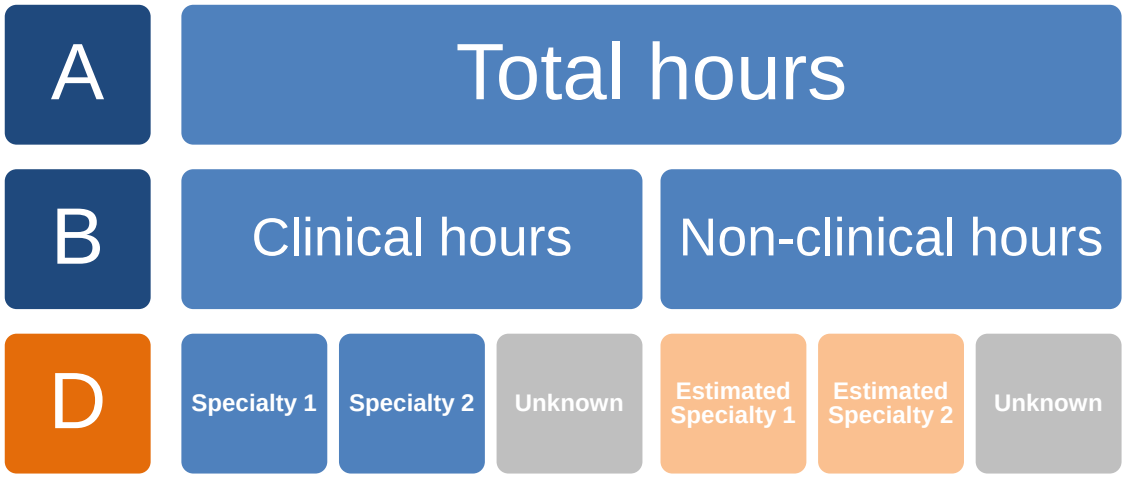
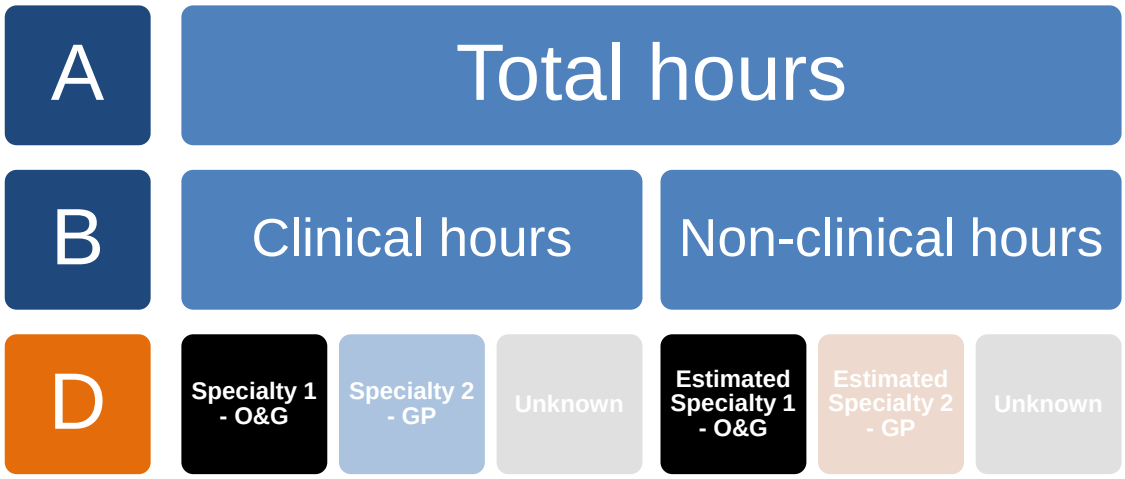


Figure 68 below shows which hours contribute to supply in the projections utilising total specialist hours ('Total specialist hours scenario Table 13). In this example, if a practitioner indicated in specialty field 1 they worked in O&G and in specialty field 2 they worked as a physician, then the clinical specialty 1 hours plus the estimated non-clinical specialty 1 hours (only the black boxes) are used in the modelling for O&G.

Figure 68: Total specialty hours used in modelling – example

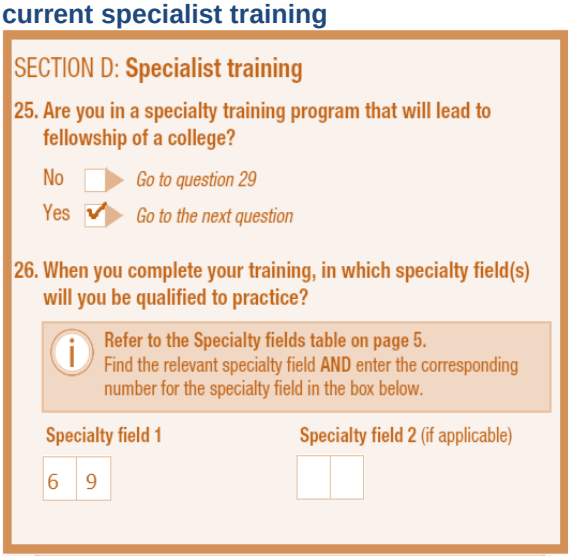


Appendix 5: Trainees and Intentions

The classification of trainees and those intending to train is based on the medical workforce survey. To be classified as a trainee the medical practitioner must answer survey question 26 indicating that they're a current anaesthesia trainee they must also be;

- registered as a medical practitioner and employed as a medical practitioner (see Figure 51)
- The only exception is if they indicate on the survey that they're also intending to train. If they have a current training year, then they're classified as a trainee (Figure 69).

Figure 69: Survey question related to current specialist training


SECTION D: **Specialist training**

25. Are you in a specialty training program that will lead to fellowship of a college?

No ☐ *Go to question 29*

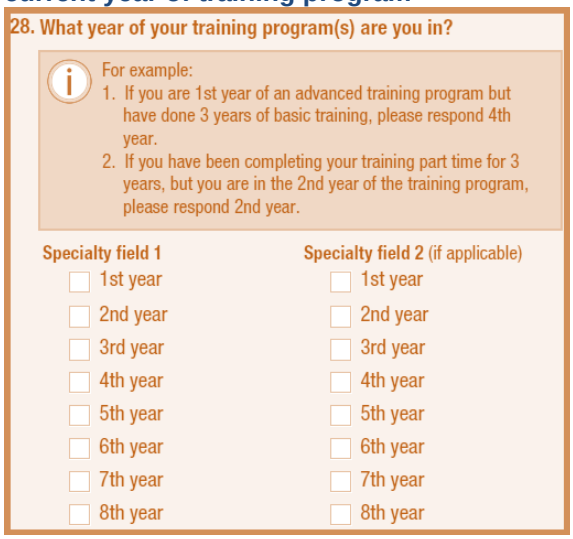
Yes ☑ *Go to the next question*

26. When you complete your training, in which specialty field(s) will you be qualified to practice?

Refer to the Specialty fields table on page 5.
Find the relevant specialty field **AND** enter the corresponding number for the specialty field in the box below.

Specialty field 1	Specialty field 2 (if applicable)
6 9	

Figure 70: Survey question relating to current year of training program

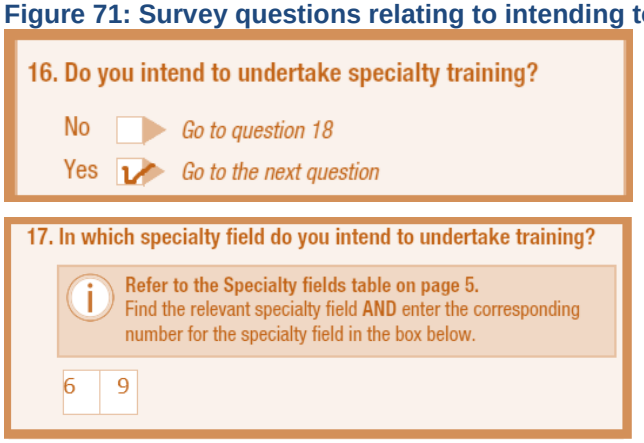

28. What year of your training program(s) are you in?

For example:
1. If you are 1st year of an advanced training program but have done 3 years of basic training, please respond 4th year.
2. If you have been completing your training part time for 3 years, but you are in the 2nd year of the training program, please respond 2nd year.

Specialty field 1	Specialty field 2 (if applicable)
☐ 1st year	☐ 1st year
☐ 2nd year	☐ 2nd year
☐ 3rd year	☐ 3rd year
☐ 4th year	☐ 4th year
☐ 5th year	☐ 5th year
☐ 6th year	☐ 6th year
☐ 7th year	☐ 7th year
☐ 8th year	☐ 8th year

To be classified as intending to train the medical practitioner needs to answer question 16 indicating that they are intending to undertake training as a specialist and answer question 17 to indicate that they intend to train as an anaesthetists.

Figure 71: Survey questions relating to intending to train



Appendix 6: Assisted Reproductive Technology

Background

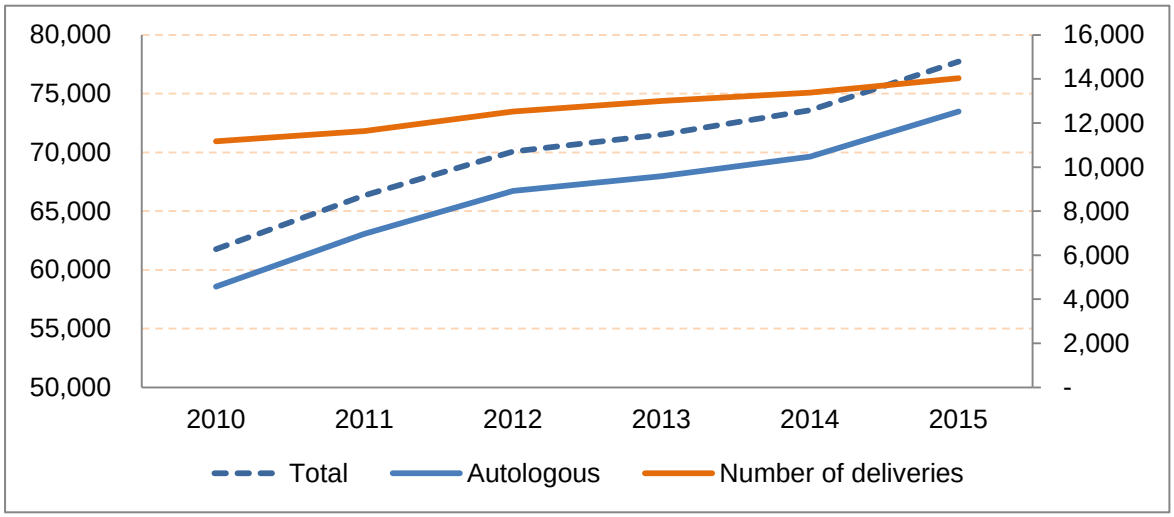
Assisted reproductive technology (ART) services include a range of treatments to achieve pregnancy, involving laboratory or clinical techniques. ART is a group of procedures that involve the in vitro (outside of body) handling of human oocytes (eggs) and sperm or embryos for the purposes of establishing a pregnancy. Each ART treatment involves a number of stages and is generally referred to as an ART treatment cycle. The embryos transferred to a women can either originate from the cycle in which they were created (fresh cycle) or be frozen and thawed before transfer (thaw cycle)[10].

For most of the analysis represented in the Assisted Reproductive Technology section of this report, the 2010 to 2015 Assisted Reproductive Technology in Australia and New Zealand Annual Report's information and data has been used. The data reported is combined for Australia and New Zealand (noting that New Zealand represent less than 10 per cent of all treatment cycles).

Number of initiated ART treatment cycles

In 2015 there were 77,721 ART treatment cycles reported from Australian and New Zealand clinics (71,479 and 6,242 respectively) representing a 5.6 per cent increase in Australia from 2014. This represented 14.4 cycles per 1,000 women of reproductive age (15–44 years) in Australia. Women used their own oocytes or embryos (autologous cycles) in 94.5 per cent (45,995) of treatments. Embryos that had been frozen and thawed were used in 37.4 per cent (27,486) of autologous cycles[4].

Figure 72: Number of initiated ART cycles, 2010 - 2015



Autologous fresh cycles

In 2015 there were 39,006 women who undertook 73,481 autologous fresh and/or thaw cycles in Australia and New Zealand. On average, 1.9 fresh and/or thaw cycles per woman[4].

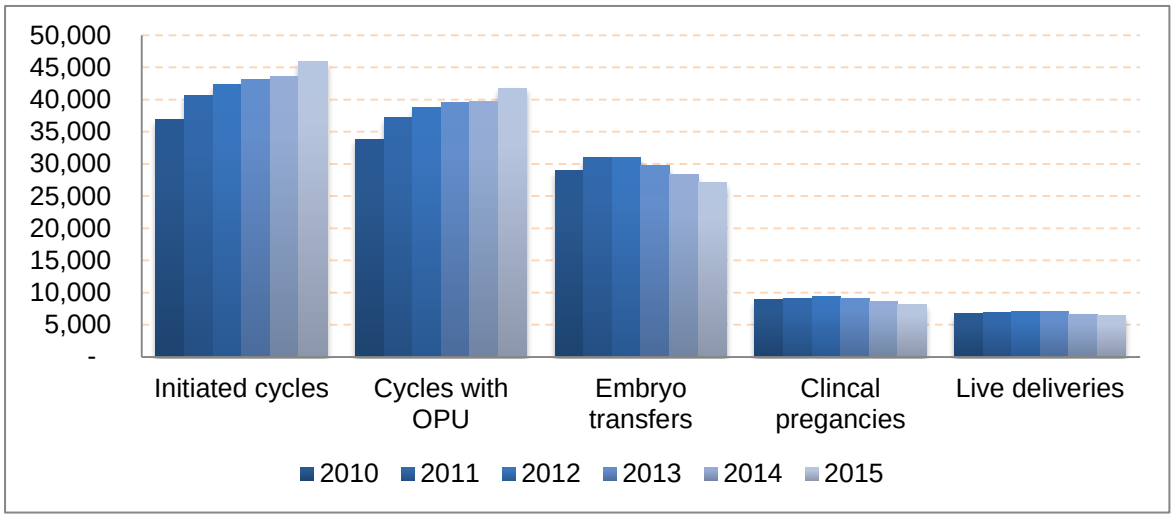
[10] Fitzgerald O, Harris K, Paul RC, Chambers GM 2017. Assisted reproductive technology in Australia and New Zealand 2015. Sydney: National Perinatal Epidemiology and Statistics Unit, the University of New South Wales Sydney.

Progression

The following figure shows the main stage of autologous fresh cycles and the resulting treatment outcomes over the last five years. As can be ascertained from the figure the initiated cycles and cycles with Oocyte Pick-Up (OPU) have both grown at similar rates over the five year period (approximately 4.4 per cent) while the resulting treatment outcomes have seen a decline in growth (approximately 1.5 per cent).

In 2015, of the 45,995 initiated autologous fresh cycles, 90.8 per cent had OPU performed, 58.8 per cent had embryos transferred. 17.8 per cent resulted in a clinical pregnancy; and 13.9 per cent resulted in a live delivery. A treatment can be discontinued for a variety of reasons, including inadequate response of ovaries to medication, excessive ovarian simulation, failure to obtain oocytes, failure of oocyte fertilisation, inadequate embryo growth or patient choice.

Figure 73: Progression of autologous fresh cycles 2010-2015



Outcomes by Causes of infertility

Infertility affects approximately 15 per cent of women of reproductive age at any given time, representing, the source of much personal suffering to millions around the world[11]. The common medical definition of 'infertility' is the failure to achieve a clinical pregnancy after 12 or more months of regular unprotected sexual intercourse[12]. Infertility is increasingly being overcome through advancements in fertility treatment, in particular ARTs. ARTs have evolved over the last four decades into a suite of mainstream medical interventions that have resulted in the birth of more than six million children worldwide[13]. The most recent national estimates indicate that 4.3 per cent of all women who gave birth in Australia in 2014 received some form of ART treatment[14].

The following table outlines the number of initiated cycles of autologous fresh cycles by cause of infertility. Across the five years cycles that reported with endometriosis and

[11] World Health Organization 2010. Mother or nothing: the agony of infertility. Bulletin of the World Health Organization. Volume 88, Number 12, December 2010, 877-953.

[12] The International Glossary on Infertility and Fertility Care, 2017, Zegers-Hochschild, Fernando et al., Fertility and Sterility, Volume 108, Issue 3, 393 - 406

[13] ICMART (International Committee for Monitoring Assisted Reproductive Technology) 2015. Preliminary global assisted reproductive technology (ART) data for 2011. Available at: http://cm.eshre.eu/Presentations/ESHRE2015/O-134/default.aspx. European Society of Human Embryology and Reproduction (ESHRE) Annual Scientific Meeting Lisbon, Portugal 14-17 June 2015.

[14] AIHW 2016. Australia's mothers and babies 2014—in brief. Perinatal statistics series no. 32. Cat. no. PER 87. Canberra: AIHW.

male factor infertility as the only cause of infertility had the greatest number of live deliveries; in 2015 this corresponded to 21 per cent and 20 per cent respectively.

Table 22: Initiated cycles (number) of autologous fresh cycles by cause of infertility

Cause of infertility	2010	2011	2012	2013	2014	2015
Male factor only	8,180	9,252	9,549	8,941	8,537	7,031
Female factor	13,672	11,639	12,158	12,034	13,143	15,513
Tubal disease only	1,588	1,678	1,622	1,669	1,602	1,755
Endometriosis only	4,919	2,327	1,934	2,072	1,968	2,321
Other female factor- only	5,806	6,176	7,041	6,902	7,968	8,800
Combined female factor	1,359	1,458	1,531	1,391	1,609	2,637
Combined male-female factors	5,381	62,005	6,134	5,861	5,565	4,986
Unexplained	9,525	9,201	8,753	9,849	9,784	11,795
Not stated	115	4,399	5,735	6,399	6,550	6,670
Total	**36,873**	**40,496**	**42,329**	**43,084**	**43,579**	**45,995**

Deliveries by maternal age groups

The figure below shows the trend over the last five years which has remained fairly stable, where in 2012 the proportions have remained constant over the years – with 46 per cent aged less than 35 years, 38 per cent aged 35-39 years and 16 per cent aged over 40 years. In 2015, the average age of women at the time of delivery was 35.3 years. This is five years older than the average age (30.3 years) of women who gave birth in Australia in 2015[15].

Maternal age is one of the key factors associated with the outcomes of autologous fresh cycles. In 2015 the highest live delivery rate per embryo transfer cycle was in women aged under 30 (38.4 per cent). The rate declined with advancing women's age, with a rate of 8.9 per cent for women aged 40–44 and 0.7 per cent for women aged 45 or older.

Figure 74: Deliveries by maternal age groups, 2010-2015

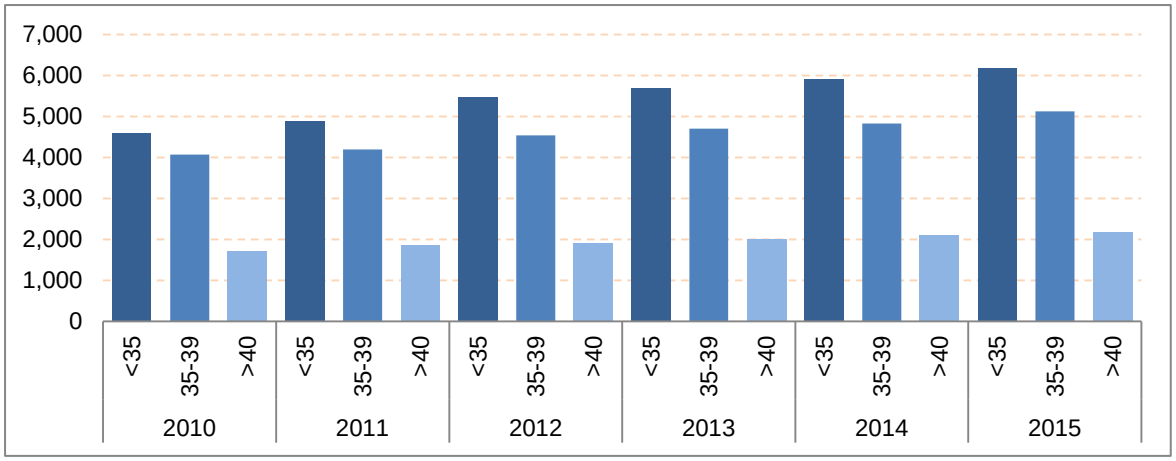
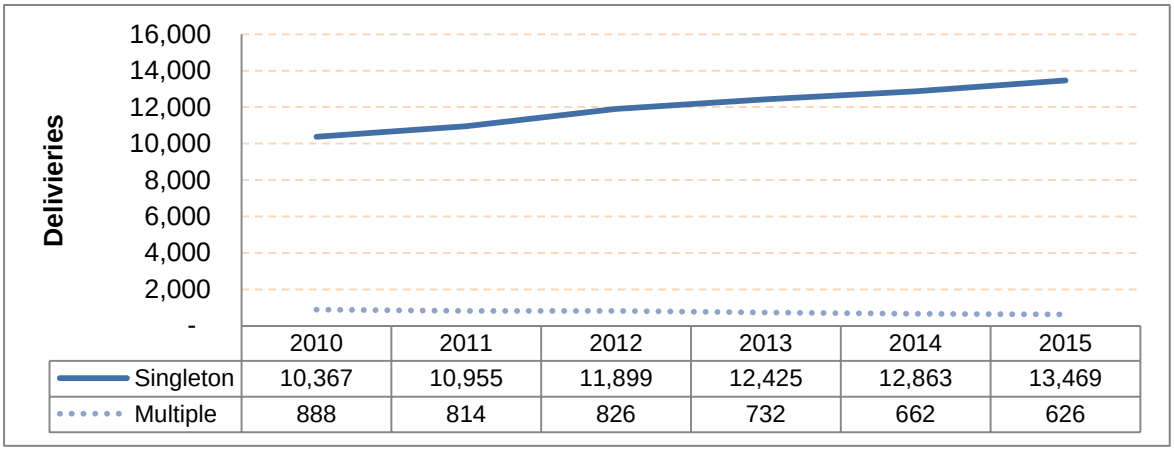


Figure 75 below shows the number of deliveries over the last five years; it can be seen that the rate of singleton deliveries (5.4 per cent) have grown at a much greater rate than the multiple deliveries (-6.8 per cent).

Multiple delivery rates were similar across age groups, where women aged 35-39 years had the lowest multiple delivery rate (4.2 per cent) and women aged 40 years or over had the highest multiple delivery rate (5.1 per cent).

[15] Australian Institute of Health and Welfare 2017. Australia's mothers and babies 2015—in brief. Perinatal statistics series no. 33. Cat no. PER 91. Canberra: AIHW

Figure 75: Deliveries by gestation between 2010 and 2015

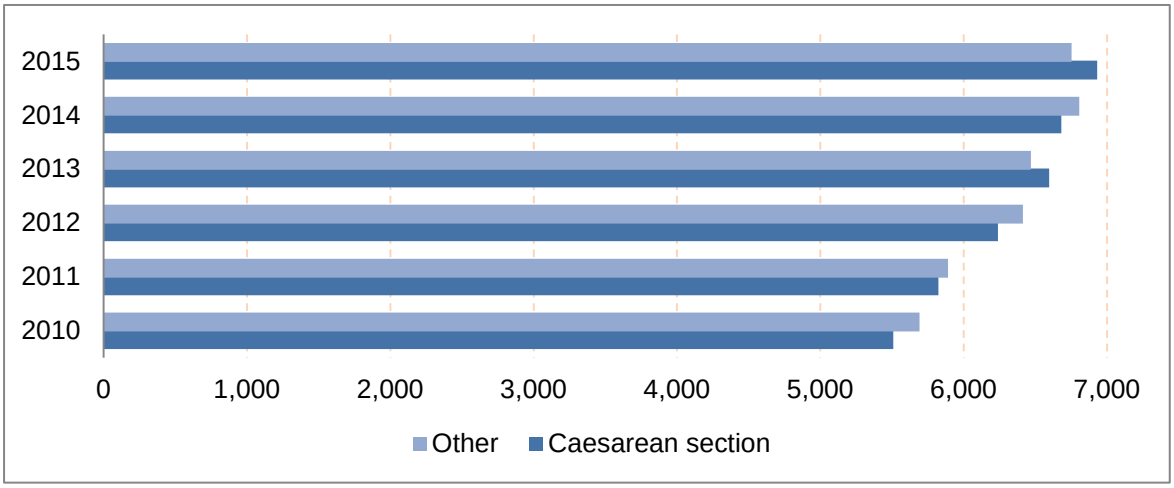


	2010	2011	2012	2013	2014	2015
Singleton	10,367	10,955	11,899	12,425	12,863	13,469
Multiple	888	814	826	732	662	626

Method of delivery

Over the last five year nearly half (49 per cent) of deliveries following embryo transfer cycles were by caesarean section. The rate of caesarean section (growth rate of 4.7 per cent over the last five years) following ART treatment may be related to the fact that women were five years older on average and that there were more multiple births following ART treatment. In 2015, the caesarean section rate varied by plurality, with 47.7 per cent for singleton deliveries, 80 per cent for twin deliveries and 85.7 per cent for triplet deliveries.

Figure 76: Deliveries by method of delivery



Appendix 7: Medical Practitioners Survey 2016

Medical Board of Australia

Workforce Survey Form

Profession: Medical

WKSY-30

COMPLETING THIS SURVEY

Information supplied on this form may be provided to other persons and agencies for workforce planning. The Medical Board of Australia and the Australian Health Practitioner Regulation Agency (AHPRA) are committed to ensuring the privacy and confidentiality of personal information held and will adhere to the National Privacy Principles under the Privacy Act 1988 (Cth) when collecting, using, disclosing, securing and providing access to private information.

- Read all instructions
- Print clearly in BLOCK LETTERS using a black or blue pen
- Place X in ALL applicable boxes
- These questions are optional

Today's date: (DD / MM / YYYY) / /

SECTION A: Your qualifications

1. Where did you obtain your initial medical degree?

Mark one box only

- ☐ Australia
- ☐ New Zealand
- ☐ Other overseas - Please specify country:

2. What year did you graduate from medical school?

(YYYY)

3. If you have a specialist qualification in medicine, where did you obtain your initial specialist qualification?

Mark one box only

- ☐ Do not have a specialist qualification
- ☐ Australia
- ☐ New Zealand
- ☐ Other overseas - Please specify country:

SECTION B: Your employment

For the following questions, employed includes:
The practice of medicine, or work that is principally concerned with that discipline, e.g. research, administration or teaching of medicine, in which you worked in Australia for a total of one hour or more LAST WEEK in a job or business (including own business) for pay, commission, payment in kind or profit.

4. LAST WEEK, were you working in medicine in Australia?

Mark one box only

- ☐ Yes (including on leave for less than three months)
  Go to question 9
- ☐ Yes (but currently on leave for three months or more)
  Go to question 9
- ☐ No
  Go to the next question

5. LAST WEEK, why were you not working in medicine in Australia?

Mark one box only

- ☐ Working in medicine overseas
  Go to the next question
- ☐ Working in an occupation other than medicine
  Go to question 7
- ☐ Not working in paid employment at all
  Go to question 8
- ☐ Retired from regular work
  Go to question 32

6. LAST WEEK, what field of medicine were you working in?

Go to question 8

7. LAST WEEK, what was your occupation?

OFFICE USE ONLY

8. LAST WEEK, did you take active steps to look for work in medicine in Australia?

Looking for work includes (either part-time or full-time):
- applying for work
- enquiring about a job
- answering an advertisement
- registering with an employment agency
- advertising for work
- contacting people about a job.

No ☐ *Go to question 32*

Yes ☐ *Go to question 32*

For questions 9-20, if you were on leave last week, answer for a typical week. **Exclude** hours on call not worked.

9. LAST WEEK, how many hours did you work in total in medicine?

Clinical roles *(including the provision of imaging and laboratory services and managers and supervisors also providing clinical services)*	☐☐☐ hours
Non-clinical roles *(including teacher, researcher, administrator or other)*	☐☐☐ hours
Total	☐☐☐ hours

10. In the last year, on average how many hours per week did you practice via tele-health in medicine?

Telehealth is the use of telecommunication techniques for the purpose of providing telemedicine, medical education, and health education over a distance.

☐☐☐

11. LAST WEEK, of the hours that you worked in your clinical roles, how many hours did you work in each sector in medicine?

Private hospitals ☐☐☐ hours	Public hospitals – inpatients ☐☐☐ hours
Private rooms ☐☐☐ hours	Public hospitals – outpatients ☐☐☐ hours
Private – other ☐☐☐ hours	Public – other ☐☐☐ hours

For the following questions, answer for the job in which you worked the most hours last week.

12. LAST WEEK, what was your principal role in your main job in medicine?

Mark one box only

- ☐ Clinician (including the provision of imaging and laboratory services and managers and supervisors also providing clinical services)
- ☐ Administrator (including managers not providing clinical services)
- ☐ Teacher or educator
- ☐ Researcher
- ☐ Other - Please specify:

13. LAST WEEK, what was the principal area of your main job in medicine?

Mark one box only

- ☐ General practitioner (GP) (excluding AGPT program trainees) *Go to the next question*
- ☐ Specialist (other than GP) *Go to question 19*
- ☐ Specialist-in-training (including AGPT program trainees) *Go to question 19*
- ☐ Hospital non-specialist (including pre-vocational doctors) *Go to question 16*
- ☐ Other clinician *Go to question 17*
- ☐ Non-clinician *Go to question 17*

14. LAST WEEK, were you working in General Practice with specialist registration in General Practice?

Mark one box only

No ☐ *Go to the next question*

Yes ☐ *Go to question 19*

15. LAST WEEK, were you a RACGP/ ACRRM/ RVTS trainee?

No ☐ *Go to question 19*

Yes ☐ *Go to question 19*

OFFICE USE ONLY

16. LAST WEEK, what was your position in the hospital?

Mark one box only

- ☐ Intern
- ☐ Resident Medical Officer (RMO)
- ☐ Hospital Medical Officer (HMO)
- ☐ Career Medical Officer (CMO)
- ☐ Principal House Officer (PHO)
- ☐ Registrar
- ☐ Other - Please specify:

17. Do you intend to undertake specialty training?

No → *Go to question 19*

Yes → *Go to the next question*

18. In which specialty field do you intend to undertake training?

Refer to the Specialty fields table on page 5.
Find the relevant specialty field **AND** enter the corresponding number for the specialty field in the box below.

19. LAST WEEK, what was the principal work setting of your main job in medicine?

Mark one box only

- ☐ Solo Private Practice
- ☐ Group Private Practice
- ☐ Locum Private Practice
- ☐ Aboriginal health service
- ☐ Community mental health service
- ☐ Community drug and alcohol service
- ☐ Other community health care service
- ☐ Hospital *(excluding outpatient service)*
- ☐ Outpatient service
- ☐ Residential mental health care service
- ☐ Residential aged care facility
- ☐ Commercial/business service
- ☐ Tertiary educational facility
- ☐ School
- ☐ Other educational facility
- ☐ Correctional service
- ☐ Defence force
- ☐ Other government department or agency
- ☐ Other

20. LAST WEEK, where was the location of your main job in medicine?

For state and territory mark one box only

☐ NSW	☐ SA	☐ NT
☐ VIC	☐ WA	☐ ACT
☐ QLD	☐ TAS	☐ Other territories

Postcode

Suburb

21. Other than the location reported in question 19, do you also work in a regional, rural or remote location?

No → *Go to question 23*

Yes → *Specify state, postcode and suburb below, then go to the next question*

If you work in more than one additional regional, rural or remote location, provide the one in which you work the most hours.

For state and territory mark one box only

☐ NSW	☐ SA	☐ NT
☐ VIC	☐ WA	☐ ACT
☐ QLD	☐ TAS	☐ Other territories

Postcode

Suburb

22. On average, how often do you work in this location?

Mark one box only, and report the frequency worked at this location

	☐ Weekly	day(s) per week
OR	☐ Fortnightly	days per fortnight
OR	☐ Monthly	days per month
OR	☐ Quarterly	days per quarter
OR	☐ Annually	days per year

OFFICE USE ONLY

SECTION C: **Specialist registration**

23. Do you have a specialist registration in medicine (including specialist registration in general practice)?

No ☐ *Go to question 26*

Yes ☐ *Go to the next question*

For questions 24-25:
Specialty field 1 relates to the specialty in which you worked the most hours LAST WEEK.
Specialty field 2 (if applicable) relates to the specialty in which you worked the second most hours LAST WEEK.

24. In which specialty field(s) did you work the most hours LAST WEEK?

Refer to the Specialty fields table on page 5.
Find the relevant specialty field **AND** enter the corresponding number for the specialty field in the box below.

Specialty field 1 ☐☐

Specialty field 2 (if applicable) ☐☐

25. LAST WEEK, how many clinical hours did you work in each sector in your specialty field(s)?

	Specialty field 1	Specialty field 2 (if applicable)
Private hospitals	☐☐☐ hours	☐☐☐ hours
Private rooms	☐☐☐ hours	☐☐☐ hours
Private – other	☐☐☐ hours	☐☐☐ hours
Public hospitals – inpatients	☐☐☐ hours	☐☐☐ hours
Public hospitals – outpatients	☐☐☐ hours	☐☐☐ hours
Public - other	☐☐☐ hours	☐☐☐ hours

SECTION D: **Specialist training**

26. Are you in a specialty training program that will lead to fellowship of a college?

No ☐ *Go to question 30*

Yes ☐ *Go to the next question*

27. When you complete your training, in which specialty field(s) will you be qualified to practice?

Refer to the Specialty fields table on page 5.
Find the relevant specialty field **AND** enter the corresponding number for the specialty field in the box below.

Specialty field 1 ☐☐

Specialty field 2 (if applicable) ☐☐

28. (a) In which year(s) did you commence your specialty training program(s)?

Specialty field 1 ☐☐☐☐ (YYYY)

Specialty field 2 (if applicable) ☐☐☐☐ (YYYY)

(b) In which year(s) do you intend to complete your specialty training program(s)?

Specialty field 1 ☐☐☐☐ (YYYY)

Specialty field 2 (if applicable) ☐☐☐☐ (YYYY)

29. What year of your training program(s) are you in?

For example:
1. If you are 1st year of an advanced training program but have done 3 years of basic training, please respond 4th year.
2. If you have been completing your training part time for 3 years, but you are in the 2nd year of the training program, please respond 2nd year.

Specialty field 1	Specialty field 2 (if applicable)
☐ 1st year	☐ 1st year
☐ 2nd year	☐ 2nd year
☐ 3rd year	☐ 3rd year
☐ 4th year	☐ 4th year
☐ 5th year	☐ 5th year
☐ 6th year	☐ 6th year
☐ 7th year	☐ 7th year
☐ 8th year	☐ 8th year

SECTION E: **Workforce intentions**

30. In total, how many years have you worked in medicine in Australia?

Include years regardless of full-time or part-time status.
Exclude time spent not working and unpaid leave.

☐☐ whole years

OFFICE USE ONLY

31. How many more years do you intend to remain in the medicine workforce in Australia?

☐☐ whole years

SECTION F: **Your details**

32. Are you of Aboriginal or Torres Strait Islander origin?

Mark one box only

- ☐ No
- ☐ Yes - Aboriginal
- ☐ Yes - Torres Strait Islander
- ☐ Both Aboriginal and Torres Strait Islander

33. Are you a temporary resident?

- No ☐ ▶ *Thank you, no further questions.*
- Yes ☐ ▶ *Specify your visa type below*
  - ☐ 309 - Partner (offshore)
  - ☐ 402 - Training and Research
  - ☐ 417 - Working Holiday
  - ☐ 422 - Medical Practitioner
  - ☐ 444 - Special category
  - ☐ 457 - Temporary Work (Skilled)
  - ☐ 485 - Temporary Graduate
  - ☐ 572 - Vocational Education and Training Sector
  - ☐ 573 - Higher Education Sector
  - ☐ 574 - Postgraduate Research Sector
  - ☐ 820 - Partner (onshore)
  - ☐ Other

Thank you, no further questions.
Please return this workforce survey to AHPRA in the same envelope as your renewal application

	Physician		**Radiology**	57	Paediatric respiratory and sleep medicine
1	Cardiology	29	Diagnostic radiology	58	Paediatric rheumatology
2	Clinical genetics	30	Diagnostic ultrasound	59	Specialist paediatrician
3	Clinical pharmacology	31	Nuclear medicine		**Pathology**
4	Endocrinology		**Obstetrics and gynaecology**	60	General pathology
5	Gastroenterology and hepatology	32	Gynaecological oncology	61	Anatomical pathology (including cytopathology)
6	General medicine	33	Maternal-fetal medicine	62	Chemical pathology
7	Geriatric medicine	34	Obstetrics and gynaecological ultrasound	63	Haematology
8	Haematology	35	Reproductive endocrinology and infertility	64	Immunology
9	Immunology and allergy	36	Urogynaecology	65	Microbiology
10	Infectious diseases	37	Specialist obstetrician and gynaecologist	66	Forensic pathology
11	Medical oncology		**Paediatrics and child health**	67	Specialist pathologist
12	Nephrology	38	Clinical genetics		**Intensive care medicine**
13	Neurology	39	Community and child health	85	Paediatric intensive care medicine
14	Nuclear medicine	40	General paediatrics	86	Specialist intensive care physician
15	Respiratory and sleep medicine	41	Neonatal and perinatal medicine	68	**General practice**
16	Rheumatology	42	Paediatric cardiology	69	**Anaesthesia**
17	Specialist physician	43	Paediatric clinical pharmacology	70	**Psychiatry**
	Surgery	44	Paediatric emergency medicine	71	**Emergency medicine**
18	Cardio-thoracic surgery	45	Paediatric endocrinology	72	**Ophthalmology**
19	General surgery	46	Paediatric gastroenterology and hepatology	73	**Dermatology**
20	Neurosurgery	47	Paediatric haematology	75	**Rehabilitation medicine**
21	Orthopaedic surgery	48	Paediatric immunology and allergy	76	**Radiation oncology**
22	Otolaryngology- head and neck surgery	49	Paediatric infectious diseases	77	**Public health medicine**
23	Oral and maxillofacial surgery	50	Paediatric intensive care medicine	78	**Occupational and environmental medicine**
24	Paediatric surgery	51	Paediatric medical oncology	79	**Medical administration**
25	Plastic surgery	52	Paediatric nephrology	80	**Palliative medicine**
26	Urology	53	Paediatric neurology	81	**Sport and exercise medicine**
27	Vascular surgery	54	Paediatric nuclear medicine	82	**Sexual health medicine**
28	Specialist surgeon	55	Paediatric palliative medicine	83	**Addiction medicine**
		56	Paediatric rehabilitation medicine	84	**Pain medicine**

OFFICE USE ONLY