



Australia's Health Workforce Series Psychologists in Focus

March 2014



An Australian Government Initiative

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Suggested citation: Health Workforce Australia [2014]: Australia's Health Workforce Series – Psychologists in Focus

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Introduction

About HWA

Health Workforce Australia (HWA) is a Commonwealth statutory authority established to build a sustainable health workforce that meets Australia's healthcare needs. HWA leads the implementation of national and large scale reform, working in collaboration with health and higher education sectors to address the critical priorities of planning, training and reforming Australia's health workforce.

Australia's health system is facing significant challenges, including an ageing population and an ageing health workforce; changing burden of disease, in particular a growing level of chronic disease; and increased demand for health services with higher numbers of people requiring complex and long-term care. To achieve HWA's goal of building a sustainable health workforce that meets Australia's healthcare needs, health workforce planning is essential – and in health workforce planning, understanding the number and characteristics of the existing health workforce is the essential first step.

Australia's Health Workforce Series describes particular professions, settings and issues of interest to aid workforce planning. This issue of Australia's Health Workforce Series examines psychologists, bringing together available information to describe the psychologist workforce, including number and characteristics, potential data sources to measure workforce activity, and an analysis based on information presented.

This publication is divided into four main parts:

1. **What is a psychologist?** – a brief overview of the role of a psychologist and the training pathway, and descriptions of the key regulatory bodies and peak associations.
2. **What is known about the psychologist workforce** – presentation of data from different sources, describing the number and characteristics of the workforce, student and migration inflows into the workforce, and potential data sources that could be used to measure workforce activity.
3. **What issues are expected to impact supply and/or demand for psychologists** – a summary of issues obtained through stakeholder consultation.
4. **HWA's assessment of the workforce** – including an assessment of existing workforce position (whether workforce supply matches demand for services or not); presentation of a set of workforce dynamics indicators, used to highlight aspects of the current workforce that may be of concern into the future; and a comparison of the psychologist workforce's key characteristics with other registered health workforces.

What is a psychologist?

Psychologists are experts in human behaviour. They use scientific methods to study the factors that influence the way that people think, feel and learn, and use evidence-based strategies and interventions to help people to overcome challenges and improve their lives.

Psychology is a broad profession and individuals may choose to focus on a wide range of areas and workplaces. Many psychologists work directly with those experiencing difficulties, such as mental health issues including anxiety and depression. Common settings in which psychologists work to assess, diagnose, treat or prevent problems include; schools, hospitals, courts, community health services, prisons, industry, the defence forces and private practice¹.

How are psychologists trained?

Psychology is a registrable health profession under the National Registration and Accreditation Scheme (NRAS). Therefore, a practitioner must generally complete an accredited program of study and be registered with the Psychology Board of Australia to practise as a psychologist.

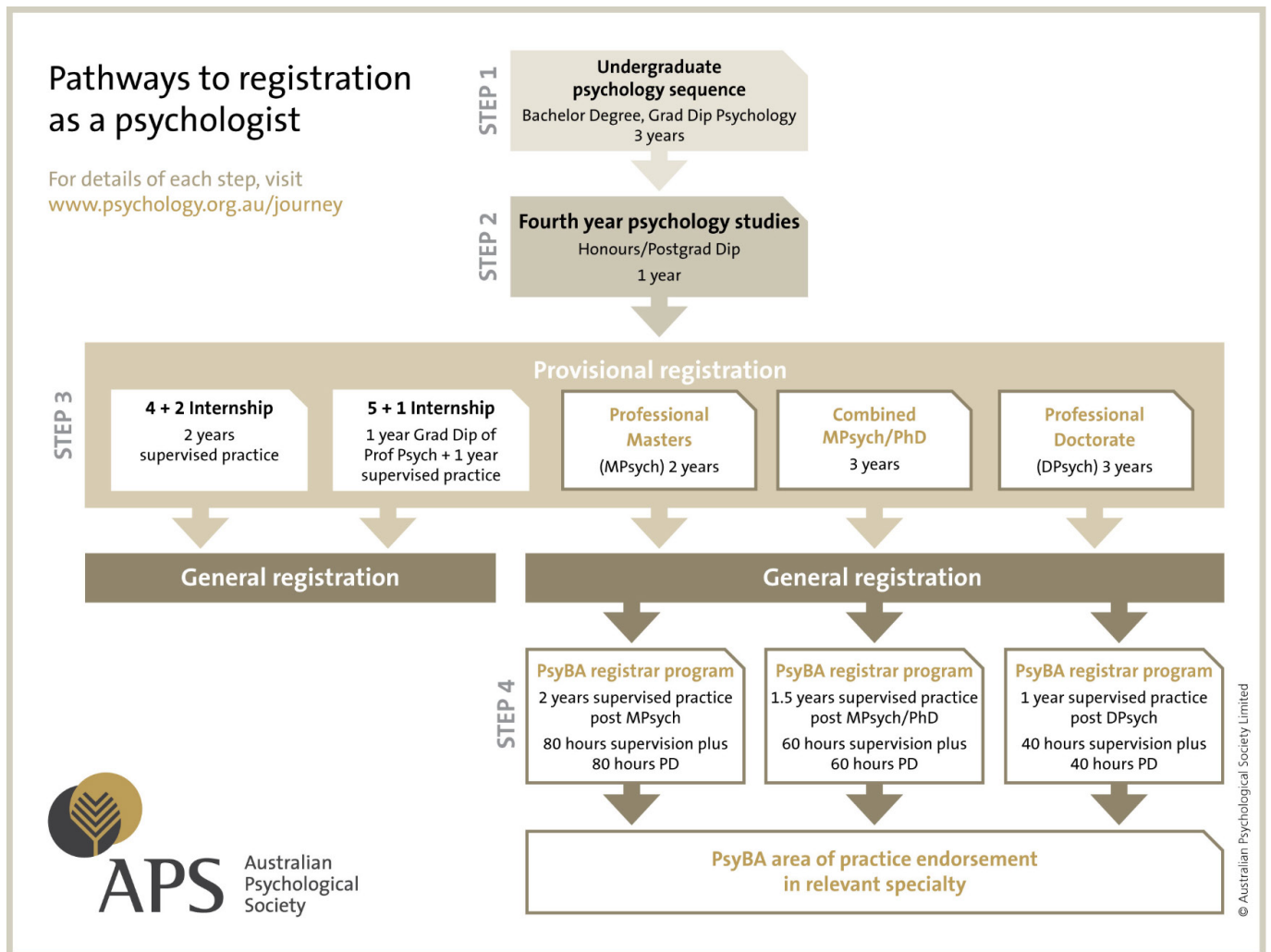
Exceptions to this are overseas-trained psychologists who have been assessed as having equivalent skills and qualifications to an Australian-trained psychologist, and have obtained registration with the Psychology Board of Australia; and psychologists who completed their training prior to the implementation of the NRAS, and joined the register under transitional arrangements.

Multiple pathways exist to becoming a registered psychologist. All pathways commence with four years academic study (three years of undergraduate study, plus either a graduate diploma of psychology or an accredited honours degree). Upon completion of that study, a person can provisionally register as a psychologist. A provisionally registered psychologist can then either complete supervised practice or postgraduate studies to be eligible for general registration.

Figure 1 illustrates the various pathways to general registration as a psychologist.

¹ Australian Psychological Society: <http://www.psychology.org.au/studentHQ/careers/what-does-a-psychologist-do/>

Figure 1: pathway to registration as a psychologist



Once a psychologist is registered with the Psychology Board of Australia, they may also gain endorsement in the following areas of practice: clinical psychology, counselling psychology, forensic psychology, clinical neuropsychology, organisational psychology, sport and exercise psychology, educational and developmental psychology, health psychology and community psychology. Endorsements are used to identify psychologists with additional qualification and advanced supervised practice recognised by the Psychology Board of Australia.

Associations

The Australian Psychological Society (APS)

The APS is the leading professional organisation for psychologists in Australia, with over 21,000 members nationally and a 70-year history. The functions of the APS are conducted through the national office in Melbourne and there are 40 APS branches spread across Australia. There are also nine APS colleges representing expert areas within the profession (clinical neuropsychology, clinical psychology, community psychology, counselling psychology, educational and developmental psychology, forensic psychology, health psychology, organisational psychology, and sport and exercise psychology). The APS also facilitates standards for psychology training and professional practice through a variety of programs and is also responsible for conducting the assessment of overseas-trained psychologists for immigration purposes. The APS also works to raise the international profile of Australian psychology. Advocacy is undertaken with government, public and private bodies, and the media on behalf of the profession.

The Australian Clinical Psychology Association (ACPA)

The ACPA represents clinical psychologists only, who hold postgraduate qualifications in clinical psychology and meet the criteria established by the Psychology Board of Australia for endorsement as clinical psychologists. Roles of the ACPA include advocacy, provision and promotion of training, and supporting the recognition of clinical psychology as a clearly identifiable area of expertise in mental health.

Regulatory and Accreditation bodies

Psychology Board of Australia

The functions of the Board include:

- Registering psychologists and provisional psychologists.
- Developing standards, codes and guidelines for the psychology profession.
- Handling notifications, complaints, investigations and disciplinary hearings.
- Approving accreditation standards and accredited courses of study.

Australian Psychology Accreditation Council (APAC)

The APAC is an independent organisation, appointed by governments as an external accreditation entity under the *Health Practitioner Regulation National Law Act 2009*. APAC's activities include:

- Developing standards for the education and training of psychologists for approval by the Board.
- Assessing higher education providers and the programs of study they offer to determine whether they meet the approved accreditation standards.
- Assessing, accrediting and examining authorities in other countries to determine if graduates of those authorities' exams or programs of study have the knowledge, skills and professional attributes necessary to practice the profession in Australia.

What is known about this workforce?

In workforce planning, the first key step is to understand the existing workforce. In this section, information is presented from a range of sources to describe the existing size and characteristics of the psychologist workforce.

Data sources and limitations

National Health Workforce Dataset (NHWDS)

The NHWDS combines data from the NRAS with psychology workforce survey data collected at the time of annual registration renewal. The psychology workforce survey is administered through the national registration body, the Australian Health Practitioner Regulation Agency, on behalf of Health Workforce Australia. The psychology NHWDS was collected for the first time in 2011, with data for 2011 and 2012 presented in this report. The overall response rate to the psychology workforce survey was 84.7 per cent in 2011 and 84.8 per cent in 2012. As it is a new collection, the NHWDS shows the current characteristics of the psychology workforce.

Australian Bureau of Statistics (ABS) Census of Population and Housing

The census is a descriptive count of everyone who is in Australia on one night, and of their dwellings. Its objective is to accurately measure the number and key characteristics of people who are in Australia on census night, and of the dwellings in which they live. Information in the census is self-reported, meaning information is dependent on individuals' understanding and interpretation of the questions asked. For example, when reporting occupation, a person may self-report as working in a particular occupation, but not necessarily be appropriately qualified/meet registration standards. However the census is able to provide a picture of the changing size and characteristics of the reported psychology workforce over time, which is not currently available through the NHWDS.

ABS Labour Force Survey (LFS)

The ABS LFS provides estimates of the civilian labour force derived from the LFS component of the monthly population survey. As a sample survey, limited detailed information is available to describe the characteristics of people in each occupation. The LFS is better used for determining broad trends over time.

National Psychology Workforce Survey (NPWS)

In 2008, the Council of Psychologists Registration Boards (the forerunner to the Psychology Board of Australia) conducted the NPWS in collaboration with the APS. The aim of the survey was to collect information about the psychology workforce to inform workforce planning, with information collected including work setting, role, service location and client type. The main limitation with this data source is that the survey was a one-off collection and therefore does not allow for trend analysis over time. Additionally, as the data was collected in 2008 its ability to identify the current workforce status is limited.

Department of Immigration and Border Protection (DIBP)

DIBP information is administrative by-product data, reporting the number of temporary and permanent visa applications granted to psychologists.

National Health Workforce Dataset: psychology

As noted, the NHWDS for psychologists was first collected in 2011. Information is collected from psychologists at the time of their annual registration renewal (for most practitioners, registration renewal is due by the end of November). In this section, information focuses on describing the number and characteristics of employed psychologists.

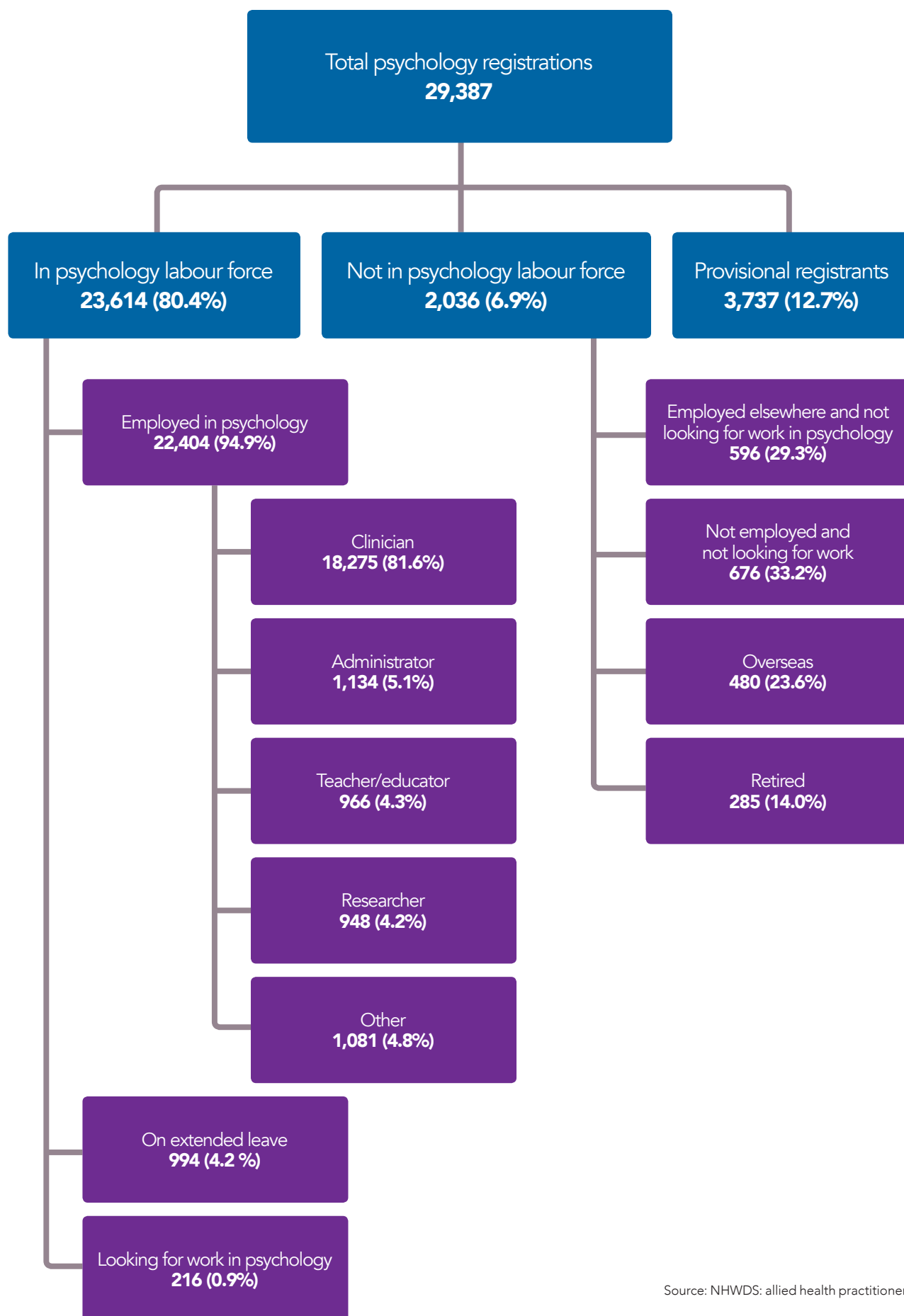
Please note, in the NHWDS, the term 'employed' means a practitioner who worked for a total of one hour or more in the week before the survey in a job or business (including their own business) for pay, commission, payment in kind or profit; or usually worked, but was on leave for less than three months, on strike or locked out, or rostered off.

Labour force status

In 2012, there were 29,387 psychologists registered in Australia, with the majority (80 per cent or 23,614) in the psychology labour force (either working, looking for work, or on extended leave). Of those in the psychology labour force, most (95 per cent or 22,404 psychologists) were working at the time of the survey. Within this, approximately four out of five psychologists were working in a direct client care role (figure 2).

In 2012, 3,737 people held provisional registration as a psychologist. An applicant for provisional registration in psychology must have completed an accredited four-year sequence of psychology study. Provisional registration enables someone to complete years five and six of supervised practice as part of a minimum six-year sequence of study approved by the Board.

Figure 2: registered psychologists by labour force status, 2012



Source: NHWDS: allied health practitioners 2012

Area of endorsement

Under the NRAS, psychologists with additional qualifications or advanced supervised practice can obtain an endorsement on their registration. Nine areas of endorsement are available to psychologists – clinical psychology, counselling psychology, forensic psychology, clinical neuropsychology, organisational psychology, sport and exercise psychology, educational and developmental psychology, health psychology and community psychology. Psychologists may also obtain multiple areas of endorsement. Table 1 details the number of registered psychologists with at least one area of endorsement in 2012.

Table 1: number of employed psychologists by areas of endorsement, 2012

Area of endorsement	2012
Clinical psychology	5,084
Counselling psychology	802
Forensic psychology	414
Clinical neuropsychology	446
Organisational psychology	339
Sport and exercise psychology	77
Educational and development psychology	450
Health psychology	225
Community psychology	44
Clinical psychology and forensic psychology	178
Clinical psychology and counselling psychology	152
Clinical psychology and clinical neuropsychology	103
Clinical psychology and health psychology	92
Clinical psychology and educational and developmental psychology	79
Psychologists with at least one area of endorsement	7,089

Note: Sum of components will not equal total, as psychologists appear in each line where they have an endorsement, and may be included in more than one endorsement type.

Source: NHWDS: allied health practitioners 2012.

Age and gender

The number of employed psychologists increased by four per cent (867 psychologists) between 2011 and 2012. Females accounted for almost all of this increase (813). Psychology is a predominantly female workforce, with females accounting for approximately three-quarters of the workforce in 2011 and 2012.

Table 2: number of employed psychologists by gender, 2011 and 2012

	2011	2012	% increase 2011 to 2012
Male	5,170	5,223	1.0
Female	16,368	17,181	5.0
Persons	21,537	22,404	4.0
% Female	76.0	76.7	..

Source: NHWDS: allied health practitioners 2011 and 2012

Psychologists had an average age of approximately 46 years in 2011 and 2012, and approximately one-quarter of the workforce was aged 55 years or over. Despite males having a substantially older age profile than females – with an average age approximately five years older than females, and over one in three aged 55 years or over compared with almost one in four females – this had little impact on the overall age profile due to the greater number of female psychologists.

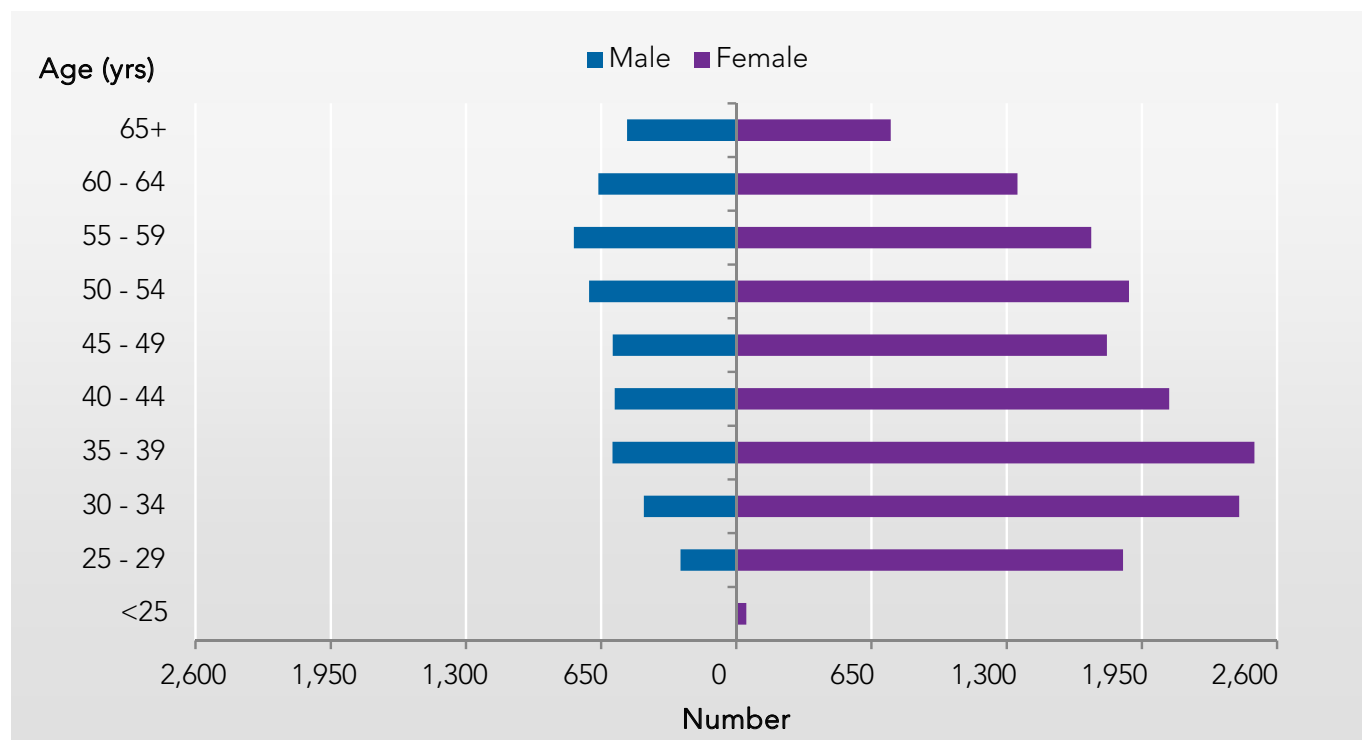
Table 3: employed psychologists, age profile by gender, 2011 and 2012

	Average age (years)		Percentage aged 55 and over	
	2011	2012	2011	2012
Male	49.3	49.6	38.1	38.6
Female	44.1	44.4	23.2	23.4
Persons	45.4	45.6	26.8	26.9

Source: NHWDS: allied health practitioners 2011 and 2012

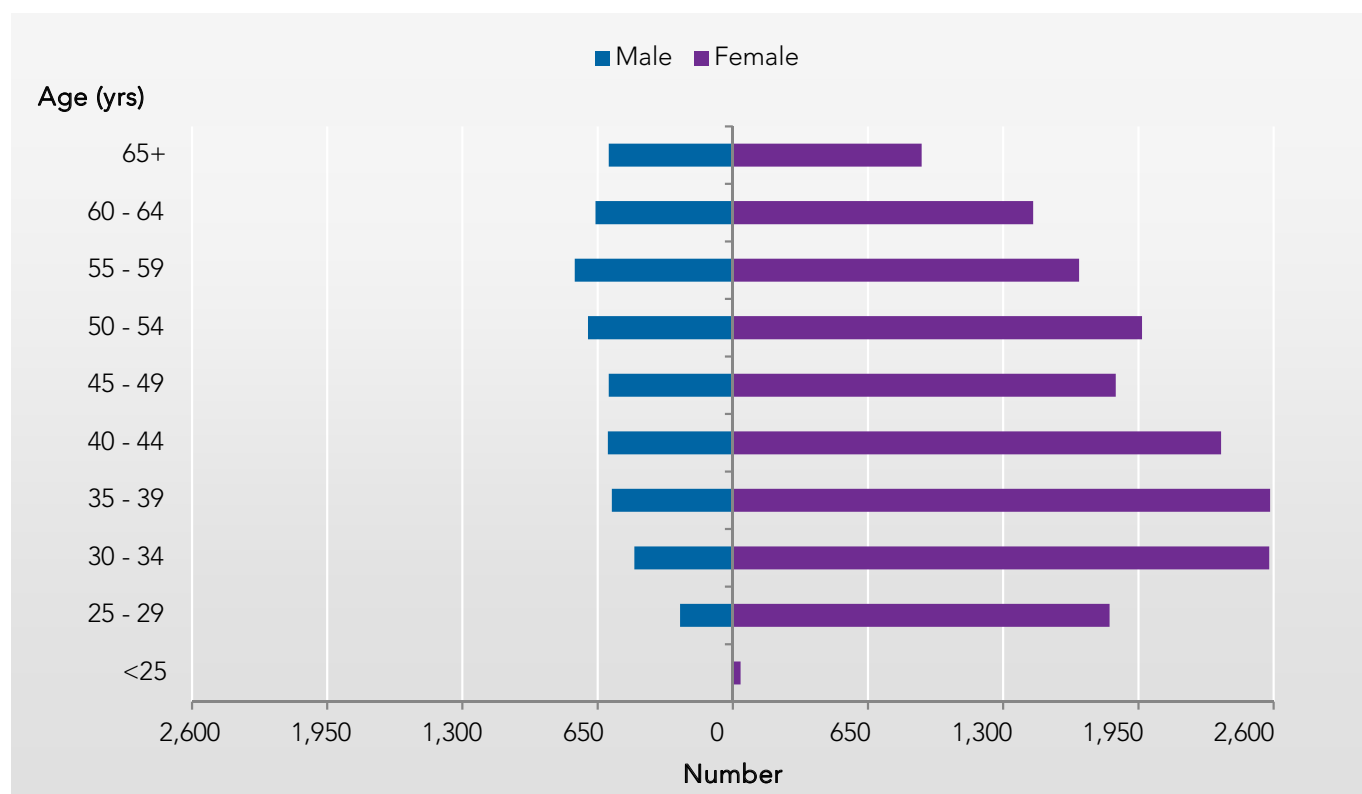
Figures 3 and 4 show the clear majority of females across all age cohorts. An increasing number of older males is also shown, with few males entering the profession in 2011 and 2012.

Figure 3: number of employed psychologists by age cohort and gender, 2011



Source: NHWDS: allied health practitioners 2011

Figure 4: number of employed psychologists by age cohort and gender, 2012



Source: NHWDS: allied health practitioners 2012

Hours worked

In 2012, male psychologists worked on average 4.6 hours more per week than female psychologists (36.2 average weekly hours compared with 31.6). Despite this, total average weekly hours worked (32.6) aligned with those of females due to their greater workforce numbers.

Table 4: employed psychologists, average weekly hours worked and FTE by gender, 2011 and 2012

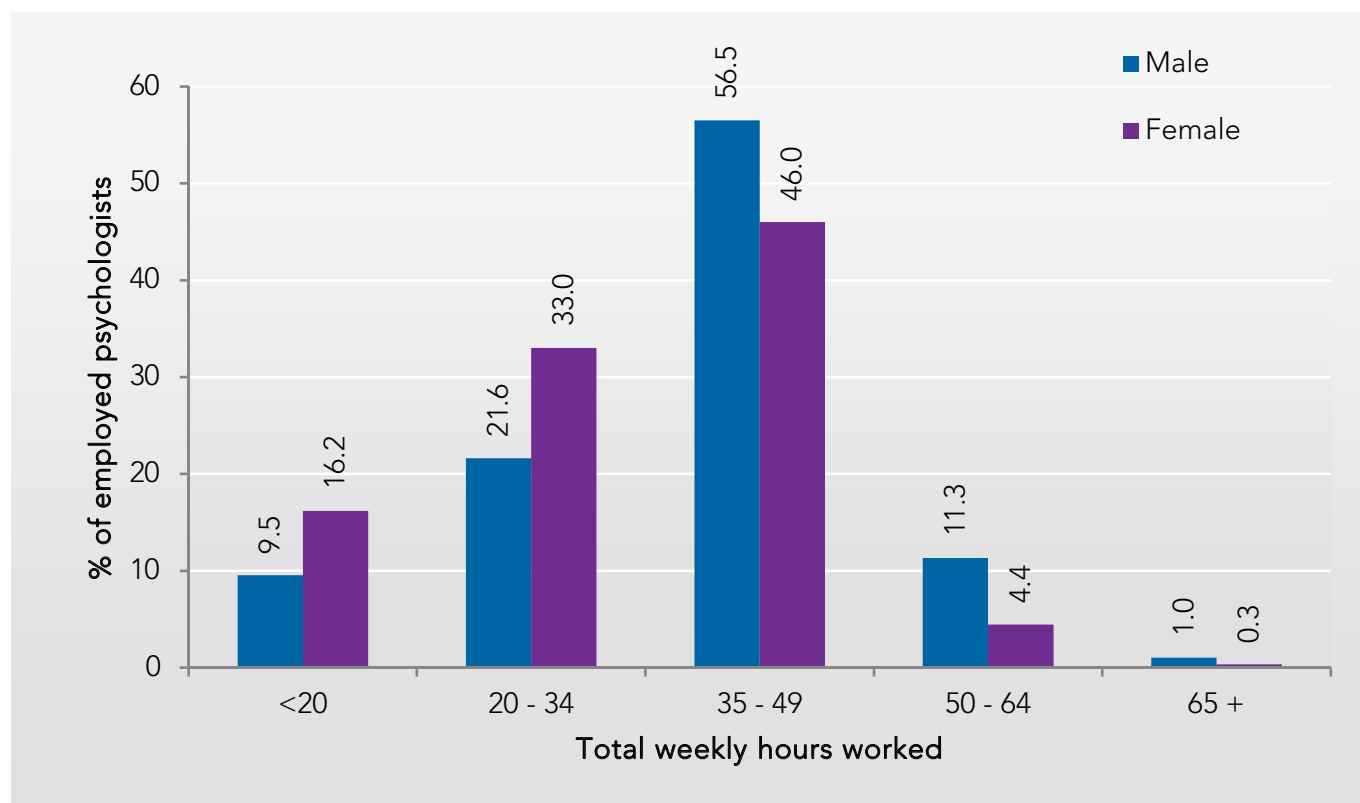
	2011		2012	
	Average weekly hours	Full-time equivalent ^(a)	Average weekly hours	Full-time equivalent ^(a)
Males	36.6	4,979	36.2	4,973
Females	32.1	13,840	31.6	14,270
Persons	33.2	18,819	32.6	19,243

(a) FTE calculated on a 38 hour week.

Source: NHWDS: allied health practitioners 2011 and 2012

Most psychologists worked between 35 and 49 hours per week (56.5 per cent of males and 46.0 per cent of females), with figure 5 also showing higher percentages of females working part-time (less than 35 hours per week), and higher percentages of males working more than 50 hours per week.

Figure 5: employed psychologists by total weekly hours worked, 2012



Source: NHWDS: allied health practitioners 2012

Years worked

In 2012, the average time spent working as a psychologist by individuals was 13.3 years. Psychologists employed in a direct client care role had the lowest average number of years in the profession (12.9 years), while those in a teacher or educator role had the highest number of average years worked in the profession (16.9 years). This potentially reflects career pathways – with psychologists starting their careers in direct client care, before progressing through to administrator and teacher or educator positions.

Table 5: employed psychologists, average years worked by principal role, 2011 and 2012

Principal role	2011	2012
Direct client care role	12.8	12.9
Administrator	16.9	16.0
Teacher or educator	17.0	16.9
Researcher	13.7	13.9
Other	12.9	13.3
Total	13.2	13.3

Source: NHWDS: allied health practitioners 2011 and 2012

Aboriginal and Torres Strait Islander status

Psychologists of Aboriginal and Torres Strait Islander status accounted for less than one per cent of all employed psychologists (table 6). Of these, the gender distribution mirrored that of all employed psychologists – with more females than males.

Table 6: number of employed psychologists reporting Aboriginal and Torres Strait Islander status, 2011 and 2012

	2011	2012
Male	32	26
Female	74	77
Persons	105	103
% of all employed psychologists	0.5	0.5

Source: NHWDS: allied health practitioners 2011 and 2012

Aboriginal and Torres Strait Islander psychologists had an average age of approximately 44 years, slightly less than the average age of all employed psychologists (46 years, refer table 3). The difference in average age between male and female Aboriginal and Torres Strait Islander psychologists was greater than that for all psychologists (approximately nine years compared with five years). This is because female Aboriginal and Torres Strait Islander psychologists had a lower average age (36.7) than all employed female psychologists (44.4).

Table 7: employed psychologists reporting Aboriginal and Torres Strait Islander status, average age and average hours worked, 2011 and 2012

	Average age (years)		Average hours worked	
	2011	2012	2011	2012
Male	48.9	50.4	36.8	36.9
Female	41.4	41.5	36.8	36.7
Persons	43.6	43.7	36.8	36.7

Source: NHWDS: allied health practitioners 2011 and 2012

Country of first qualification

Most employed psychologists completed their first psychology qualification in Australia (92 per cent or 20,675). The most notable differences between psychologists completing their initial psychology qualification in Australia and those completing it overseas, was the higher percentage of females and lower average age of those qualified in Australia.

Table 8: employed psychologists country of first qualification, 2012

Country of initial qualification	Number	Average age	% aged 55+	% female	Average weekly hours worked	FTE ^(a)
Australia	20,675	45.3	26.4	77.3	32.6	17,737
New Zealand	235	47.1	30.8	67.2	35.3	218
Other country	1445	49.5	34.3	69.6	32.7	1,243
Not stated/ inadequately described	49	45.5	19.1	85.7	34.4	45
Total	22,404	45.6	26.9	76.7	32.6	19,243

(a): FTE calculated on a 38 hour week

Source: NHWDS: allied health practitioners 2012

Sector and setting

Table 9 shows the number of psychologists undertaking clinical work in the public and private sectors in 2012. A higher number of psychologists worked in the private sector. Psychologists may undertake clinical work in both the private and public sector. Full-time equivalent (FTE) calculations account for hours worked in each sector, and show that on an FTE basis, more psychologists' clinical work is in the private sector.

Table 9: employed psychologists undertaking clinical work by sector, 2012

	Public	Private
Number ^(a)	10,659	15,408
Clinical FTE ^(b)	5,427	7,352

(a) Psychologists appear in each sector they reported working in and so may be included in both

(b) FTE calculated on a 38 hour week

Source: NHWDS: allied health practitioners 2012

Table 10 demonstrates that psychologists work across a wide and diverse range of settings. The most common setting of employment was solo private practice; however this only accounted for 4,578 psychologists, or approximately one-fifth of all employed psychologists.

Table 10: number of employed psychologists by work setting of main job, 2011 and 2012

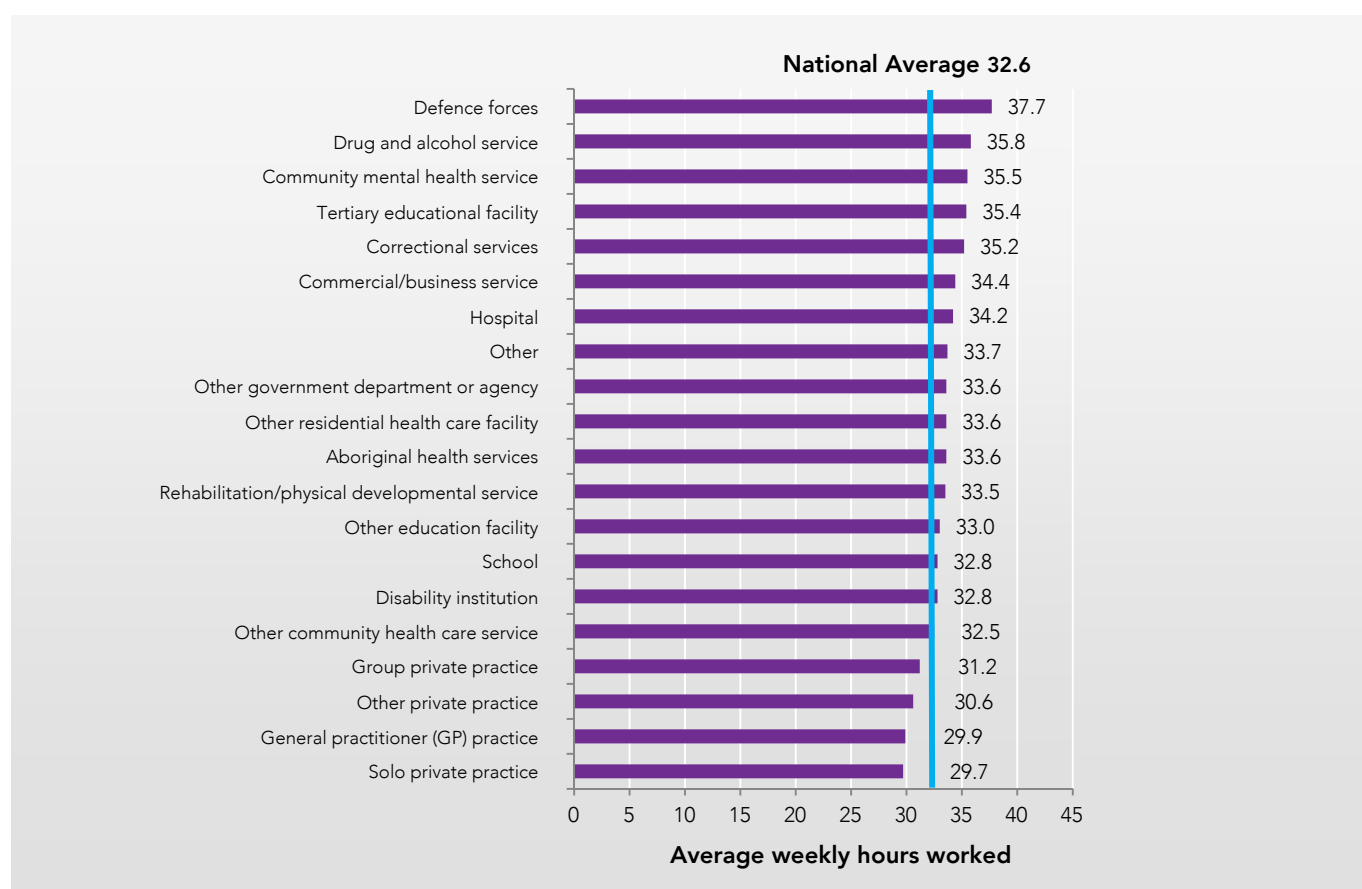
Setting	2011	2012		% change 2011 to 2012
	Number	Number	% of total	
Solo private practice	4,192	4,578	20.4	9.2
Group private practice	2,434	2,726	12.2	12.0
General practitioner (GP) practice	479	546	2.4	14.0
Other private practice	565	504	2.2	-10.8
Aboriginal health services	50	57	0.3	14.0
Community mental health service	1,702	1,793	8.0	5.3
Drug and alcohol service	276	266	1.2	-3.6
Rehabilitation/physical developmental service	270	245	1.1	-9.3
Other community healthcare service	848	1,004	4.5	18.4
Hospital	1,272	1,427	6.4	12.2
Disability institution	223	222	1.0	-0.4
Other residential healthcare facility	55	57	0.3	3.6
Commercial/business services	923	927	4.1	0.4
Tertiary educational facility	1,545	1,572	7.0	1.7
School	2,221	2,364	10.6	6.4
Other education facility	227	240	1.1	5.7
Correctional services	487	492	2.2	1.0

Setting	2011	2012		% change 2011 to 2012
	Number	Number	% of total	
Defence forces	206	193	0.9	-6.3
Other government department or agency	1,570	1,500	6.7	-4.5
Other	951	967	4.3	1.7
Unknown	1,041	727	3.2	-30.2
Total	21,537	22,404	100.0	4.0

Source: NHWDS: allied health practitioners 2011 and 2012

Psychologists in solo private practice worked on average 29.7 hours per week – the lowest of all employment settings. Those in the defence force worked the highest average weekly hours (37.7 hours). However, as highlighted in table 10, psychologists in the defence force accounted for only a small percentage of all employed psychologists, therefore their hours worked had minimal impact on total average weekly hours.

Figure 6: employed psychologists, average weekly hours worked by work setting, 2012



Source: NHWDS: allied health practitioners 2012

Distribution

Information from the NHWDS on the distribution of the psychologist workforce is based on survey respondents' reported location of main job.

State and territory

In 2012, the distribution of employed psychologists generally reflected the distribution of the Australian population, with New South Wales recording the highest number of psychologists (7,700) followed by Victoria (5,964) and Queensland (4,001). Despite higher numbers of employed psychologists in the eastern states, on a number per 100,000 population basis, the Australian Capital Territory had the greatest number of employed psychologists (157.9).

In terms of characteristics of employed psychologists across states and territories:

- Queensland had a younger age profile than other states and territories – recording both the lowest average age (44.3 years) and the lowest percentage of psychologists aged 55 years or more (22.3).
- South Australia had the lowest percentage of female psychologists (71.4).
- The Northern Territory had the highest average weekly hours worked (36.2).

Table 11: selected characteristics of employed psychologists by state and territory, 2011 and 2012

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
2012									
Number	7,700	5,964	4,001	1,145	2,404	404	195	592	22,404
No. per 100,000 population	105.5	105.9	87.6	69.1	98.8	78.9	82.9	157.9	98.7
Average age	45.5	46.1	44.3	46.2	45.8	46.6	46.4	46.3	45.6
% aged 55 and over	27.5	27.9	22.3	29.5	27.9	28.7	30.3	30.2	26.9
Average hours worked	32.4	31.8	33.8	32.6	32.8	32.9	36.2	33.3	32.6
% female	76.9	77.5	76.9	71.4	76.5	76.9	72.7	77.1	76.7
2011									
Number	7,415	5,772	3,782	1,101	2,301	395	168	602	21,537
No. per 100,000 population	102.7	104.2	84.5	67.1	97.8	77.2	72.6	163.6	96.4
% change in number 2011 to 2012	3.8	3.3	5.8	4.0	4.5	2.3	16.1	-1.7	4.0

Source: NHWDS: allied health practitioners 2011 and 2012, ABS, Australian Demographic Statistics, Dec 2012, cat. no. 3101.0

Remoteness area

The remoteness area (RA) structure is a geographic classification system produced by the ABS and is used to present regional data. The RA categories are defined in terms of the physical distance of a location from the nearest urban centre (access to goods and services) based on population size.

Approximately four out of every five psychologists (82 per cent) worked in major cities, while psychologists in remote or very remote locations accounted for less than one per cent of employed psychologists. Between 2011 and 2012 all remoteness areas experienced increases in the number of employed psychologists, and the number of employed psychologists per 100,000 population.

Table 12: selected characteristics of employed psychologists by remoteness area, 2011 and 2012

	Major cities	Inner regional	Outer regional	Remote ^(a)	Very remote ^(a)	Australia
2012						
Number	18,385	2,766	1,022	138	60	22,404
No. per 100,000 population	115.1	66.5	49.9	43.3	29.1	98.7
Average age	45.2	48.0	46.4	44.3	43.5	45.6
% aged 55 and over	25.7	34.5	29.3	24.4	19.2	26.9
Average hours worked	32.5	32.7	34.0	34.3	35.1	32.6
% female	77.1	73.5	76.6	80.0	84.2	76.7
2011						
Number	17,689	2,629	1,005	131	54	21,537
No. per 100,000 population	112.8	64.0	49.6	41.6	26.6	96.4
% change in number 2011 to 2012	3.9	5.2	1.7	5.3	11.1	4.0

(a) Care should be taken when interpreting the figures for Remote and Very remote areas due to the relatively small number of employed psychologists who reported their main job location was in these regions.

Source: NHWDS: allied health practitioners 2011 and 2012, ABS, Regional Population Growth, Australia, 2012, cat. no. 3218.0.

Medicare local regions

In 2011 the Australian government established 61 Medicare Locals across Australia. The Commonwealth government funds these organisations to plan, fund and deliver healthcare services at a local level, with each Medicare Local covering a defined geographic area.

Table 13 shows the Medicare Local regions with the highest and lowest rate of employed psychologists per 100,000 population, by primary place of work (a full list of Medicare Locals is included as appendix 1). Please note, data in this table shows the number of psychologists per 100,000 population working in the relevant Medicare Local region, and provides a useful reflection of the geographical distribution of psychologists – it does not reflect psychologists employed by Medicare Local organisations.

Table 13: number of employed psychologists per per 100,000 population by selected Medicare Local regions, 2012

Highest			Lowest		
State/ Territory	Medicare Local	Rate	State/ Territory	Medicare Local	Rate
VIC	Inner North West Melbourne	345.1	SA	Country North SA	15.1
NSW	Eastern Sydney	328.0	SA	Country South SA	17.9
WA	Perth Central and East Metro	220.3	VIC	Lower Murray	32.8
ACT	Australian Capital Territory	157.9	SA	Northern Adelaide	35.8
QLD	Metro North Brisbane	149.5	VIC	Goulbourn Valley	37.9

Source: NHWDS: allied health practitioners 2012

ABS Census of Population and Housing

While the NHWDS provides a picture of the number and characteristics of the current psychologist workforce, historical information showing trends in the psychology workforce is not available from this source (although as it is an annual collection, this is a short-term issue only). The census is the prime data source currently available to show changes in the psychologist workforce over time.

The ABS uses the Australian and New Zealand Standard Classification of Occupations (ANZSCO) for the collection, publication and analysis of occupational statistics. Within ANZSCO, psychologists are defined as those who 'investigate, assess and provide treatment and counselling to foster optimal personal, social, educational and occupational adjustment and development.' ANZSCO also notes that most occupations in this group have a level of skill commensurate with a bachelor degree or higher qualification, with relevant experience and/or on-the-job training required in addition to the formal qualification in some instances.

Please note, information is presented for people who self-reported as employed psychologists in the census (regardless of level of education). This includes those people working for an employer, or conducting their own business, including those with their own incorporated company as well as sole traders, partnerships and contractors. Also, the ABS randomly adjusts cells to avoid the release of confidential data, so there can be slight discrepancies in totals when comparing census tables.

Age and gender

The number of employed psychologists experienced substantial growth from 1996 to 2011, more than doubling from 6,959 to 18,603 (table 14). Most of this growth was in employed female psychologists. In 1996, approximately two-thirds of employed psychologists were female, and by 2011 this had increased to more than three-quarters (up 9,861 psychologists).

Table 14: number of employed psychologists by gender, 1996 to 2011

	1996	2001	2006	2011	% increase 1996 to 2011
Males	2,326	2,622	3,305	4,109	76.7
Females	4,633	6,712	10,132	14,494	212.8
Persons	6,959	9,334	13,437	18,603	167.3
% female	66.6	71.9	75.4	77.9	..

Source: ABS Census of Population and Housing, 1996 to 2011

Table 15 shows a substantial increase in the percentage of employed psychologists aged 55 or over between 1996 and 2011. This rise was particularly evident amongst males – with those aged 55 or more rising from 12.9 per cent of employed male psychologists in 1996 to 35.5 per cent in 2011.

Table 15: employed psychologists, age profile by gender, 1996 and 2011

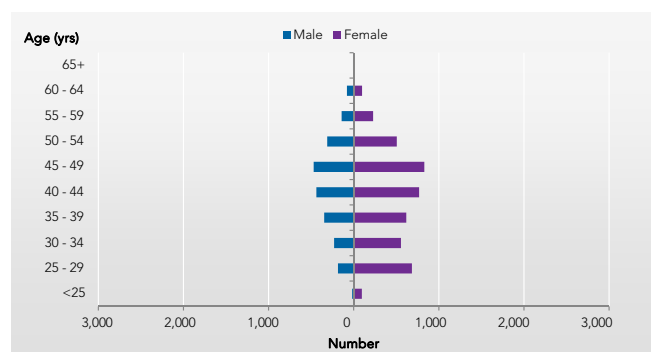
	Average age		Per cent aged 55 and over	
	1996	2011	1996	2011
Males	n.a	47.9	12.9	35.5
Females	n.a	42.8	8.4	21.1
Persons	n.a	44.0	9.9	24.4

n.a. not available

Source: ABS Census of Population and Housing, 1996 and 2011

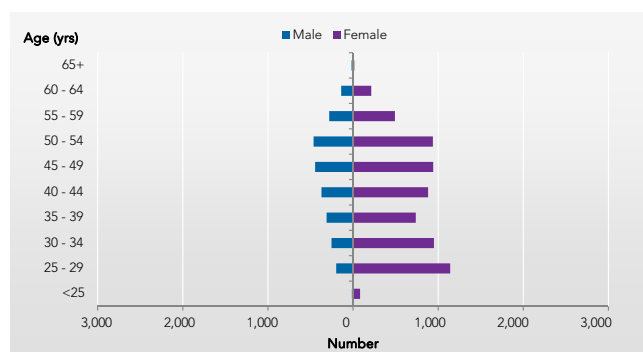
Figures 7 to 10 show a detailed age and gender breakdown of employed psychologists for each selected census year. The higher number of females compared with males is reflected, along with higher numbers of younger female psychologists entering the workforce over time.

Figure 7: number of employed psychologists by age and gender, 1996



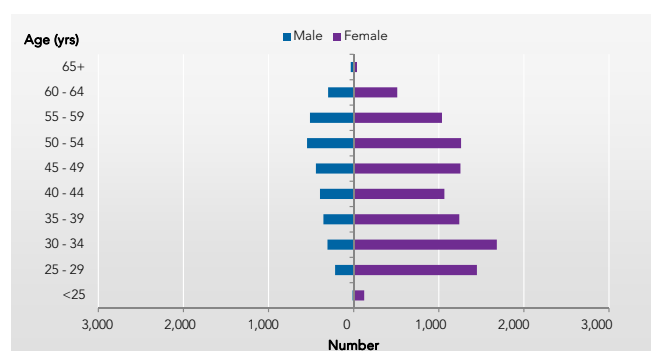
Source: ABS Census of Population and Housing, 1996

Figure 8: number of employed psychologists by age and gender, 2001



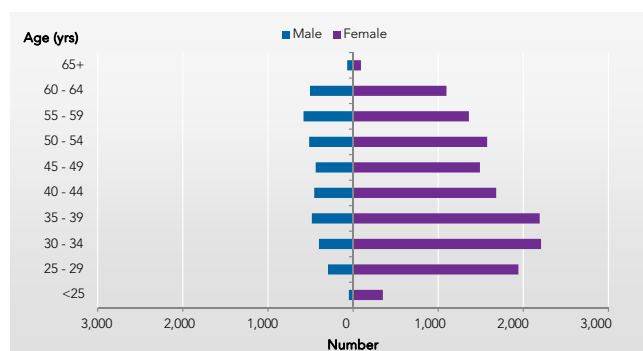
Source: ABS Census of Population and Housing, 2001

Figure 9: number of employed psychologists by age and gender, 2006



Source: ABS Census of Population and Housing, 2006

Figure 10: number of employed psychologists by age and gender, 2011

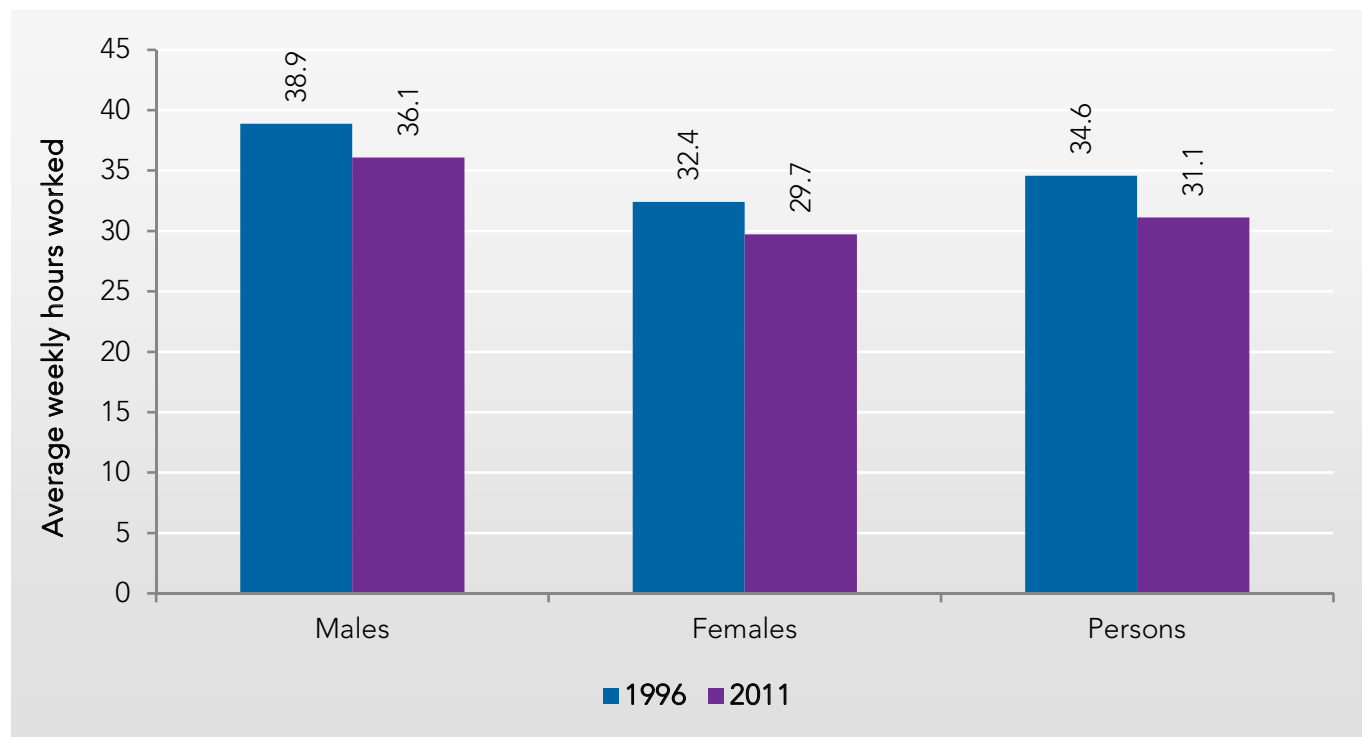


Source: ABS Census of Population and Housing, 2011

Hours worked

Average weekly hours worked reduced by approximately three hours per week from 1996 (34.2) to 2011 (31.1). The fall in average weekly hours was more pronounced for males (falling 3.8 hours per week) than females (falling 2.7 hours per week) (figure 11).

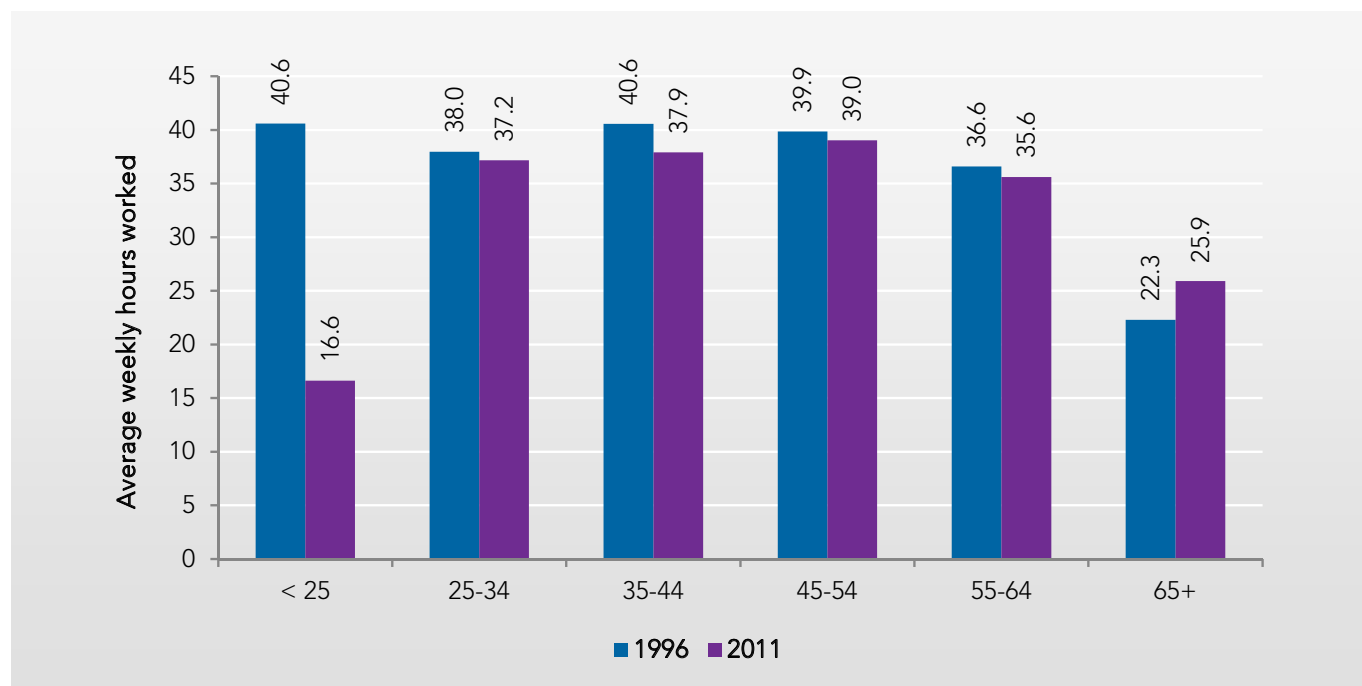
Figure 11: employed psychologists, average weekly hours worked, 1996 and 2011



Source: ABS Census of Population and Housing, 1996 and 2011

Reductions in male average weekly hours worked occurred across all age cohorts from 1996 to 2011, except those aged 65 years or more (figure 12). Most reductions were minor, apart from a substantial decrease of 24.0 hours per week for males aged less than 25. However this fall should be treated with caution due to the low number of people in this age group.

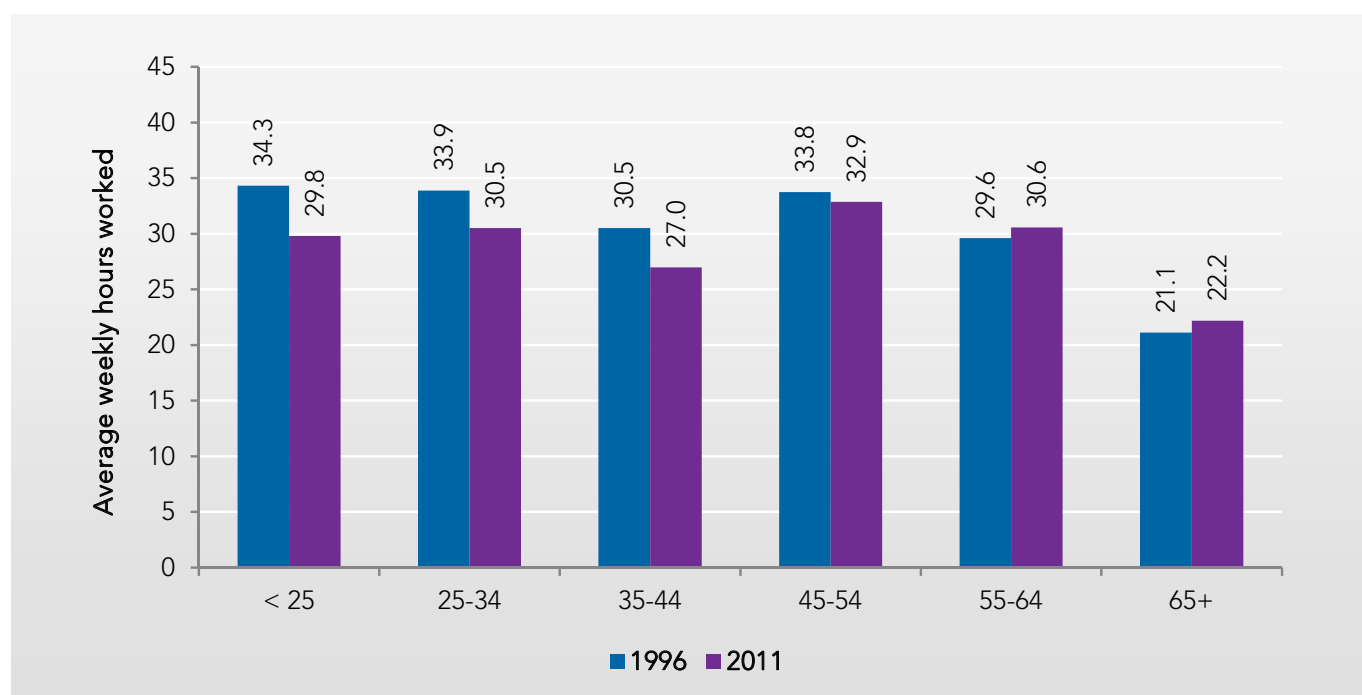
Figure 12: employed male psychologists by age and average hours worked, 1996 and 2011



Source: ABS Census of Population and Housing, 1996 and 2011

Reductions in female average weekly hours worked occurred in each of the four youngest age cohorts, with small increases in average weekly hours worked in the two older age cohorts (figure 13). Between 1996 and 2011, falls in hours worked of more than three hours per week were recorded for females aged less than 25, 25-34 and 35-44.

Figure 13: employed female psychologists by age and average hours worked, 1996 and 2011



Source: ABS Census of Population and Housing, 1996 and 2011

Aboriginal and Torres Strait Islander status

Over the four selected census years, there were low (albeit increasing) numbers of employed psychologists of Aboriginal and Torres Strait Islander status. In 2011, less than one per cent of employed psychologists reported as Aboriginal and Torres Strait Islander people.

Table 16: number of employed psychologists by Aboriginal and Torres Strait Islander status, 1996 to 2011

	1996	2001	2006	2011
Aboriginal and Torres Strait Islander	9	33	52	92
Non-Aboriginal and Torres Strait Islander	6,882	9,236	13,346	18,444
Total^(a)	6,925	9,321	13,437	18,602

(a) Includes Aboriginal and Torres Strait Islander status not stated

Source: ABS Census of Population and Housing, 1996 and 2011.

Country/region of birth

In 1996 and 2011 most employed psychologists were Australian-born (approximately 72 per cent in 1996 and 73 per cent in 2011). The United Kingdom remained the second highest region of birth in both years (table 17).

Table 17: employed psychologists – top five countries/regions of birth, 1996 and 2011

1996			2011		
Country/region of birth	Number	%	Country/region of birth	Number	%
Australia	5,011	72.4	Australia	13,554	72.9
United Kingdom	631	9.1	North West Europe	1,332	7.2
Northern America	186	2.7	United Kingdom	636	3.4
Western Europe	185	2.7	Sub-Saharan Africa	379	2.0
New Zealand	143	2.1	Southern and East Africa	355	1.9
Other countries	1,032	2.1	Other countries	2,340	12.6
Total^(a)	7,188	100	Total^(a)	18,596	100

(a) Includes inadequately described and not stated.

Source: ABS Census of Population and Housing, 1996 and 2011

Education

While the NHWDS provides insight into the roles and work settings that registered psychologists are employed in, it does not provide information on the levels of qualification held by psychologists. Census data provides an indicator of the types of qualifications held by those who self-reported as a psychologist, and also provides information about the occupation of those who have qualifications in psychology but are not working as a psychologist.

Table 18 shows the number of people who reported their highest level of qualification in psychology, by the type of qualification and the occupation they reported as working in at the time of the census.

Of those who reported their highest qualification in psychology, most (35,413) reported working as a professional, and within this, almost half (46 per cent or 16,549) reported working as a psychologist.

Most people with their highest level of qualification in psychology reported a postgraduate degree as their highest level of qualification (9,638 psychologists or 58 per cent).

It should be noted current registration standards generally require a psychologist to have completed an accredited training pathway in psychology (refer to 'how are psychologists trained?'). Those people who self-reported as a psychologist with a certificate or advanced diploma and diploma, or those with a Bachelor degree who have not completed honours and two years supervised practice (which are not identifiable in census data), are unlikely to be currently registered as a psychologist. The only exceptions would be those who gained registration under transitional arrangements during the implementation of the NRAS, or are overseas-trained psychologists who have been assessed as having equivalent skills and qualifications as an Australian-trained psychologist.

Table 18: Employed persons, highest level of qualification in psychology by type of qualification and occupation, 2011

Occupation	Highest level of qualification					Total ^(a)
	Postgraduate degree	Graduate diploma and graduate certificate	Bachelor degree	Advanced diploma and diploma	Certificate	
Managers	1,490	766	4,573	182	33	7,084
Professionals	14,733	4,557	15,331	519	39	35,413
<i>Psychologists</i>	<i>9,638</i>	<i>2,313</i>	<i>4,252</i>	<i>215</i>	<i>0</i>	<i>16,549</i>
Clerical and administrative workers	646	636	5,869	255	80	7,537
Other occupations	838	762	7,793	548	171	10,231
Total	17,707	6,721	33,566	1,504	323	60,265

(a) Includes level of education inadequately described and level of education not stated.

Source: ABS Census of Population and Housing 2011

Sector of employment

Table 19 shows more psychologists worked in the private sector than the public sector in each selected census year. Greater growth in private sector employment is also highlighted – just over half (52 per cent or 3,591) of all employed psychologists worked in the private sector in 1996, rising to over two-thirds (68 per cent or 12,719) in 2011.

Of those psychologists working in the public sector, most worked in state and territory government (table 19).

Table 19: number of employed psychologists by sector, 1996 to 2011

Sector	1996	2001	2006	2011
Commonwealth government	483	888	1,221	1,193
State and territory government	2,748	2,748	3,290	4,622
Private	3,591	5,534	8,886	12,719
Total^(a)	6,932	9,280	13,444	18,598

(a) Includes local government and sector not stated.

Source: ABS Population of Census and Housing, 1996 to 2011

Psychologists were predominantly employed in the healthcare and social assistance industry across each selected census year. Of those working in this industry, hospitals (excluding psychiatric hospitals) and other allied health services were the two main settings. Education was the second largest industry of employment for psychologists (table 20).

Table 20: number of employed psychologists by industry, 1996 to 2011

Industry	1996	2001	2006	2011
Healthcare and social assistance	4,331	5,224	8,547	13,043
<i>Hospitals (except psychiatric hospitals)</i>	611	697	1,897	2,367
<i>Other allied health services</i>	1,973	3,044	3,737	7,823
<i>Other healthcare and social assistance</i>	1,747	1,483	2,913	2,853
Education	1,363	1,100	2,103	2,413
Other industries	1,199	3,700	2,795	3,135
Total	6,893	9,327	13,445	18,591

Source: ABS Population of Census and Housing, 1996 to 2011

Distribution

Information from the census on the distribution of the psychologist workforce is based on place of usual residence (not place of work).

State and territory

Table 21 shows selected characteristics of employed psychologists by state and territory. From 2006 to 2011, both the number of employed psychologists, and the number of employed psychologists per 100,000 population increased across all states and territories. New South Wales recorded the largest increase in employed psychologists, in both number (up 2,122) and number per 100,000 population (up 25.1).

Table 21: selected characteristics of employed psychologists by state and territory, 2006 and 2011

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
2011									
Number	6,455	5,026	3,107	1,001	2,089	349	128	445	18,600
No. per 100,000 population	89.4	90.8	69.4	61.1	88.8	68.2	55.3	120.9	83.3
Average age	43.9	44.8	42.6	44.5	44.1	44.2	41.0	44.6	44.0
% aged 55 and over	24.7	26.0	19.9	27.2	24.3	23.5	21.1	27.0	24.3
Average hours worked	30.9	30.3	32.5	32.2	30.2	32.3	38.7	32.6	31.1
% female	78.2	79.2	76.8	72.3	79.1	78.5	66.9	77.1	77.9
2006									
Number	4,333	3,766	2,428	746	1,437	261	108	359	13,438
No. per 100,000 population	64.3	74.4	60.6	48.1	70.1	53.3	51.7	107.1	65.7
% change in number 2006 to 2011	49.0	33.5	28.0	34.2	44.5	33.7	18.5	24.0	38.4

Source: ABS Census of Population and Housing, 2006 and 2011, ABS, Australian Demographic Statistics, Dec 2012, cat. no. 3101.0

Remoteness area

A measure of workforce availability is the ratio between the number of psychologists and an area's population (noting there is no agreed ideal workforce to population ratio). In both selected census years, major cities had the highest rate of psychologists per 100,000 population (75.0 in 2006 and 94.7 in 2011). This rate was noticeably higher than all other remoteness areas.

Across all remoteness areas, the number of employed psychologists per 100,000 population increased between 2006 and 2011. This resulted in a national increase of almost 20 psychologists per 100,000 population between the two periods.

Table 22: Selected characteristics of employed psychologists by remoteness area, 1996 and 2011

	Major cities	Inner regional	Outer regional	Remote ^(a)	Very remote ^(a)	Australia ^(b)
2011						
Number	14,854	2,671	922	120	24	18,606
Number per 100,000	94.7	65.0	45.5	38.1	11.8	83.3
Average age	43.5	46.1	44.6	44.3	44.9	44.0
% aged 55 and over	28.6	33.0	25.5	30.6	23.1	24.4
Average hours worked	30.9	31.5	32.9	36.2	32.1	31.1
% female	78.4	75.1	78.3	75.9	66.7	77.9
2006						
Number	10,656	1,974	699	77	19	13,440
Number per 100,000	75.0	51.6	32.3	25.7	10.4	64.9
% change 2006 to 2011	39.4	35.3	31.9	55.8	26.3	38.4

(a) Care should be taken when interpreting the figures for Remote and Very remote areas due to the relatively small number of employed psychologists who reported their usual residence was in these regions.

(b) Includes migratory and no usual residence

Source: ABS Census of Population and Housing, 1996 and 2011, ABS, Regional Population Growth, Australia, 2012, cat. no. 3218.0.

National Psychology Workforce Survey

The National Psychology Workforce Survey (NPWS) was conducted in 2008 by the Council of Psychologists Registration Boards (the forerunner to the Psychology Board of Australia) in collaboration with the APS. The aim of the survey was to collect information about the psychology workforce to inform workforce planning, with information collected including work setting, role, service location and client type.

Information presented in this section is primarily extracted from the article 'The Australian Psychology Workforce 1: A national profile of psychologists in practice'².

Education³

The NPWS established that of registered psychologists:

- 33 per cent held an honours degree.
- 26 per cent held a masters degree.
- 13 per cent held doctoral or PhD qualifications.
- With the remainder being provisional registrants.

² Mathews R, Stokes D, Crea K and Grenyer B (2010) 'The Australian Psychology Workforce 1: A national profile of psychologists in practice', Australian Psychologist, 45:3, 154-167

³ Information provided through personal communication, The Australian Psychological Society, October 2013.

Work sector and setting

The NPWS asked about the work sector and setting of psychologists working in psychological roles, including capturing information on second jobs psychologists may work in.

In terms of sector, the survey found psychologists' main jobs were distributed relatively evenly across the public (48 per cent) and private (52 per cent) sectors.

Over one-quarter (28 per cent) of psychologists participating in the survey had a second job in a psychological role in addition to their main job. Psychologists were predominantly working in independent private practice in both their main and second job (table 23).

Table 23: number and percentage of respondents by work settings for main, second jobs and combined main and second jobs.

Work setting	Main Job	%	Second job	%	Main and second job combined	%
Independent private practice	2,534	31.4	1215	53.3	3,751	36.2
School sector	979	12.1	76	3.1	1,055	10.1
Tertiary education	691	8.6	272	12.0	963	9.3
Corporate/commercial	557	6.9	106	4.6	663	6.4
Community mental health service	566	7.0	65	2.7	631	5.6
Not-for-profit organisation	475	5.9	107	4.6	582	5.5
Government department (not listed elsewhere)	383	4.8	48	2.1	431	4.2
Hospital (mental health)	307	3.8	56	2.5	363	3.5
Hospital (general health)	287	3.6	63	2.7	350	3.4
Community health service	304	3.8	44	1.8	348	3.4
Disability service	255	3.2	16	0.7	271	2.6
Justice/corrective service	220	2.7	25	1.1	245	2.4
Drug/alcohol treatment service	139	1.7	14	0.6	153	1.6
Defence	74	0.9	49	2.2	123	1.3
Primary care/GP clinic (employee of)	91	1.1	32	1.4	123	1.3
Other	201	2.2	83	3.4	285	2.7
Missing	23	0.3	28	1.2	51	0.5
Total	8,086	100.0	2271	100.0	10,337	100.0

Source: 2008 National Psychology Workforce Survey.

Distribution

The NPWS identified the distribution of psychologists by location of practice. Table 24 shows major cities were the most common work location for psychologists (77 per cent), with approximately 23 per cent of psychologists providing services outside of major cities.

Table 24: location of respondents based on area of work

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia ^(a)
Number	7,019	1,361	595	55	21	9,051
Per cent	77.5	15.0	6.6	0.6	0.2	100.0

(a) Some respondents reported practising in more than one locality

Source: 2008 National Psychology Workforce Survey.

ABS Labour Force Survey

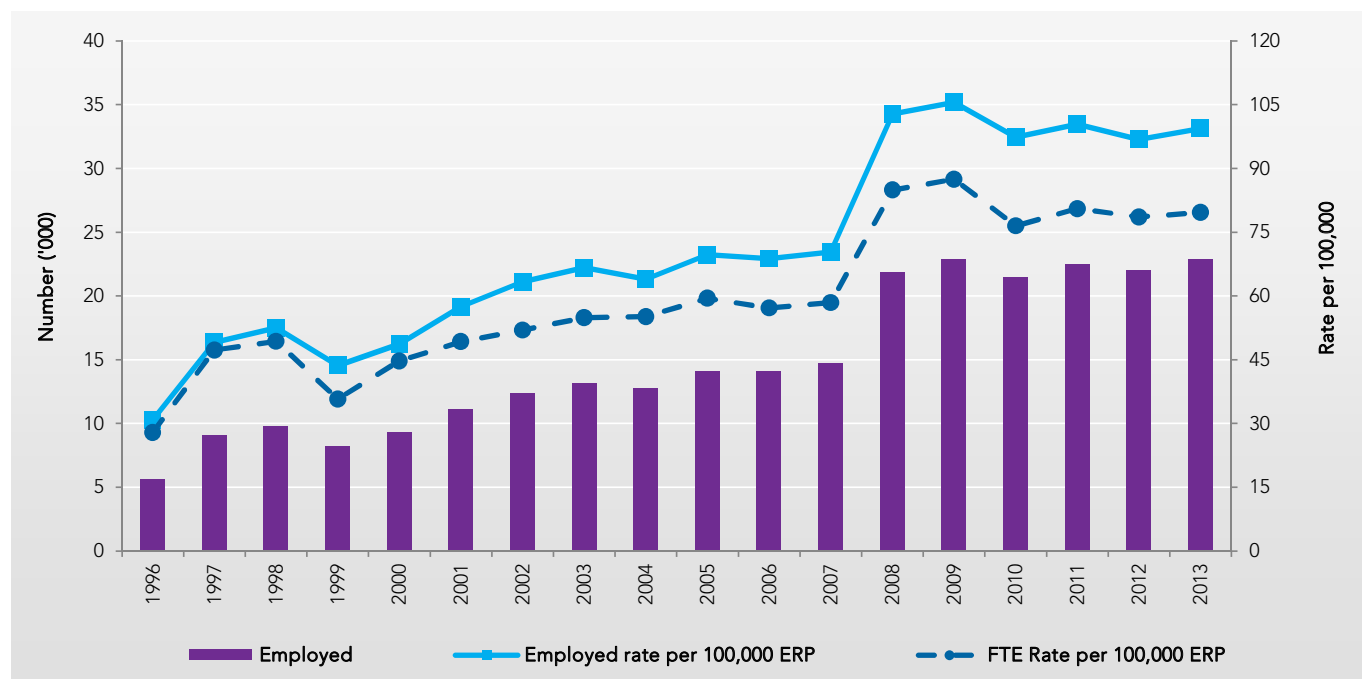
While the Census occurs every five years, the ABS Labour Force Survey (LFS) is conducted monthly, and every quarter more detailed information is asked on occupation. Figure 14 presents annualised quarterly ABS LFS data, showing trends in the number of employed psychologists over time.

The ABS LFS shows, over the period from 1996 to 2013, that:

- The number of employed psychologists generally increased, with an average annual growth rate of 8.6 per cent.
- The number of employed psychologists per 100,000 population had an average annual growth of 7.1 per cent, and also spiked sharply between 2007 and 2008.
- The FTE rate per 100,000 (calculated using a 38 hour week) had the lowest average annual rate of increase over the period (6.4 per cent).

Figure 14 shows the FTE rate aligned closely with the employed rate until 1998, after which the two rates diverged. This reflects the falling average weekly hours worked of employed psychologists over time.

Figure 14: employed psychologists – number, number per 100,000 and FTE per 100,000, 1996 to 2013.



Source: ABS, Labour Force, Australia, Detailed Quarterly, Feb 2013. Cat. no. 6291.0.55.003. Data cube E08

According to the LFS, psychologists' average weekly hours have decreased over time – from 38.9 hours per week in 1996 to 32.8 in 2012. This reduction was almost exclusively the result of the substantial reduction in male average weekly hours worked (of more than 10 hours per week) from 1996 to 2012.

Table 25: employed psychologists, average weekly hours by gender, selected years

	1996	2000	2004	2008	2012
Males	43.5	39.9	36.6	36.9	37.9
Females	31.3	32.8	30.9	30.1	28.3
Persons	34.4	34.9	32.8	31.4	30.8

Source: ABS, Labour Force, Australia, Detailed Quarterly, Nov 2012. Cat. no. 6291.0.55.003. Data cube E08

Workforce inflows

Information on workforce inflows is an important component of workforce planning, to understand how many people are entering the workforce. There are two primary streams to become a psychologist in Australia – through the education system and through immigration. Information available on both streams is presented in this section.

Students

For the education stream, information collated by AHPRA on provisionally registered psychologists is presented. While information is available from the Department of Education on student commencements and completions with psychology as a field of education; this includes many students who major in psychology but do not pursue registration as a psychologist. Therefore only the AHPRA information is presented as the better guide to future workforce entrants.

Provisionally registered psychologists

As outlined earlier, a person needs to complete an accredited program of study to become a psychologist in Australia. Students gaining a qualification that enables them to practise as a registered health professional usually do periods of clinical practice (involving direct patient contact) as a part of their course of study. In the interests of public safety, Health Ministers agreed that monitoring of students undertaking clinical practice is reasonable, and in line with the monitoring of fully qualified health professionals. The Psychology Board of Australia uses provisional registration for this purpose rather than student registrations⁴. Psychologists wishing to apply for provisional registration must do so either at the beginning of the 4+2 internship program or their higher degree pathway.

Table 26 shows that in 2012, there were 3,737 provisionally registered psychologists nationally. Approximately one-third of all provisional registrations were in Victoria (34.0 per cent), followed by New South Wales (26.1 per cent) and Queensland (19.0 per cent).

Like general registrants, provisionally registered psychologists were mostly female (83.6 per cent). Given the older demographic of male psychologists, combined with the high percentage of female provisional registrants, it is likely females will continue to comprise an increasing percentage of the psychologist workforce.

Table 26: number of provisionally registered psychologists by state and gender, 2012

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS ^(a)
Males	169	208	124	22	71	0	3	16	613
Females	808	1,062	587	128	371	62	18	84	3,124
Total	977	1,270	711	150	442	62	21	100	3,737
% female	82.7	83.6	82.6	85.3	83.9	100.0	85.7	10.5	83.6

(a) includes location unknown

Source: NHWDS: allied health practitioners 2012

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Immigration

Psychology appears on the skilled occupation list and on the consolidated sponsored occupation list. This means that psychologists can migrate to Australia independently or through sponsored programs including employer, state and territory or regional sponsored schemes.

As part of migrating to Australia, overseas-trained psychologists must have their skills assessed by the APS, to demonstrate their competence to practice according to professional standards in Australia.

In addition to obtaining a visa, overseas-qualified psychologists wishing to practise in Australia are required to register with the Psychology Board of Australia, and undergo a separate assessment process for this (conducted by the APS).

Temporary visa grants

Table 27 shows that few temporary visas (relative to the size of the workforce) were granted to psychologists over the eight years to 2012-13, with grants fluctuating year on year. Almost all temporary visas were granted under the subclass 457 temporary work (skilled) pathway.

Table 27: temporary visa grants by subclass, 2005-06 to 2012-13

Visa category	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12	2012-13
442 occupational trainee	4	3	4	6	0	3	0	3
457 temporary work (skilled)	23	19	38	49	24	38	35	25
Total	27	22	42	55	24	41	35	28

Source: Department of Immigration and Border Protection administrative data.

Permanent visa grants

For permanent visa grants, most visas were granted under the skilled independent pathway. This pathway operates on a points system and does not require employer or state or territory sponsorship.

Table 28: permanent visa grants^(a) by visa type, 2005-06 to 2012-13

Visa Category	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12	2012-13
Skilled independent	56	32	39	47	3	99	61	69
Skilled regional	7	4	7	7	0	15	12	6
State/territory nominated	6	4	0	6	12	10	18	9
Employer sponsored	5	6	9	13	15	9	19	10
Total^(b)	74	46	58	76	30	133	110	94

(a) Including provisional visas

(b) Includes visas granted under the Business Innovation and Investment and the Distinguished Talent streams

Source: Department of Immigration and Border Protection administrative data.

On 1 July 2012, SkillSelect was implemented, a process where a person wanting to migrate to Australia first completes an expression of interest (EOI); and an invitation to apply for a visa is extended to people with an EOI, in order of those who scored the most points. Caps on the number of visa grants allowed for each occupation have been implemented from 1 July 2012. This is in contrast to the previous process where there were no caps, and anyone could submit an application without being invited to apply. The impact of these changes on skilled independent immigration numbers is yet to be seen.

How can workforce activity be measured?

As well as understanding the existing workforce stock and having an indication of how many people are entering the workforce, understanding workforce demand also forms an integral component of workforce planning. Potential data sources that could be used to measure demand for the psychologist workforce are outlined in this section.

A range of sources exist that may be useful in measuring workforce activity of psychologists. In recent years COAG has embarked on an extensive reform agenda in the mental health sector, which has led to many initiatives that have influenced demand for psychologists. Medicare benefits are now available for a range of specified psychology services for people with certain conditions, including people with an assessed mental disorder such as depression or anxiety, and people who have a chronic medical condition and require complex care needs. Medicare data may therefore provide some information on workforce activity. Other potential sources of activity data are:

- Private Health Insurance Administrative Council – for information on psychology services that attract a rebate through private health insurance.
- Patient consultations in the ABS' National Health Survey.
- National hospital morbidity database information – may provide information on psychology procedures in a hospital setting.
- Information on incidence of mental health disorders.

Despite the sources listed above, there are three key limitations in measuring demand for psychologists:

1. No existing information on services provided in the non-government organisation sector, (although the Australian Institute of Health and Welfare is currently developing the Mental Health Non-Government Organisation Establishments National Minimum Data Set with a planned implementation in 2014-15).
2. Incomplete coverage of the number of services provided in other sectors. For example, most Medicare programs have a capped number of services per calendar year, therefore visits to private practitioners beyond capped numbers will not necessarily be captured.
3. Many psychology services are provided to self-referred clients, funded as out-of-pocket expenses, and are not reflected in administrative data collections.

What issues have stakeholders identified for the psychology workforce?

Considerations that may impact future workforce supply or demand are important in providing a real world context for interpreting the historical trends presented in this report, and developing an understanding of future workforce requirements. Consultation was conducted with employers and the profession to obtain their views on such considerations, which are summarised in this section.

What were the jurisdiction views?

In relation to workforce supply, consistent themes in jurisdiction feedback were that training capacity has been eroded due to increased supervision requirements (with uncertainty also existing around the new requirements); and lower salaries and fewer career progression opportunities in the public sector often resulting in many psychologists pursuing private sector careers.

Jurisdictions highlighted demand for psychologists has increased with access to Medicare rebates, with strong demand for clinical psychologists, and for psychologists in specialised areas such as neuropsychology. This trend is expected to continue.

Some jurisdictions noted clinical psychologists are increasingly being asked to undertake generalist mental health roles in services, for example case management or duty roles, which is reducing their time to conduct core therapy work.

A consistent theme across jurisdictions was a shortage of psychologists in rural and remote areas.

What were the Association views?

The APS highlighted issues with the psychology training pathway as a key factor influencing future workforce supply. In particular, the APS noted:

- Demand for masters programs (which are now a prerequisite for an area of endorsement on registration) enormously exceeds places available.
- Internship pathways to registration (the 4+2 pathway) are closing due to the administrative burden for supervisors and placement agencies under national registration requirements.

The APS highlighted their concern that continued increasing demand combined with a constrained training pathway will impact future workforce sustainability. They support the idea of a psychology assistant role, to support registered psychologists to focus on performing clinical duties.

In relation to workforce demand, the APS highlighted it has significantly increased over recent years as a result of including professional services in the Medicare program, and through the work of many organisations in de-stigmatising mental health issues. Strong demand particularly exists for clinical psychologists, with the APS receiving feedback from members of long waiting lists (also consistent with APS data).

The APS also raised concerns about poor job descriptions (often a result of limited understanding of employers of professional and psychology roles) limiting the number of psychologists applying for public sector and community positions.

In relation to information about the workforce, the APS highlighted their ongoing concern with the use of ANZSCO for the collection and analysis of data for psychologists – their view being the classification fails to encompass the multiplicity of roles performed by psychologists.

HWA's assessment of this workforce

HWA's assessment of the psychology workforce comprises three components:

1. An assessment of existing workforce position – used to assess whether workforce supply matches demand for services (whether the workforce is in balance or not) at this point in time.
2. A set of indicators – collectively called the workforce dynamics indicator – used to highlight aspects of the current workforce that may be of concern into the future.
3. Comparison with other occupations – NHWDS data is used to compare key characteristics of the psychologist workforce with other registered health occupations.

Existing workforce position assessment

Ideally, quantitative evidence should be used to determine whether a workforce is in balance or not at a point in time. However, there is a lack of such evidence. Therefore, to provide an understanding of the existing workforce position for the health workforces, HWA conducted an assessment using a range of partial measures. These measures were:

- Assessment by key stakeholders.
- Waiting times.
- Vacancy rates.

Each of these measures is discussed below.

Assessment by key stakeholders

During consultation, HWA spoke with employers, jurisdictions and the peak association to obtain their assessment of the existing workforce position of the psychology workforce. Where provided, these views are incorporated within the existing workforce position assessment.

Waiting times

Waiting times are a measure of access to a health professional – not specifically a measure of workforce imbalance. It is for this primary reason that waiting times can only be used as a partial measure to demonstrate existing workforce position. Factors aside from workforce availability influence waiting times and affect its use as an indicator, including the length of time someone has to wait, as this influences their likelihood to wait, and demand for a particular health profession.

Budget can also strongly influence waiting times for health professions primarily based in the public sector. Budget constraints influence supply by limiting the availability of staff, which impacts waiting times.

Vacancy rates

Vacancy rates and duration of vacancies are often used to assess potential workforce imbalances. Vacancies can imply there is an insufficient sized workforce as there are not enough people to fill positions available. However there are a range of cautions to note with using vacancy rates as a measure of workforce shortage:

- Vacancies occur as part of normal operations due to turnover and lags in filling positions.
- There is no single level of vacancy rate considered to reflect a workforce shortage.
- Vacancies can occur for reasons other than shortage, for example: the vacancy could be in an unattractive location; an employer may choose not to fill a vacancy for reasons such as budget constraints; or, applicants for a position may not have sufficient experience the employer is looking for.
- Vacancy rates may also understate workforce shortage, for example positions may not be advertised if they are not expected to be filled.

The sector in which this measure is being applied also determines its usefulness. In the public health sector, positions are salaried so vacancy rates can be an appropriate indicator. However in the private sector, private practitioners often deliver services so there may be minimal identified vacancies. Other indicators such as waiting times for a first appointment may be more appropriate for the private sector. For the reasons above, vacancy rates can also only be used as a partial indicator – they should not solely be considered as a measure of workforce shortage.

A number of other partial indicators can also be used to provide a picture of the existing workforce position, including overtime rates, salaries and predicted employment growth. However for this publication, the three measures described above were focused on.

Existing workforce position assessment scale

Using available information from the measures outlined above, the following scale was used to assess the existing workforce position of psychologists.

White	Current perceived excess supply – current aggregate workforce exceeds existing expressed service demand, including across geographic areas
Green	No current perceived shortage – sufficient workforce for existing expressed service demand, minimal number of vacancies, no difficulty filling positions, and short waiting times
Yellow	Perceived maldistribution – localised excess supply and localised shortages – existing workforce supply exceeds existing expressed service demand in some locations, while in other locations expressed service demand exceeds existing workforce.
Orange	Perceived maldistribution – localised adequate supply and localised shortages – existing sufficient workforce for existing expressed service demand in some locations, however expressed service demand exceeds existing workforce in other locations
Red	Perceived current shortage – that is, expressed service demand in excess of existing workforce, ongoing vacancies exist, difficult/unable to fill positions, and extended waiting times across geographic areas

Reflecting the fact allied health professionals are employed and deployed differently across jurisdictions, the range of stakeholder views received and the difficulty in assigning weightings to stakeholders to generate a national assessment; a single existing workforce position assessment has not been assigned for psychologists.

However from information obtained, the psychologist existing workforce position assessment is clearly in the **orange to red** scale – ranging from localised adequate supply and localised shortages, to perceived current shortages across all areas. The distinction between ‘orange’ and ‘red’ related to extended waiting lists, the ongoing nature of some vacancies and demand exceeding supply regardless of location.

The Department of Employment conduct research to identify skill shortages in the Australian labour market, and publish the results of their research in individual occupation reports. The skill shortage research methodology is based on a sample survey of employers who had recently advertised vacancies, examining whether they were able to find suitable workers for the advertised position. Employers are identified through sources including national and regional newspapers, online job boards, association websites, professional journals and specialist publications.

The Department of Employment's labour market rating for psychologists (at February 2012) was 'no shortage', which was a change from the April 2011 rating of 'shortage'. Reasons for the rating of no shortage included:

- Employers filled a high proportion of vacancies and attracted large numbers of suitable applicants per vacancy.
- Industry contacts commented that attracting suitably qualified and experienced psychologists to regional areas is difficult, but this was not particularly evident in the DEEWR research, although the number of regional vacancies surveyed was relatively low.
- Some employers commented that the strong response to their advertising was unexpected, and that they were pleased with the number and quality of applicants compared with their previous recruitment experiences⁵.

Workforce dynamics indicator

The workforce dynamics indicator is used to highlight aspects of the current workforce that may be of concern into the future. The workforce dynamics indicator was adapted from Health Workforce New Zealand's (HWNZ) medical discipline vulnerability ranking method⁶, where a traffic light approach is used to score workforces against the selected indicators.

HWA selected the following indicators for scoring.

- **Average age** – workforces with a higher average age are more susceptible to higher exit rates (through retirement) with lower entry rates.
- **Percentage aged 55 and over** – this can be a useful indicator of those potentially retiring or reducing working hours within the next 10 years.
- **Change in average hours worked** – workforces with falling average weekly hours worked can be an indicator of sufficient workforce supply, or supply exceeding demand; while workforces with increasing hours of work can indicate supply pressures.
- **Replacement rate** – this item is designed to calculate the ratio of newly registered professionals to workforce exits in a given year. This indicates whether the number currently completing training is sufficient to replace those presently leaving the workforce.
- **Dependence on internationally trained professionals (ITPs)** – workforces with high percentages of ITPs are of greater concern due to their dependence on a less reliable supply stream (for example, changes in immigration policy may impact on supply).
- **Duration of training program** – the greater the duration of training, the longer it takes to train a replacement workforce.

The WDI provides a visual summary of the key dynamics of workforce recruitment, retention and retirement. They provide an easily understood presentation of health workforce planning information.

Workforce dynamic indicator assessment

NHWDS data was used to calculate the WDI, except for duration of training. For duration of training, the assessment is based on the shortest accredited training pathway to general registration. Given the maldistribution of the health workforce is one of the key findings across a number of HWA consultations, the WDI has also been calculated by remoteness area. This visually shows any differences in the characteristics of the employed psychology workforce by remoteness area.

Table 29 shows the WDI assessment for employed psychologists. The value used to determine the WDI assessment is shown in the table, and then shaded according to the assessment scale (table 30).

⁵ Department of Education, Employment, and Workplace Relations website: <http://foi.deewr.gov.au/documents/anzsco-2723-psychologists-australia>. Accessed at 13 September 2013.

⁶ Prioritisation of Medical Disciplines for Funding by Health Workforce New Zealand. <www.rnzcgp.org.nz> Accessed 3 May 2012

Table 29: psychologists – workforce dynamics indicators

	Major cities	Inner regional	Outer regional	Remote ^(a)	Very remote ^(a)	Australia
Average age	45.2	48.0	46.4	44.3	43.5	45.6
Percentage aged 55+	25.7	34.5	29.3	24.4	19.2	26.9
Change in average hours	-0.5	-0.5	-0.9	-2.3	0.6	-0.6
Replacement rate ^(b)	not assessed					
Dependence on ITPs	7.6	5.6	7.4	7.5	7.9	7.6
Duration of training	6	6	6	6	6	6

(a) Care should be taken when interpreting the figures for Remote and Very remote due to the relatively small number of employed practitioners who reported their location of main job in these regions.

(b) As the NHWDS is a longitudinal dataset, replacement rate should be able to be calculated in the future.

Source: NHWDS: allied health practitioners 2011 and 2012

Indicator range boundaries

The range boundaries for most indicators were selected as an extension of the HWNZ ranking method. In this initial development of the WDI, the ranges for each indicator were set to be relatively equal, rather than being established using a statistical base.

To be able to score against the workforce dynamics indicators, an extensive range of data is required. Where a score cannot be allocated due to insufficient data, the indicator is not assessed.

The indicators used are basic measures only – ideally as data availability improves, more sophisticated measures can be developed. Table 30 summarises the indicators and their score ranges.

Table 30: workforce dynamics indicators

Indicator	Minimal concern					Significant concern
Average age	<40	40–44	45–49	50–54	55+	
Percentage aged 55+	<20%	20% – <30%	30% – <40%	40% – <50%	50%+	
Annual change in average hours	± <0.3 hrs	±(0.3 – <0.6) hrs	±(0.6 – <0.9) hrs	±(0.9 – <1.2) hrs	±1.2 hrs+	
Replacement rate	95% – 105%	90% – <95% 105% – <110%	80% – <90% 110% – <120%	70% – <90% 120% – <130%	<70% 130%+	
Dependence on internationally trained professionals	<12%	12% – 24%	25% – 37%	37% – 49%	50%+	
Duration of training	<4	4	5	6	7+	

How do psychologists compare with other registered health occupations?

Table 31 shows the key characteristics of those employed in registered health occupations using NHWDS data. Of the allied registered health occupations, psychologists had the highest number of workers (22,404); and of all the registered health occupations, had the fourth highest employed workforce, only behind nurses (288,236), medical practitioners (79,653), and midwives (30,792).

While many of the registered allied health occupations received similar scores on the WDI scale, particularly for average age and percentage aged 55 years and over, the results for psychologists differed. Psychologists' age profile is more consistent with the medical and nursing workforces – with an average age falling in the third bracket on the WDI scale, and approximately one-quarter of those working aged 55 years and over. Psychologists also had the highest rating of all the occupations for duration of training (this being measured as the shortest accredited training pathway to general registration).

The psychologist workforce also had the lowest level of dependence on ITPs of all the workforces (where measured).

Table 31: registered health occupations, WDI ratings and selected characteristics

Occupation	WDI ratings ^(a)					Other selected characteristics			
	Ave. Age	% aged 55+	Annual change in ave hrs ^(b)	Dependence on ITPs	Duration of training	Number employed	Average weekly hours worked	% female ^(c)	Remoteness distribution ^(d)
Medical practitioner	46.0	26.6	-0.5	35.1	5	79,653	42.7	37.9	79: 13: 6: 1
Nurse ^(e)	44.6	23.1	n.a.	n.a.	3	288,236	31.6	89.7	71: 18: 9: 2
Midwife ^(f)	49.5	34.9	n.a.	n.a.	3	30,792	19.0	98.2	68: 19: 10: 3
Dentist	43.4	23.4	-0.3	28.5	5	13,266	37.0	36.5	80: 14: 6: <1
Dental therapist	46.4	20.4	0.2	7.5	3	1,117	29.4	96.9	63: 21: 13: 3
Dental hygienist	37.4	5.7	0.7	15.2	2	1,425	29.4	94.6	84: 10: 5: <1
Oral health therapist	31.0	1.9	1.0	1.7	3	675	33.7	84.7	71: 19: 9: 1
Dental prosthetist	49.1	31.3	0.0	5.9	4	1,100	42.7	14.7	73: 21: 6: <1
Aboriginal and Torres Strait Islander health practitioner	44.4	18.8	n.a.	-	2	233	40.5	71.9	3: 4: 31: 61
Chiropractor	41.2	15.2	-0.2	14.4	5	4,029	33.3	34.8	75: 18: 6: <1
Medical radiation practitioner	39.1	14.7	n.a.	14.0	3	7,806	34.4	66.7	83: 13: 3: <1
Occupational therapist	36.8	8.0	n.a.	7.5	4	7,231	33.1	91.5	76: 19: 4: <1

Occupation	WDI ratings ^(a)					Other selected characteristics			
	Ave. Age	% aged 55+	Annual change in ave hrs ^(b)	Dependence on ITPs	Duration of training	Number employed	Average weekly hours worked	% female ^(c)	Remoteness distribution ^(d)
Optometrist ^(g)	41.2	15.4	0.2	14.3	5	4,066	36.1	48.2	78: 16: 5: <1
Osteopath	38.8	13.2	-0.5	11.1	5	1,543	35.7	46.5	82: 15: n.p.: n.p.
Pharmacist	39.7	16.7	0	12.7	5	21,331	35.9	58.2	76: 15: 7: 1
Physiotherapist	38.6	12.4	-0.3	14.5	4	20,081	34.2	68.8	80: 13: 5: 1
Podiatrist	37.6	8.2	-0.2	11.7	3	3,491	36.4	58.0	76: 17: 6: <1
Psychologist	45.6	26.9	-0.6	7.5	6	22,404	32.6	76.7	82: 12: 5: <1
Traditional Chinese medicine practitioner	47.0	28.5	n.a.	31.8	4	3,580	31.8	52.3	88: 9: 3: <1

n.a. not available. n.p. not publishable.

(a) Replacement rate not included as this has not been assessed for any registered occupations at this point in time.

(b) Aboriginal and Torres Strait Islander health practitioners, medical radiation practitioners, occupational therapists and traditional Chinese medicine practitioners joined the NRAS from 1 July 2012, so NHWDS data not available for 2011 for these occupations. Therefore annual change in average hours worked was not calculated for these occupations.

(c) For osteopaths, optometrists, physiotherapists and podiatrists, calculated excluding those where gender not stated or inadequately described.

(d) Percentage of workforce located in major cities : inner regional : outer regional : remote or very remote areas.

(e) Includes registered and enrolled nurses plus dual registered nurses and midwives. The duration of training WDI indicator for nurses was based on registered nurse training time.

(f) Includes those registered as midwives only plus dual registered nurses and midwives.

(g) For optometrists, the minimum duration of programs with full accreditation at time of publication is 5 years. A 3.5 year fast track program offered by Deakin University holds conditional accreditation at time of publication.

Sources: NHWDS: medical practitioners 2011 and 2012, NHWDS: nurses and midwives 2012, NHWDS: dental practitioners 2011 and 2012, NHWDS: allied health practitioners, 2011 and 2012

What does the analysis show?

In terms of workforce characteristics, the NHWDS shows the psychology workforce:

- Is predominantly female.
- Is predominantly a private practice workforce.
- Works part-time.

The NPWS, conducted in 2008, also highlighted psychologists were predominantly working in independent private practice, in both their main and second jobs.

Findings from the Census, while based on a different methodology, are consistent with NHWDS findings in terms of workforce characteristics. With longer time-series information available, Census data also highlighted from 1996 to 2011:

- A substantial increase in workforce numbers (with the workforce almost three times larger in 2011).
- A reduction in average weekly working hours (of approximately three hours).
- The increasing predominance of females – with females comprising approximately two-thirds of the workforce in 1996 and rising to over three-quarters in 2011.

While the size of the workforce has increased substantially in recent years, consistent stakeholder feedback was that demand for services (particularly clinical psychologists) has also increased, and is expected to continue to do so. Reasons for this include shifts in community attitudes and the destigmatisation of mental health, as well as increased government support and access to mental health services. Stakeholder feedback also indicated increasing demand for services is not being met in rural and remote areas, and there are extended waiting times in private practice (across geographic areas).

With increased demand for psychology services, the supply of psychologists is of particular interest. According to the census, average weekly working hours have reduced from 1996 to 2011, and with only two data points, NHWDS information cannot yet be used to determine trends. However both sources indicate that on average, psychologists work slightly less than full-time hours.

In terms of supply streams, the education pathway is the primary supply source for the Australian psychology workforce. Currently, provisional registrants (graduates completing supervised practice) account for over 10 per cent of all psychology registrations, and represent the short-term future supply stream for the profession. However in the WDI assessment for psychologists, the duration of training indicator was rated at the high end of the scale. This indicator is used to highlight the greater the duration of training, the longer it takes to train a replacement workforce. This high rating also relates to an issue raised consistently by stakeholders – that training capacity has been constrained, particularly as a result of increased supervision requirements in the internship pathway to registration (the 4+2 pathway); and many students cannot gain entry into masters programs to obtain qualifications for an area of endorsement. In the longer-term a constrained education pipeline may impact the number of students choosing psychology as a profession, as well as the numbers qualifying and able to enter the workforce. Monitoring of the number of provisionally registered psychologists will provide information on the potential workforce impact of constrained training pathways.

Most provisional registrants are also female, and with female psychologists working fewer hours than male psychologists, this may additionally impact future supply.

In terms of other WDI ratings, dependence on ITPs was consistently rated as of minimal concern across all geographic areas. Average age of the workforce was of moderate concern, particularly in the three most densely populated areas of Australia – major cities, inner regional and outer regional. If the supply of psychologists is constrained through the education pathway, this may have a consequent impact on the age of the workforce in the medium to long-term.

Appendix one – Psychologists by Medicare Local regions

Table 32 shows the number of employed psychologists per 100,000 population across all Medicare Local regions. Data in this table shows the number of psychologists per 100,000 population working in the relevant Medicare Local region, and provides a useful reflection of the geographical distribution of psychologists – it does not reflect psychologists employed by Medicare Local organisations.

Table 32: number of employed psychologists per 100,000 population by Medicare Local regions, 2012

Medicare Local	State/Territory	Rate	Area (km ²)
Inner North West Melbourne	VIC	345.1	149
Eastern Sydney	NSW	328.0	106
Perth Central and East Metro	WA	220.3	2,149
Australian Capital Territory	ACT	157.9	2,352
Metro North Brisbane	QLD	149.5	3,999
Central Adelaide and Hills	SA	139.3	1,657
Sydney North Shore and Beaches	NSW	139.1	307
Inner East Melbourne	VIC	137.8	319
Bayside	VIC	136.0	215
Inner West Sydney	NSW	129.9	126
Northern Sydney	NSW	123.0	592
Fremantle	WA	116.5	243
Illawarra - Shoalhaven	NSW	113.2	1,605
Western Sydney	NSW	95.5	775
Hunter	NSW	90.2	32,747
Northern Melbourne	VIC	88.0	1,304
Gold Coast	QLD	87.6	1,843
Nepean - Blue Mountains	NSW	86.3	9,122
Barwon	VIC	84.7	7,913
North Coast NSW	NSW	84.4	32,767
Frankston - Mornington Peninsula	VIC	83.9	854
Northern Territory	NT	82.9	1,348,190
South Eastern Sydney	NSW	80.7	400

Medicare Local	State/Territory	Rate	Area (km ²)
Grampians	VIC	79.2	47,885
Tasmania	TAS	78.9	68,018
Greater Metro South Brisbane	QLD	77.3	3,775
Eastern Melbourne	VIC	77.2	2,641
Sunshine Coast	QLD	76.7	9,968
Central Coast NSW	NSW	76.5	1,680
Bentley - Armadale	WA	76.4	1,734
Far North Queensland	QLD	76.2	270,956
Southern NSW	NSW	73.6	4,534
New England	NSW	72.0	98,905
Darling Downs - South West Queensland	QLD	71.3	407,815
South Western Sydney	NSW	71.2	6,241
Perth North Metro	WA	69.2	880
Western NSW	NSW	68.2	117,845
Great South Coast	VIC	67.8	22,885
Macedon Ranges and North Western Melbourne	VIC	67.1	3,275
Central and North West Queensland	QLD	66.9	634,891
Townsville - Mackay	QLD	65.9	239,180
West Moreton - Oxley	QLD	64.3	9,596
South Eastern Melbourne	VIC	60.5	1,821
Far West NSW	NSW	59.7	275,512
Kimberley - Pilbara	WA	58.9	925,390
Murrumbidgee	NSW	56.5	89,471
Southern Adelaide - Fleurieu - Kangaroo Island	SA	55.8	8,027
Gippsland	VIC	55.7	41,557
Perth South Coastal	WA	54.7	3,093
South Western Melbourne	VIC	53.1	606
Loddon - Mallee - Murray	NSW	51.3	49,202

Medicare Local	State/Territory	Rate	Area (km ²)
Central Queensland	QLD	51.3	110,959
South West WA	WA	49.2	219,939
Wide Bay	QLD	47.5	36,974
Hume	VIC	46.7	39,200
Goldfields - Midwest	WA	42.3	1,373,296
Goulburn Valley	VIC	37.9	16,519
Northern Adelaide	SA	35.8	1,605
Lower Murray	VIC	32.8	75,172
Country South SA	SA	17.9	69,522
Country North SA	SA	15.1	903,379

Source: NHWDS: allied health practitioners 2012



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© Health Workforce Australia 2014

HWA14/AP001.4 Published March 2014

ISBN: 978-1-925070-17-0