Mental health workforce

A number of different health care and community welfare professionals, including psychiatrists, psychologists, nurses, general practitioners and social workers, provide the various mental health-related support services available in Australia. However, workforce data are currently only available for the following health care professionals who work principally in mental health care and related areas:

- psychiatrists
- nurses
- psychologists.

This section describes the size and selected characteristics of the workforce for these 3 groups.

To provide a more meaningful comparison, full-time-equivalent (FTE) figures have been reported in addition to the number of psychiatrists, nurses and psychologists, and the average total hours worked. The FTE measures the number of 38 hour week workloads completed, regardless of full-time or part-time working hours.

Key points

- In 2013, there were an estimated 2,977 psychiatrists, 19,626 mental health nurses and 23,144 registered psychologists in Australia. This equates to 13 FTE psychiatrists, 82 FTE mental health nurses and 86 FTE registered psychologists per 100,000 population. The highest FTE rates were seen in *Major cities*: psychiatrists 16 FTE, mental health nurses 86 FTE, and registered psychologists 91 FTE per 100,000 population.

- In 2013, about one-third (32%) of mental health nurses were male, compared to around 1 in 10 of the general nursing workforce. About two-thirds (63%) of psychiatrists were male compared to 3 in 5 (72%) of all medical specialists. About one-quarter (23%) of psychologists were male.

- In 2013, 30% of mental health nurses and 43% of psychiatrists were aged 55 and older. The age profile of registered psychologists in the same year was younger, with 73% being younger than 55.

From July 2010 the annual AIHW Labour Force Surveys for medical practitioners and nurses and midwives were replaced by the National Health Workforce Data Set (NHWDS). The NHWDS includes data collected under the National Registration and Accreditation Scheme (NRAS) for health professionals. These estimates are based on those who self-identified as an employed health professional in the week before the survey.

Estimates of the mental health workforce prior to 2010 were derived from responses to the AIHW Nursing and Midwifery Labour Force Survey and Medical Labour Force survey with responses weighted to available registration data from each state and territory. Prior to 2011, the most recent AIHW Psychology labour force survey was conducted in 2003. For further details on these surveys see the data source section.

Australian Institute of Health and Welfare
Mental health services in Australia

Psychiatric workforce

A psychiatrist is a qualified medical doctor who has completed specialist training in the diagnosis, treatment and prevention of mental illness and emotional problems. To practice as a psychiatrist in Australia, an individual must be admitted as a Fellow of the Royal Australian & New Zealand College of Psychiatrists (RANZCP). Psychiatrists first train as a medical doctor, then undertake a medical internship followed by a minimum of 5 years specialist training in psychiatry (RANZCP 2013). From the 2013 National Health Workforce Data Set of medical practitioners it was estimated that 2,977 psychiatrists were working in Australia, representing about 1 in 10 (11%) of all specialist medical practitioners (AIHW 2015). The NHWDS does not include information relating to specialists-in-training.

Psychiatric workforce by state and territory

At a national level, there were 13 FTE psychiatrists per 100,000 population working in Australia in 2013. Rates ranged from 8 per 100,000 population for the Northern Territory to 15 for South Australia (Figure WK.1).

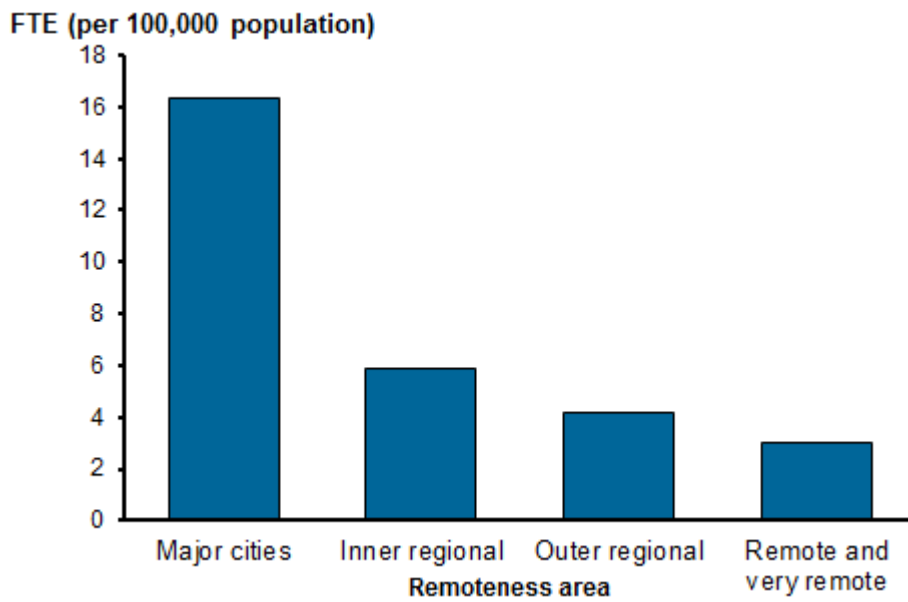### Figure WK.1: Psychiatrists, FTE per 100,000 population, states and territories, 2013
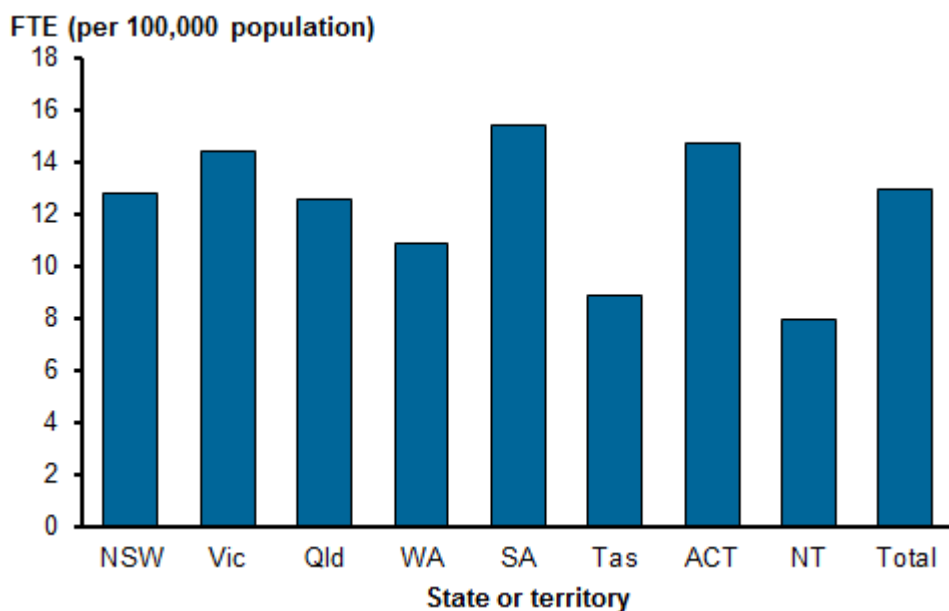
Source: NHWDS: medical practitioners 2013.

Source data Mental Health Workforce Table WK.3 (462KB XLS)

Psychiatric workforce by remoteness area

Almost 9 out of 10 FTE psychiatrists (88%) were employed in *Major cities* in 2013. There were 16 FTE per 100,000 population for *Major cities*, 6 for *Inner regional*, 4 for *Outer regional* and 3 for *Remote and Very remote* areas (Figure WK.2).

Australian Institute of Health and Welfare
Mental health services in Australia

Figure WK.2: Psychiatrists, FTE per 100,000 population by remoteness area, 2013
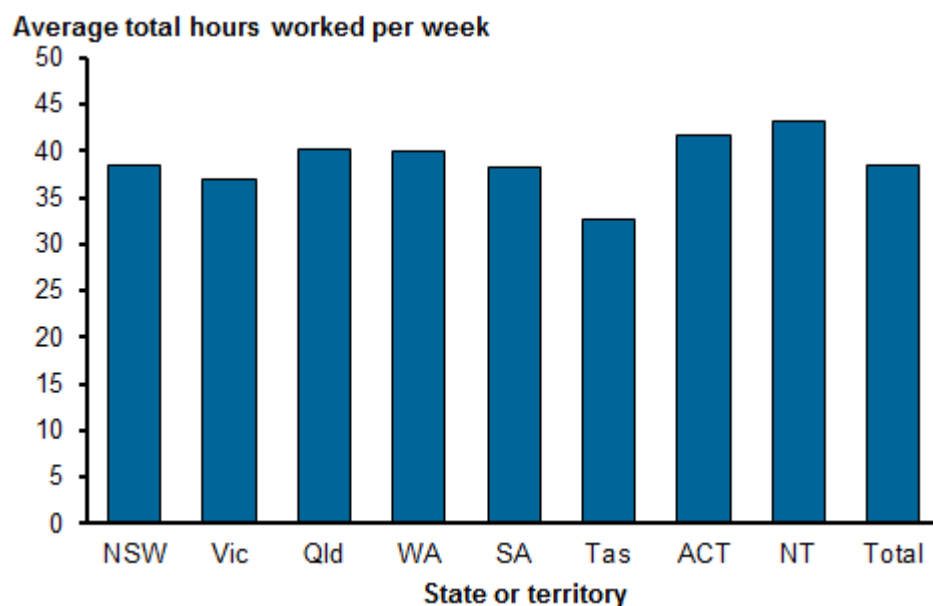

Source: NHWDS: medical practitioners 2013.

Source data Mental Health Workforce Table WK.4 (462KB XLS)

Hours worked per week

Psychiatrists reported working an average of 39 hours per week in 2013, including both clinical and non-clinical hours. Average hours ranged from 33 hours per week for Tasmanian psychiatrists to 43 for Northern Territory psychiatrists (Figure WK.3). Male psychiatrists worked about 7 more hours than female psychiatrists on average (41 hours compared with 34 hours).

Australian Institute of Health and Welfare
Mental health services in Australia

Figure WK.3: Employed psychiatrists, average total hours worked per week, states and territories, 2013

Average total hours worked per week

Source: NHWDS: medical practitioners 2013.
Source data Mental Health Workforce Table WK.3 (462KB XLS)

Psychiatric workforce characteristics

The average age of psychiatrists in 2013 was about 53. Just over 7 in 10 psychiatrists were aged 45 and over (73%) and 2 in 5 (43%) were aged 55 and over. More than 1 in 6 employed psychiatrists (18%) were aged 65 and over.

In 2013, about two-thirds of employed psychiatrists (63%) were male. About three–quarters of all medical specialists (72%) were male in 2013 (AIHW 2015).

## The psychiatric workforce over time

Nationally, the supply of psychiatrists measured as a population rate of FTE per 100,000 population stayed relatively stable between 2011 and 2013 (13 FTE per 100,000).

The age profile of psychiatrists has also remained relatively stable over the last 5 years; 7 in 10 psychiatrists were aged 45 and over between 2009 and 2013.

The average hours worked per week remained relatively stable over the 5 years to 2013, at 39 hours per week.

Nationally, the proportion of psychiatrists who were female increased slightly between 2009 and 2013 rising from 31% to 37% (Figure WK.4).

Australian Institute of Health and Welfare
Mental health services in Australia

Figure WK.4: Proportion of employed psychiatrists, by sex, 2009–2013
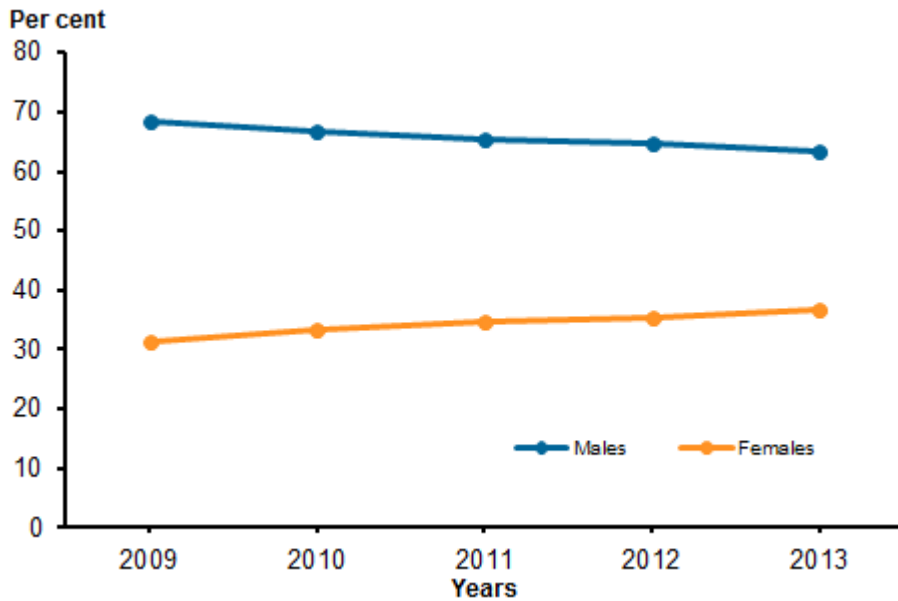
Sources: AIHW Medical Labour Force Surveys 2009; NHWDS: medical practitioners 2010–2013.
Source data Mental Health Workforce Table WK.1 (462KB XLS)

Psychiatrist work characteristics

Just over 9 in 10 (94%) FTE psychiatrists reported their principal area to be clinician, followed by administrator (3%) then teacher or educator and researcher (2% respectively). The most common work setting was private practice (45%), followed by hospitals (31%) and community health services (17%).

Reference

RANZCP 2013. Melbourne: Royal Australian & New Zealand College of Psychiatrists. Viewed 19th May 2015, < https://www.ranzcp.org >.

AIHW 2015. Medical practitioner workforce 2013: What types of medical practitioners are there?. AIHW. Viewed 20th May 2015 <http://www.aihw.gov.au/workforce/medical/types-of-medical-practitioners/>

Australian Institute of Health and Welfare
Mental health services in Australia
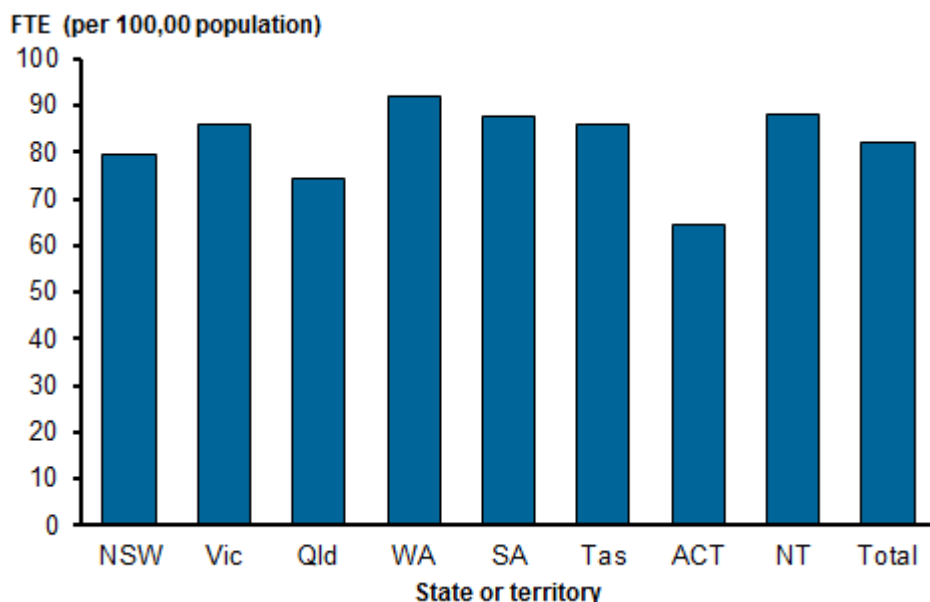
Mental health nursing workforce

The 2013 National Health Workforce Dataset shows that employed nurses (both registered and enrolled nurses) who indicated they were working principally in mental health comprised about 1 in 16 (7% or an estimated 19,626) of nurses employed in Australia (296,029).

The usual minimum educational requirement for a registered nurse is a 3-year degree or equivalent. For enrolled nurses the usual minimum educational requirement is a 1-year diploma or equivalent. Over 4 in 5 of all nurses working principally in mental health in 2013 were registered (85%) and more than 1 in 7 (15%) were enrolled nurses. This is similar to the profile of the general nursing workforce (AIHW 2015).

Mental health nursing workforce by state and territory

There were 82 FTE mental health nurses per 100,000 population working in Australia in 2013, with rates ranging from 65 per 100,000 for the Australian Capital Territory to 92 per 100,000 for Western Australia (Figure WK.5).

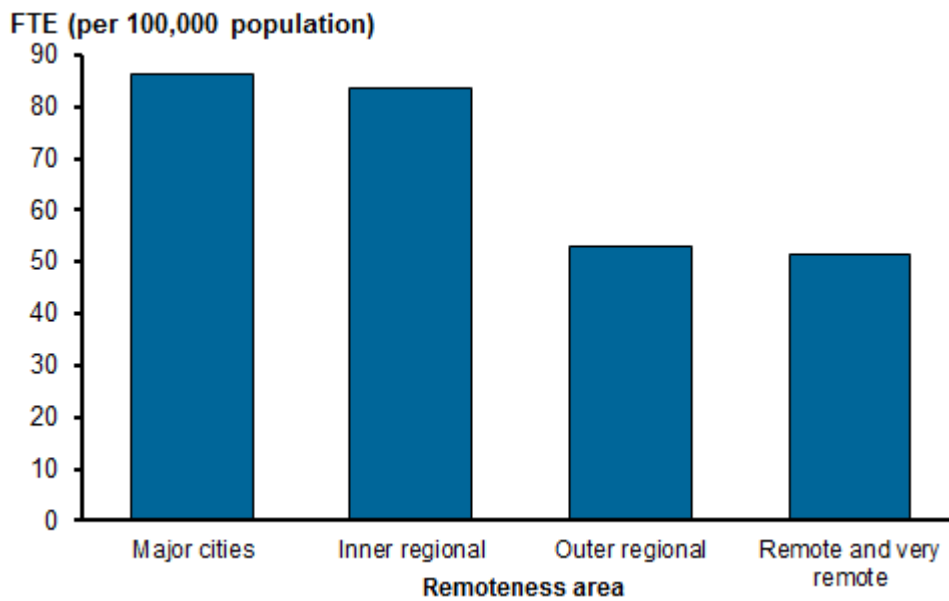### Figure WK.5: Mental health nurses, FTE per 100,000 population, states and territories, 2013

Source: NHWDS: nurses and midwives 2013.

Source data Mental Health Workforce Table WK.11 (462KB XLS)

Mental health nursing workforce by remoteness area

Almost three-quarters of FTE mental health nurses (74%) were employed in *Major cities* in 2013. *Major cities* had the highest rate of FTE mental health nurses—86 FTE per 100,000 population, followed by 83 for *Inner regional*, 53 for *Outer regional* and 51 for *Remote and Very remote* areas (Figure WK.6).

Australian Institute of Health and Welfare
Mental health services in Australia

Figure WK.6: Mental health nurses, FTE per 100,000 population by remoteness area, 2013
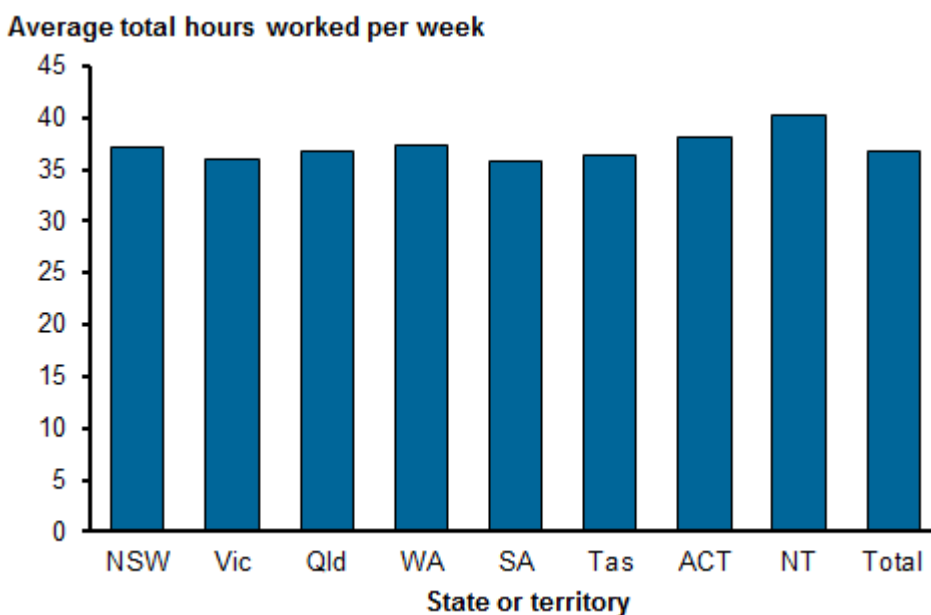

Source: NHWDS: nurses and midwives 2013.

Source data Mental Health Workforce Table WK.12 (462KB XLS).

Hours worked per week

Mental health nurses reported working an average of 37 total hours per week in 2013, with average hours ranging from 36 hours per week for South Australia, Victoria and Tasmania to 40 hours for the Northern Territory (Figure WK.7).

## Figure WK.7: Mental health nurses, average total hours worked per week, states and territories, 2013

Source: NHWDS: nurses and midwives 2013.

Australian Institute of Health and Welfare
Mental health services in Australia

Mental health nurse workforce characteristics

The average age for mental health nurses in 2013 was 47. About 3 in 5 mental health nurses (61%) were aged 45 and above (Figure WK.8) and over a quarter (30%) were aged 55 and older. Less than 1 in 20 mental health nurses (4%) were aged 65 and over.

Figure WK.8: Mental health nurses, by sex and age group, 2013
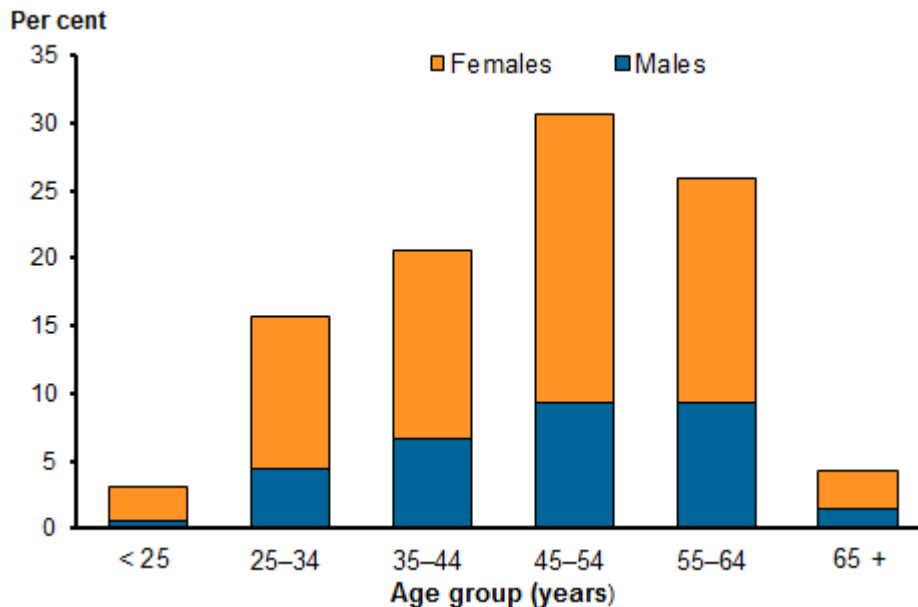
Source: NHWDS: nurses and midwives 2013.

Source data Mental health workforce Table WK.9 (462KB XLS)

Almost one-third (32%) of the mental health nursing workforce in 2013 were male, compared with about 10% of all nurses in Australia (AIHW 2013).

Male mental health nurses worked more hours per week on average than female nurses (38 hours compared with 36 hours). Registered nurses worked more hours on average than enrolled nurses (37 and 35 hours respectively).

The mental health nursing workforce over time

There was an apparent increase between 2009 and 2013 in the supply of mental health nurses, from 70 to 82 FTE per 100,000 population. However, caution should be used when interpreting changes over time due to a change in data collection methodology over this time period. Given the lower response rate in the Nursing and Midwifery Labour Force Surveys in 2009 (44%) and the higher response rate in the National Health Workforce Data Set from 2011 to 2013 (86%, 93% and 88% respectively), the trends from 2011 onwards are more reliable.

The ratio of males to females for the mental health nursing workforce remained stable between 2009 and 2013 (Figure WK.9). The proportion of registered nurses also remained fairly stable between 82% and 85% over the same period.

Figure WK.9: Proportion of employed mental health nurses, by sex, 2009–2013
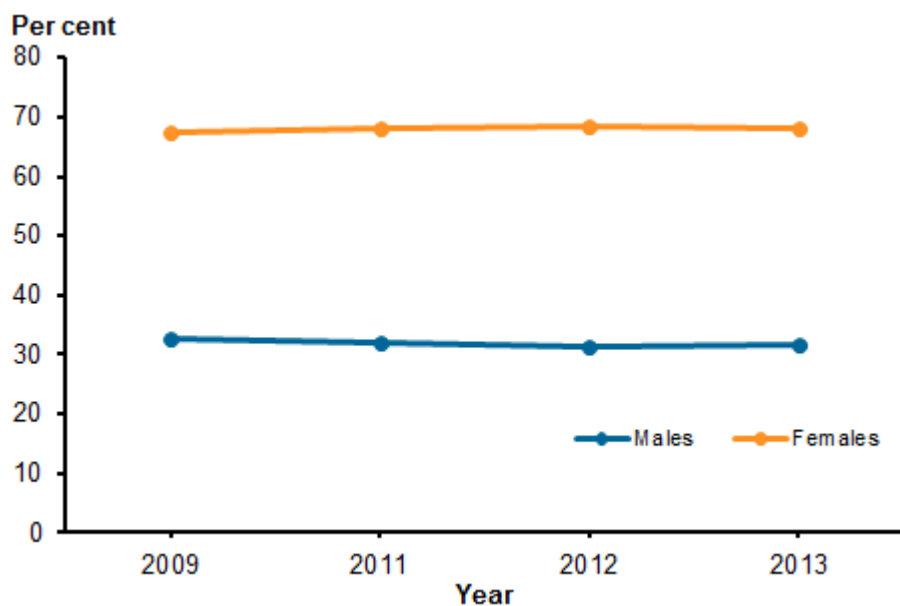
Note: The Nursing and Midwifery Labour Force Survey was not conducted nationally in 2010. Reporting of the nursing and midwives workforce commenced under NRAS in 2011.

Sources: AIHW Nursing and Midwifery Labour Force Surveys 2009; NHWDS: nurses and midwives 2011, 2012 and 2013.

Source data Mental health workforce Table WK.9 (462KB XLS)

While the average age of the mental health nursing workforce has remained fairly stable over the 5 years to 2013 (about 47 for both 2009 and 2013), the proportion of the workforce aged 55 and over has increased from 25% in 2009 to 30% in 2013.

The average hours worked by mental health nurses remained stable over the 5 years to 2013, at about 37 hours for registered nurses and about 35 hours for enrolled nurses.

Reference

AIHW 2015. Who are nurses and midwives?. Australian Institute of Health and Welfare website. Accessed 19th May 2015 < http://www.aihw.gov.au/workforce/nursing-and-midwifery/who-are-they/>

Australian Institute of Health and Welfare
Mental health services in Australia
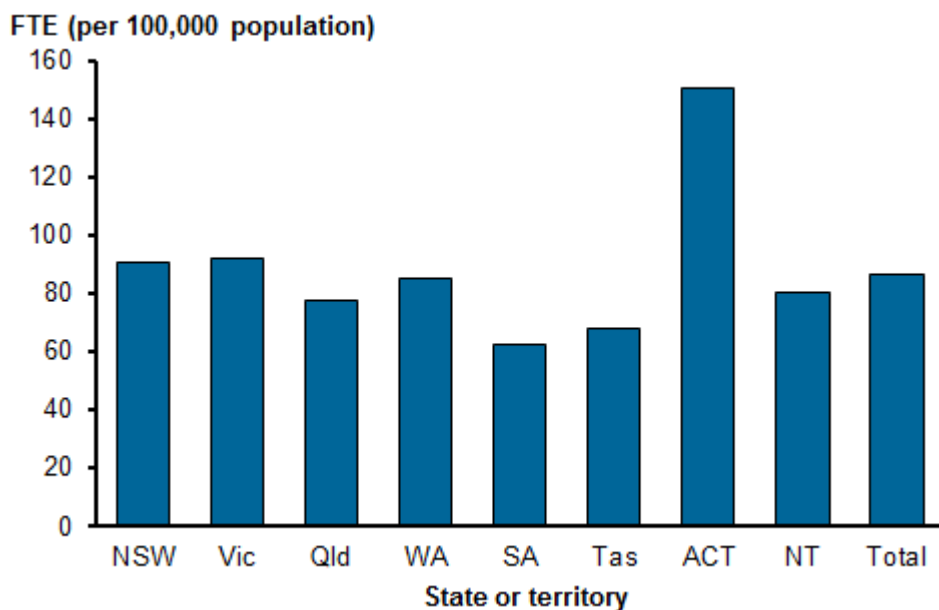
Psychologist workforce

From the 2013 National Health Workforce Data Set (NHWDS) it was estimated that 23,144 registered psychologists (full registration) were working in Australia. Not all psychologists are employed in a clinical or mental health role. Although the NHWDS does identify provisionally registered psychologists, the workforce survey response rate from them was too low to be included in workforce analysis breakdowns. The education and training requirement for general (full) registration is a 6 year sequence comprising a 4 year accredited sequence of study such as an honours degree followed by 2 years of supervised practice as a Provisional Psychologist. The 2 years of supervised practice as a Provisional Psychologist may be undertaken through an internship program or professional postgraduate degree. In addition to registered psychologists, there were 3,731 provisionally registered psychologists in Australia in 2012 (AIHW 2013).

Psychologists with general registration who have a recognised higher degree and advanced supervised practice in a particular area of practice can apply for an area of practice endorsement on their general registration (Psychology Board of Australia 2013).

Psychologist workforce by state and territory

At a national level, there were 86 FTE psychologists per 100,000 population working in Australia in 2013. Rates ranged from 62 per 100,000 population for South Australia to 150 for the Australian Capital Territory (Figure WK.10).

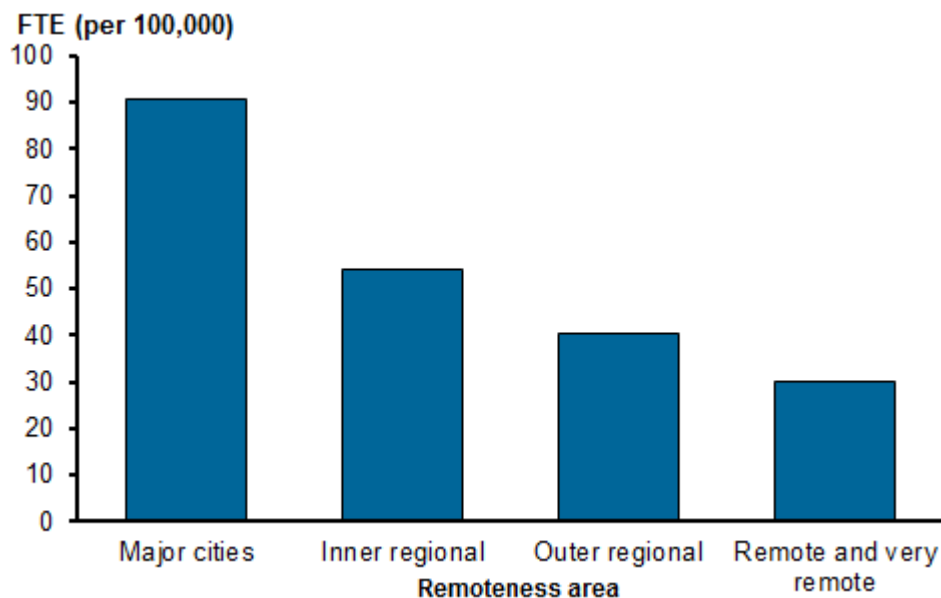**Figure WK.10: Psychologists, FTE per 100,000 population, states and territories, 2013**

Source: NHWDS: allied health practitioners 2013.

Source data Mental Health Workforce Table WK.19 (462KB XLS)

Australian Institute of Health and Welfare
Mental health services in Australia

Psychologist workforce by remoteness area

Three-quarters of psychologists (74%) were employed in *Major cities* in 2013. There were 91 FTE per 100,000 population for *Major cities*, 54 for *Inner regional*, 41 for *Outer regional* and 30 for *Remote and Very remote* areas (Figure WK.11).

Figure WK.11: Psychologists, FTE per 100,000 population by remoteness area, 2013

Source: NHWDS: allied health practitioners 2013.

Source data Mental Health Workforce Table WK.20 (462KB XLS)

Hours worked per week

Psychologists reported working an average of 33 hours per week in 2013, including both clinical and non-clinical hours. Average hours ranged from 32 hours per week for Victorian psychologists to 39 for Northern Territory psychologists (Figure WK.12). Male psychologists worked more hours than female psychologists on average (37 hours compared with 32 hours).

Australian Institute of Health and Welfare
Mental health services in Australia

Figure WK.12: Employed psychologists, average total hours worked per week, states and territories, 2013

Average total hours worked per week

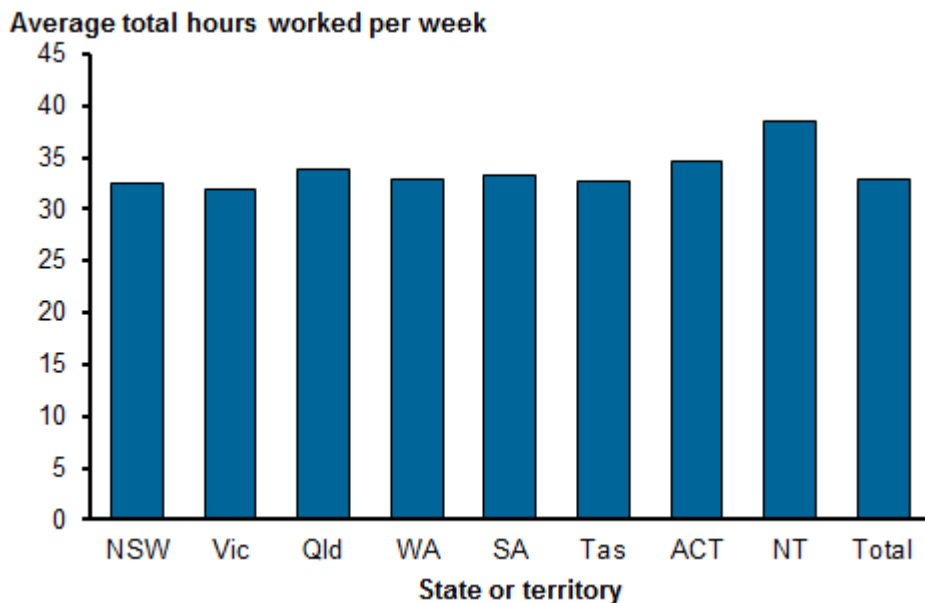*Source*: NHWDS: allied health practitioners 2013.

Source data Mental health workforce Table WK.19 (462KB XLS)

Psychologist workforce characteristics

The average age of psychologists in 2013 was about 46. Half of all psychologists were aged 45 and over (50%) and just over one-quarter (27%) were aged 55 and over.

In 2013, more than three-quarters of employed psychologists (77%) were female.

Figure WK.13: Employed psychologists, by sex and age group, 2013
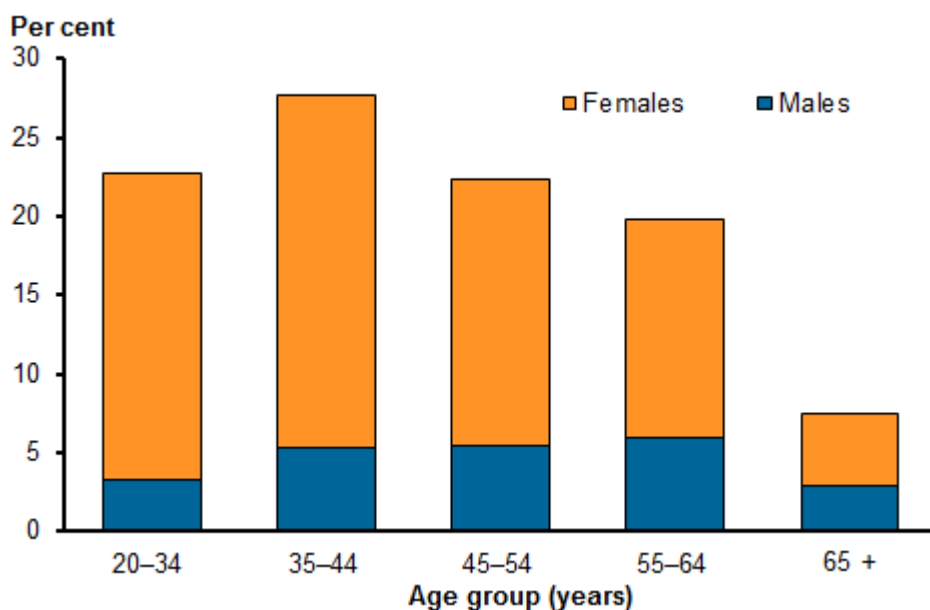
Per cent

Source: NHWDS: allied health practitioners 2013.

Source data Mental health workforce Table WK.17 (462KB XLS)

Australian Institute of Health and Welfare
Mental health services in Australia

Psychologist work characteristics

The vast majority (87%) of FTE psychologists reported their principal area to be clinician, followed by administrator (5%) and researcher (4%). The main area of practice (principal area of main job) nominated by more than a third (40%) of FTE psychologists was counselling, followed by psychological/mental health intervention (24%) and neuropsychological/cognitive assessment (4%). The most common work setting was private practice (36%), followed by an educational facility (17%) and community health service (15%).

The principal area nominated by a psychologist does not imply that they hold specialist endorsement in that area. To be eligible to apply for an area of practice endorsement and use the associated title, a psychologist must have advanced training (an accredited qualification in the area of practice followed by a period of supervised practice) over the requirements for general registration. In 2013, over one-third (36%) of employed psychologists held an area of practice endorsement. The most commonly held specialist endorsement was clinical psychologist, held by about 1 in 4 (26%) employed psychologists, followed by counselling psychologist (4%)(AIHW 2013).

Reference

AIHW 2013. National Health Workforce Data Set 2013 (unpublished data). Canberra: AIHW

Psychology Board of Australia 2013. Canberra: Australian Health Practitioners Regulation Agency. Viewed 20th May 2015, <www.psychologyboard.gov.au>.

Australian Institute of Health and Welfare
Mental health services in Australia

Community-managed mental health workforce

Non-government organisations (NGOs) play an important role in Australia's mental health system. Mental health NGOs are private organisations that receive funding from Australian governments to provide mental health services to people with mental health conditions, their families and carers, and the broader community. NGOs are typically not-for-profit, but some are for-profit. Not-for-profit organisations are also called community-managed organisations (CMOs), reflecting their governance structure.

Estimating the size of the mental health NGO workforce is difficult. A 2009 national mental health NGO landscape survey and a 2010 workforce scoping survey provide some data about the mental health NGO workforce (National Health Workforce Planning and Research Collaboration 2011).

These surveys estimated that there are approximately 800 mental health NGOs in Australia with a total workforce in excess of 12,000 FTE employees. Findings indicate that 43% of the workforce have a bachelor degree or higher qualification in one of the health disciplines and 34% have a certificate or diploma level qualification. Survey findings also suggest that a large majority (84%) of mental health NGO organisations operate in only one state or territory, with almost 1 in 10 (9%) operating nationally. Over 2 in 5 organisations (42%) had been in operation for over 20 years.

Care should be taken when interpreting these findings due to coverage issues with both surveys. The landscape survey coverage was estimated at 34% of the sector and the workforce scoping survey was a pilot study which covered approximately 5% of the workforce. Low coverage of the sector in these information sources may mean that the findings may be true for the respondents but not generalisable to the whole sector.

Reference

National Health Workforce Planning and Research Collaboration 2011: Mental Health Non-Government Organisation Workforce Project Final Report. Adelaide: Health Workforce Australia.

Australian Institute of Health and Welfare
Mental health services in Australia

Data sources

National Health Workforce Data Set (NHWDS)

In 2010, the National Registration and Accreditation Scheme (NRAS) was introduced and the AIHW Labour Force Surveys were replaced with workforce surveys administered under the NRAS. These new national surveys are administered by the Australian Health Practitioners Regulation Agency (AHPRA) and are included as part of the registration renewal process. The surveys are voluntary, and are used to provide nationally consistent estimates of the health workforce. They provide data not readily available from other sources, such as:

- the type of work done by, and job setting of health professionals
- the number of hours worked in a clinical or non-clinical role, and in total and
- the numbers of years worked in, and intended to remain in, the health workforce.

The survey also provides information on those registered health professionals who are not undertaking clinical work or who are not employed. The information from the workforce surveys combined with registration data items make up the NHWDS.

A detailed description of the 2013 NHWDS for medical practitioners including psychiatrists, nurses and midwives, and allied health professionals including psychologists are available from the AIHW Metadata Online Registry webpages.

Response rates

The overall response rate to the Medical Workforce Survey in 2013 was 89% (AIHW 2015), that is, the number of responses to the survey represented 89% of registered medical practitioners. Queensland (90%), Victoria (89%) and New South Wales (89%) had the highest response rates. Australian Capital Territory and Western Australia had the lowest rates at 85%.

The overall response rate to the Nursing and Midwifery Workforce Survey 2013 was 88% (AIHW 2015). Queensland, Tasmania and Northern Territory had the highest response rates of 90%, 90%, and 89% respectively. The lowest response rate was for Western Australia at 85%.

The overall response rate to the Psychology Workforce Survey 2013 by psychologists with a full registration was 94% (AIHW 2015). Northern Territory, New South Wales and Queensland had the highest response rates of 95%. The lowest response rate was for Australian Capital Territory and South Australia at 93%.

Reference

AIHW 2015. AIHW analysis of the National Health Workforce Data Set (NHWDS). Unpublished.

Estimation procedures

The AIHW uses registration data together with survey data to derive estimates of the total health practitioner workforce. Not all practitioners who receive a survey respond, as it is not mandatory. In deriving the estimates, two sources of non-response to the survey are accounted for:

Item non-response—occurs as some respondents return partially completed surveys. Some survey records were incomplete to such an extent that it was decided to omit them from the reported survey data.

Survey non-response—occurs because not all registered practitioners who receive a questionnaire respond.

Australian Institute of Health and Welfare
Mental health services in Australia

Imputation: estimation for item non-response

The imputation process involves an initial examination of all information provided by a respondent. If possible, a reasonable assumption is made about any missing information based on responses to other survey questions. For example, if a respondent provides information on hours worked and the area in which they work, but leaves the workforce question blank, it is reasonable to assume that they were employed.

Missing values remaining after this process are considered for their suitability for further imputation. Suitability is based on the level of non-response to that item.

In imputation, the known probabilities of particular responses occurring are used to assign a response category value to each record, using a random number generator. Imputed values are based on the distribution of responses occurring in the responding sample. Therefore, fundamental to imputing missing values for survey respondents who returned partially completed questionnaires is the assumption that respondents who answer various questions are similar to those who do not.

Age values within each state and territory of principal practice are first imputed to account for missing values. Other variables deemed suitable for this process were then imputed. These include hours worked in the week before the survey and principal role of main job.

Estimation procedures

The AIHW uses registration data together with survey data to derive estimates of the total allied health practitioner workforce. Not all practitioners who receive a survey respond, because it is not mandatory to do so. In deriving the estimates, two sources of non-response to the survey are accounted for:

- item non-response—occurs as some respondents return partially completed surveys. Some survey records were so incomplete that it was decided to omit them from the reported survey data.

- survey non-response—occurs because not all registered medical practitioners who receive a questionnaire respond.

Imputation methods are used account for item non-response and survey non-response.

Imputation: estimation for item non-response

The imputation process involves an initial examination of all information provided by a respondent. If possible, a reasonable assumption is made about any missing information based on responses to other survey questions. For example, if a respondent provides information on hours worked and the area in which they work, but leaves the workforce question blank, it is reasonable to assume that they were employed.

Missing values remaining after this process are considered for their suitability for further imputation. Suitability is based on the level of non-response to that item.

In imputation, the known probabilities of particular responses occurring are used to assign a response to each record. Imputed values are based on the distribution of responses occurring in the responding sample. Therefore, fundamental to imputing missing values for survey respondents who returned partially completed questionnaires is the assumption that respondents who answer various questions are similar to those who do not.

Age values within each state and territory of principal practice are first imputed to account for missing values. Other variables deemed suitable for this process were then imputed. These include hours worked in the week before the survey, principal role of main job, principal area of main job and work setting of main job.

Imputation: estimation for population non-response

In 2013, the methodology for population non-response was changed from a weighting-based methodology to a randomised sequential hot deck-based imputation, similar to that used for imputing unreported hours in previous years.

Australian Institute of Health and Welfare
Mental health services in Australia

The data were sorted into strata, so imputations were made using survey data from records that have similar registration details. The strata used for imputation were registration type (with limited registrants grouped together and specialist registrants grouped with those who also had general registration), a derived primary specialty categorisation, sex, age group, remoteness area and state, in that order.

Donor records were spaced evenly within strata to ensure records were used within the strata an equal number of times plus or minus 1, and that most strata within the hot deck were restricted to within strata imputations. For example, if there were 5 respondents and 12 non-respondents in a cell, the expected number of uses would be 2.4, resulting in each donor being used either 2 or 3 times. This is almost equivalent to a weighting strategy, except that instead of all the data being weighted only the non-registration data are weighted.

Because the data were imputed and not weighted, some data may be affected in different ways from those previously published. For example, because a practitioner's location of main job is most likely to be the same as their registration address, this has been used for the location estimation of non-respondents. Using this estimate rather than weighting will improve the accuracy of estimates for small geographic areas, as previously weighted data would scale up data for individuals across the state/territory and the registration information for records would not be taken into account.

For variables not used in the imputation (that is, all variables other than the registration type, remoteness area, state and territory of principal practice, age and sex), it is assumed, for estimation purposes, that respondents and non-respondents have the same characteristics. If the assumption is incorrect, and non-respondents are different from respondents, then the estimates will have some bias. The extent of this cannot be measured without obtaining more detailed information about non-respondents.

Location

State and territory is derived from state and territory of main job where available, otherwise, state and territory of principal practice is used as a proxy. If principal practice details are unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'. *Remote and very remote* areas include migratory areas.

In 2010, data for medical practitioners exclude Queensland and Western Australia due to their registration period closing after the national registration deadline on 30 September 2010.

Past and present surveys have different collection and estimation methodologies, questionnaire designs and response rates. As a result, care should be taken in comparing historical data from the AIHW Labour Force Surveys with data from the National Health Workforce Data Set.

AIHW Labour Force Surveys

Prior to the introduction of the NRAS, the AIHW Medical Labour Force Survey and the Nursing and Midwifery Labour Force Survey were conducted by the state and territory departments of health with the cooperation of the medical and nursing registration boards in each jurisdiction, and in consultation with the AIHW. The AIHW was the data custodian for these national collections and was responsible for collating, editing and weighting the survey data to provide nationally consistent estimates.

The AIHW Medical Labour Force Survey was a survey of all registered medical practitioners in each state and territory in Australia. The AIHW Nursing and Midwifery Labour Force Survey was a survey of all registered nurses and midwives in each state and territory in Australia. The surveys were mail-outs conducted in association with the annual registration renewal process. The Medical Labour Force Survey was conducted annually from 1993. The Nursing and Midwifery Labour Force Survey was conducted every 2 years from 1995 to 2003, and annually from 2003 to 2009, excluding 2006. Other AIHW health workforce surveys were conducted irregularly. The Psychology Labour Force Survey was last conducted in 2003 (AIHW 2006).

In the surveys, information on demographic details, main areas and specialty of work, qualifications and hours worked was collected from registered professionals. The data collected generally related to the week before the survey for medical practitioners and nurses. Survey responses were weighted by state, age and sex (and the number of registered and enrolled nurses for nursing) to produce state and territory and national estimates of the total medical labour force and nursing and midwifery labour force. Benchmarks for weighting came from registration information provided by state and territory registration boards.

The response rates to these surveys varied from year to year and among jurisdictions. In 2009, the estimated national response rate for the Medical Labour Force Survey was 53%, ranging from 32% for Queensland to 79% for New South Wales (AIHW 2011a).

For the Nursing and Midwifery Labour Force Survey, the response rate declined from 61% in 2004 to 45% in 2009. In 2009, response rates in Queensland, Tasmania, the Northern Territory, Victoria and Western Australia ranged from 28% to 35% (AIHW 2011b). As a result, historical estimates for states and territories included in this report should be treated with care. The national estimates were based on census results from all jurisdictions, as the effect of any bias in responses from states with low response rates was likely to be relatively small at the national level.

The survey questionnaire has varied over time and across jurisdictions for both surveys (although more so for the nursing than for the medical survey). Mapping of data items has been undertaken to provide time series data. However, because of this and the variation in response rates, some caution should be used in interpreting changes over time and differences across jurisdictions.

More detailed information about how these surveys were conducted is available from the *Medical labour force 2009* (AIHW 2011a), *Nursing and midwifery labour force 2009* (AIHW 2011b) and *Psychology labour force 2003* (AIHW 2006).

References

AIHW 2006. Psychology labour force 2003. AIHW cat. no. HWL 34. Canberra: AIHW (National Health Labour Force Series no. 33).

AIHW 2011a. Medical labour force 2009. AIHW bulletin no. 89. Cat. no. AUS 138. Canberra: AIHW.

AIHW 2011b. Nursing and midwifery labour force 2009. AIHW bulletin no. 90. Cat. no. AUS 139. Canberra: AIHW.

Australian Institute of Health and Welfare
Mental health services in Australia

Key concepts

Mental health workforce

Key Concept	Description
Benchmark data	Responses to the surveys have been weighted to benchmark figures to account for non-response based on registration data supplied by AHPRA. For medical practitioners, the benchmark data used are the number of medical practitioners registered by state and territory (using place of principal practice) by main specialty of practice by sex and age group. For nurses and midwives, the **benchmark data** used are the number of registered practitioners in each state and territory (based on location of principal practice) by division of registration, age group and sex. For psychologists, the benchmark data used are the number of registered practitioners in each state and territory (based on the location of principal practice), by broad registration type by age group by sex. Weighting included an identification of persons with an endorsement of 'clinical psychology', 'clinical neuropsychology' and 'other' (all other psychologists).
Employed	In this report, an **employed** health professional is defined as one who: • worked for a total of 1 hour or more, principally in the relevant profession, for pay, commission, payment in kind or profit; mainly or only in a particular state or territory during a specified period, or • usually worked but was away on leave (with some pay) for less than 3 months, on strike or locked out, or rostered off. This includes those involved in clinical and non-clinical roles, for example education, research, and administration. 'Employed' people are referred to as the 'workforce'. This excludes those medical practitioners practising psychiatry as a second or third speciality, those who were on extended leave for 3 months or more and those who were not employed.
Full-time-equivalent	**Full-time-equivalent** (FTE) measures the number of standard-hour workloads worked by employed health professionals. FTE is calculated by the number of health professionals in a category multiplied by the average hours worked by those employed in the category divided by the standard working week hours. In this report, 38 hours is assumed to be a standard working week and equivalent to 1 FTE. This differs from the approach used in Mental health services in Australia reports published before 2004–05, and with some earlier AIHW labour force reports. FTE numbers presented in this section will therefore not be easily comparable with those reports.
Total hours	**Total hours** are the total hours worked per week in the profession, including paid and unpaid work. Average total weekly hours are calculated only for those people who reported their hours (that is, those who did not report them are excluded).

Australian Institute of Health and Welfare
Mental health services in Australia