

National Health Workforce Data Set: allied health practitioners 2014: National Health Workforce Data Set, 2014; Data Quality Statement

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Identifying and definitional attributes

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Data quality

Data quality statement summary:

The Australian Institute of Health and Welfare (AIHW) National Health Workforce Data Set (NHWDS) 2014: allied health practitioners contains information on the demographics, employment characteristics, primary work location and work activity of all health practitioners in Australia who renewed their registration with their respective health profession board via the National Registration and Accreditation Scheme (NRAS) introduced on 1 July 2010.

This is the fourth year of data from the NRAS. The data set comprises registration information provided by the Australian Health Practitioner Regulation Agency (AHPRA) and workforce details obtained by surveys.

This data quality statement should be read in conjunction with the footnotes and commentary accompanying tables and graphs throughout the publication.

Description

The AIHW NHWDS 2014: allied health practitioners is a combination of data collected through the practitioner registration renewal process.

Registration data

Psychologists, pharmacists, physiotherapists, dentists, dental hygienists, dental prosthetists, dental therapists, oral health therapists, occupational therapists, medical radiation practitioners, chiropractors, optometrists, Chinese medicine practitioners, podiatrists, osteopaths and Aboriginal and Torres Strait Islander health practitioners must be registered with the AHPRA to practise in Australia. This applies to both those who trained in Australia and overseas.

Those practitioners who are not required by their employer to use the title Aboriginal and Torres Strait Islander health practitioner, Aboriginal health practitioner or Torres Strait Islander health practitioner, are not required to be registered, and will still be able to continue to work, using their existing titles (for example, Aboriginal Health Worker, Drug and Alcohol Worker, Mental Health Worker, and so on). See <http://www.atsihealthpracticeboard.gov.au/Codes-Guidelines/FAQ/Registration-and-how-to-apply.aspx>.

Practitioners can renew their registration through the NRAS, either online via the AHPRA website or using a paper form provided by the AHPRA. For initial registration, practitioners must use a paper form and provide supplementary supporting documentation. Limited and provisional registrations also complete paper forms.

Whether for initial registration or renewal, this information is referred to as 'registration data'. Data collected include demographic information such as age, sex, country of birth, details of health qualification(s) and registration status. This is the compulsory component of the registration process.

The majority of health professionals are due to renew their registration on 30 November each year. Provisional and limited registrants renew on the anniversary of their last registration/renewal.

Registration details on AIHW NHWDS 2014 were collected either from the compulsory registration renewal form, new registrations or registration details migrated from the respective state and territory health boards before their dissolution. Copies of registration forms for new registrants are available on the relevant board websites which can be accessed from the AHPRA website www.ahpra.gov.au.

When practitioners renew their registration online they are asked to complete an online survey customised for each profession. Copies of the survey forms are available at www.aihw.gov.au/workforce.

AHPRA stores both online registration data and survey information in separate databases. They send the two data sets (in de-identified form) to the AIHW, where they are merged into a national data set.

When practitioners renew their registration using a paper form they are also asked to complete a paper version of the relevant survey. The paper registration and survey forms are sent to AHPRA. AIHW processes the data and the final data set is known as the National Health Workforce Data Set (NHWDS).

Institutional environment: The AIHW is a major national agency set up by the Australian Government under the *Australian Institute of Health and Welfare Act 1987* to provide reliable, regular and relevant information and statistics on Australia's health and welfare. It is an independent statutory authority established in 1987, governed by a management board, and accountable to the Australian Parliament through the Health and Ageing portfolio.

The AIHW aims to improve the health and wellbeing of Australians through better health and welfare information and statistics. It collects and reports information on a wide range of topics and issues, ranging from health and welfare expenditure, hospitals, disease and injury, and mental health, to ageing, homelessness, disability and child protection.

The Institute also plays a role in developing and maintaining national metadata standards. This work contributes to improving the quality and consistency of national health and welfare statistics. The Institute works closely with governments and non-government organisations to achieve greater adherence to these standards in administrative data collections to promote national consistency and comparability of data and reporting.

One of the main functions of the AIHW is to work with the states and territories to improve the quality of administrative data and, where possible, to compile national data sets based on data from each jurisdiction, to analyse these data sets and disseminate information and statistics.

The *Australian Institute of Health and Welfare Act 1987*, in conjunction with compliance to the *Privacy Act 1988* (Cwth), ensures that the data collections managed by the AIHW are kept securely and under the strictest conditions with respect to privacy and confidentiality. For further information, see the AIHW website at <http://www.aihw.gov.au>.

AHPRA is the organisation responsible for the implementation of the NRAS across Australia. AHPRA works with the National Health Practitioner Boards to regulate health practitioners in the public interest and to ensure a competent and flexible health workforce that meets the current and future needs of the Australian community.

The AIHW receives registration information on health practitioners via the mandatory national registration process administered by the AHPRA and voluntary survey data collected at the time of registration renewal. The registration and survey data are combined, and processed to form the AIHW NHWDS 2014. The AIHW is the data custodian of the AIHW NHWDS 2014.

Timeliness:

The AIHW NHWDS for allied health practitioners is produced annually from the national registration renewal process, and conducted between 1 October and 30 November (the renewal date) each year. While the reference time is notionally the renewal date, legislation allows for a 1 month period of grace. Thus, the final registration closure date is 1 month after the renewal date (30 December). The AHPRA allow a further 2 weeks to allow for mail and data entry delays before extracting the data. Consequently the extraction of data occurs (the extraction date) a month and a half after the renewal date.

The survey data are also collected between 1 October and 30 December, as the surveys are administered as part of the registration renewal process.

The exceptions to this timetable are in relation to limited and provisional registrations, where registration is renewed on the anniversary of commencement. Limited and provisional registration renewals are given paper forms only. These responses are included with the regular survey responses. AIHW received the electronic and registration data in January, while complete data (i.e. including the paper forms) were received at the end of August 2015 for allied health practitioners.

Accessibility: Results from the AIHW NHWDS 2014 are released on the AIHW website in a series of *workforce* web pages. Workforce survey questionnaires and detailed tables are available on the AIHW website at <http://www.aihw.gov.au/workforce>.

Users can request data not available online or in reports via the Communications, Media and Marketing Unit on (02) 6244 1032 or via email to info@aihw.gov.au. Requests that take longer than half an hour to compile are charged for on a cost-recovery basis.

Access to the master unit record files may be requested through the AIHW Ethics Committee.

Interpretability: Descriptions of data items in the AIHW NHWDS 2014 are available on request from the Expenditure and Workforce Unit at the AIHW.

Relevance: The primary purpose of the AIHW NHWDS 2014 for allied health practitioners is to provide information on the number and demographic and employment characteristics of the each of the following health practitioners:

- Psychologists
- Pharmacists
- Physiotherapists
- Dentists
- Dental hygienists
- Dental prosthetists
- Dental therapists
- Oral health therapists
- Occupational therapists
- Medical radiation practitioners
- Chiropractors
- Optometrists
- Chinese medicine practitioners
- Podiatrists
- Osteopaths
- Aboriginal and Torres Strait Islander health practitioners.

The AIHW NHWDS 2014 describes the size and characteristics of the health workforce in Australia. It is of interest to health agencies involved in workforce planning, as well as health policy planning and implementation in general.

The location and distribution of the workforce, plus demographic details such as age and sex of practitioners, are relevant to workforce planning within states, territories and nationally. Information on qualifications is of use to the relevant professional associations and for educational planning.

Accuracy: *Survey Responses*

The response rates for each of the allied health profession surveys are listed in Table 1.

Table 1: Survey response rates(a), states and territories, 2014

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(b)
Psychologists	95.2	94.5	94.4	91.5	94.4	94.0	94.3	94.6	94.5
Pharmacists	93.9	93.3	93.8	92.7	95.1	93.4	95.8	94.3	93.7
Physiotherapists	92.7	91.8	91.8	90.4	91.4	95.1	94.8	96.7	92.1
Dentists	93.2	92.8	91.8	89.4	92.0	90.9	96.3	92.9	92.2
Dental hygienists	91.8	94.1	97.3	90.4	92.8	100.0	91.7	98.0	93.4
Dental prosthetists	92.4	89.9	88.4	83.1	98.8	93.6	100.0	87.5	90.8
Dental therapists	94.8	95.0	93.3	95.7	96.6	98.1	86.4	100.0	95.2
Oral health therapists	84.6	89.1	87.2	81.5	66.7	75.0	100.0	86.4	84.9

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(b)
Occupational therapists	91.8	92.0	91.2	90.3	89.3	94.9	96.2	93.5	91.4
Medical radiation practitioners	93.6	93.1	92.8	89.7	87.3	93.4	96.3	93.3	92.3
Chiropractors	93.8	92.3	94.8	95.9	90.9	96.1	100.0	96.8	93.3
Optometrists	95.3	95.8	94.9	92.8	95.1	96.7	94.9	97.3	95.0
Chinese medicine practitioners	91.4	90.9	90.9	92.4	92.0	96.7	93.8	89.9	91.1
Podiatrists	92.7	89.7	91.1	91.2	88.3	97.8	90.9	90.0	90.9
Osteopaths	91.7	89.9	91.5	85.7	93.4	88.6	100.0	91.2	90.6
Aboriginal and Torres Strait Islander health practitioners	87.2	83.3	78.1	72.7	59.3	100.0	85.1	100.0	82.0

(a) Excludes provisional registrant (affecting Medical radiation practitioners, Osteopaths, Occupational therapists, Pharmacists and Psychologists).

(b) Includes health workers who did not state or adequately describe their state or territory, and those who were overseas.

Source: AIHW NHWDS 2014.

Data are reported on the basis of the most current address at the time the survey was undertaken, unless stated otherwise. The data include employed health practitioners who did not state or adequately describe their location, as well as employed health practitioners who were overseas. The national estimates include these groups.

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, 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 included hours worked in the week before the survey, principal role of main job, principal area of main job in medicine 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 hot deck-based imputation, similar to that used for imputing unreported hours in previous years.

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 stratum 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.

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 in more detail.

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 similar 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.

Coherence:

This is the second time data on medical radiation practitioners, chiropractors, Chinese medicine practitioners, osteopaths and Aboriginal and Torres Strait Islander health practitioners has been produced.

For psychologists, pharmacists, physiotherapists, dentists, dental hygienists, dental prosthetists, dental therapists, oral health therapists, occupational therapists, optometrists and podiatrists, data has previously been published by AIHW based on jurisdictional based board registration and survey data. Data collected through the NRAS (2011 onwards) is not directly comparable with data collected through the jurisdiction-based data collection.

In 2013 there was an improvement to the methodology for assigning clinical or non-clinical job roles for those reporting 'Other' to the corresponding survey question. In the three largest groups, psychologists, pharmacists and physiotherapists, there has been an increase in the proportion reported as working as clinicians, such that this should not be compared to the results for 2012. In the case of pharmacists and physiotherapists, this is a result of recoding 'Other' responses to one of the standard job roles (predominantly 'Clinician'), based on further information provided by an additional free text field. For psychologists this increase was also caused largely by a rewording of the survey form from and "Clinician" in 2012 to "Direct Client Services Role" in 2013, resulting in fewer respondents selecting 'Other'.

Similarly the hours related questions for psychologists were affected by changing from specifying "Clinical roles" in 2013 to "Direct Client Services Role" in 2013, resulting in higher numbers of hours reported in a Direct Client Services Role rather than in a Clinical role, which consequently affected hours reported in the public and private sector split.

Changes in non-response estimation methods, from weighting in 2012 to imputation in 2013, may have implications for comparability of data over time. In particular, small geographic areas may have more accurate estimates from 2013 than previously. See Accuracy section for more detail.

Due to transition arrangements between pre-existing state/territory-based registration systems and the NRAS, people previously registered as medical radiation practitioners in Queensland, Western Australia and Tasmania or occupational therapists previously registered in Queensland, Western Australia and South Australia may not have been required to renew their registration in 2012 and hence did not receive a survey. Registration data for these people was migrated from pre-existing state based systems. As a result the survey data for 2012 for these professions excludes these jurisdictions; FTE and FTE rates should not be compared with those in 2013 and later years.

Comparisons with 2011 data for oral health therapists, dental therapists, dental hygienists and dental prosthetists should be made with caution. Dental practitioners registered in more than one division of general registration are assigned a primary (or main) division. The methodology to assign a primary dental division of general registration changed from 2011 to 2012. In 2011, oral health therapists included those with both dental therapy and dental hygienist registrations. In 2012, practitioners with both dental hygiene and dental therapy registrations were treated as either a dental therapist or dental hygienist depending on other eligibility criteria (e.g. principal area of main job, whether worked more hours in private or public sector and geographic location). For further details see Page 79 and 80 of [Dental workforce 2012 \(AIHW\)](#).

Source and reference attributes

Submitting organisation: Australian Institute of Health and Welfare