

National Healthcare Agreement: PI 33-Full time equivalent employed health practitioners per 1,000 population (by age group), 2014 QS

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Identifying and definitional attributes

Metadata item type:	Data Quality Statement
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Data quality

Data quality statement summary:

- The rates have been calculated per 100,000 population for this indicator to assist with interpretation.
- Due to the differences in data collection, processing and estimation methods, including survey design and questionnaire, it is recommended that comparisons between workforce data from the National Health Workforce Data Set (NHWDS) and the previous Australian Institute of Health and Welfare (AIHW) Labour Force Survey be made with caution.
- Results for the indicator are estimates because the survey data have undergone imputation and weighting to adjust for non-response. It should be noted that any of these adjustments may have introduced some bias in the estimates and any bias is likely to become more pronounced when response rates are low or when estimates are based on a small number of survey records. Care should be taken when drawing conclusions about the size of the differences between estimates.
- The 2011 and 2012 allied health workforce indicator data exclude provisional registrants.
- The 2012 dental, medical and nursing and midwifery workforce indicator data exclude provisional registrants.
- Data have been revised since the publication of Medical workforce 2010, Medical workforce 2011 and Nursing and midwifery workforce 2011, so these data will not match data previously published.
- The 2011 data for osteopaths in the allied health workforce has been revised since the publication of Allied health workforce 2012, so the data will not match data previously published.

Institutional environment: The Australian Institute of Health and Welfare (AIHW) has calculated this indicator using estimates derived from the National Health Workforce Data Set (NHWDS). The NHWDS is developed through the collaboration of three agencies.

The Australian Health Practitioner Regulation Agency (AHPRA) is the organisation responsible for the implementation of the National Registration and Accreditation Scheme (NRAS) across Australia, including collecting registration data and administering the workforce surveys.

Health Workforce Australia is responsible for the development of the health workforce surveys.

The AIHW receives registration and survey data from the AHPRA. The registration and workforce survey data are combined, cleansed and adjusted for non-response to form NHWDS, and the findings reported by profession. AIHW is the data custodian of the NHWDS. These data are used for workforce planning, monitoring and reporting.

The AIHW is an independent statutory authority within the Health portfolio, which is accountable to the Parliament of Australia through the Minister. For further information see the AIHW website.

Timeliness:National Health Workforce Data Set:

The NHWDS for each of the registered professions will be produced annually during the national registration renewal process. Each profession will also be administered a Workforce Survey as part of the registration renewal process.

—Medical practitioners 2010, 2011 and 2012

The NHWDS: medical practitioners is produced annually from information collected by the national registration renewal process, conducted between 1 July and 30 September each year, including the collection of the Medical Workforce Survey. The period for the 2010 renewal process was extended to the end of January 2011. Despite this extension, there were still Queensland and Western Australia registrants with expiry dates after January. Therefore data from these states were not included in the 2010 data set.

—Nurses and midwives 2011 and 2012

The NHWDS: nurses and midwives is produced annually from information collected by the national registration renewal process, conducted between 1 April and 31 May each year, including the collection of the Nursing and Midwifery Workforce Survey. The period for the 2011 renewal process was extended to the end of June 2011 for Queensland and end of December 2011 for Western Australia registrants.

—Dental practitioners 2011 and 2012

The NHWDS: dental practitioners is produced annually from information collected by the national registration renewal process, conducted between 1 September and 30 November each year, including the collection of the Dental Workforce Survey. Practitioners with limited registration are due for renewal on the anniversary of their first registration and can thus renew and complete a survey at any time through the year.

—Allied health practitioners 2011 and 2012

The NHWDS: allied health practitioners is produced annually from information collected by the national registration renewal process, conducted between 1 September and 30 November each year, including the collection of the profession-specific workforce surveys. Practitioners with limited registration are due for renewal on the anniversary of their first registration and can thus renew and complete a survey at any time through the year.

Accessibility:

Published products available on the AIHW website include workforce reports, survey questionnaires, user guides to the data sets and supplementary detailed tables.

Interpretability:

Explanatory information for the Medical Workforce Survey, Dental Workforce Survey and the Nursing and Midwifery Workforce Survey is contained in the published reports, supplementary detailed tables and data quality statements to the data set for each. For individual allied health professions, information about their workforce surveys is available in the Allied health workforce 2012 report and data quality statement. This includes collection method, scope and coverage, survey response, imputation and weighting procedures, and assessment of data quality (including comparison with other data sources).

These are available via the AIHW website and readers are advised to read caveat information to ensure appropriate interpretation of the performance indicator.

Relevance:

Medical practitioners, dental practitioners, nurses/midwives and allied health practitioners are required by law to be registered with their relevant national board to practise in Australia. All medical practitioners, dental practitioners, nurses/midwives and nominated allied health practitioners must complete the formal registration renewal form(s) to practise in Australia. This is the compulsory component of the renewal process. The exception is Aboriginal and Torres Strait Islander health practitioners in the allied health workforce; where those 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 can continue to work using their current titles (e.g. 'Aboriginal health worker', 'drug and alcohol worker' and 'mental health worker').

The health workforce surveys for each of these professions is voluntary and only practitioners who renew their registration receive a questionnaire for completion. New registrants will not receive a survey form until they renew their registration the following year, during the registration renewal period. Practitioners with limited registration are due for renewal on the anniversary of their first registration and can thus renew and complete a survey at any time through the year.

National Health Workforce Data Set: medical practitioners 2010, 2011 and 2012

The NHWDS: medical practitioners 2010, 2011 and 2012 contain registration details of all registered medical practitioners in Australia, at 30 September on the annual renewal date. Data were extracted from the AHPRA database at the end of November of the same year. The NHWDS also contains workforce data of respondents whose principal state of practice was not Queensland or Western Australia, obtained from the Medical Workforce Survey 2010. These states were excluded from the survey because not all registrations in these states expired prior to the national registration deadline. In 2011 and 2012, the NHWDS contains workforce data obtained from the Medical Workforce Survey for all states and territories.

National Health Workforce Data Set: dental practitioners 2011 and 2012

The NHWDS: dental practitioners 2011 and 2012 contain registration details of all registered dental practitioners in Australia, at 30 November on the annual renewal date. Data were extracted from the AHPRA database at the end of January the following year. In 2011 and 2012, the NHWDS contains workforce data obtained from the Dental Workforce Survey.

National Health Workforce Data Set: nurses and midwives 2011 and 2012

The NHWDS: nurses and midwives 2011 and 2012 contain registration details of all registered nurses/midwives in Australia at 31 May on the annual renewal date. Data were extracted from the AHPRA database at the end of November of the same year. In 2011 and 2012, the NHWDS contains workforce data obtained from the Nursing and Midwifery Workforce Survey.

National Health Workforce Data Set: allied health practitioners 2011 and 2012

The NHWDS: allied health practitioners 2011 and 2012 contain registration details of all registered allied health practitioners in Australia, at 30 November on the annual renewal date. Data were extracted from the AHPRA database at the end of January the following year. The NHWDS also contains workforce data obtained from each profession-specific health workforce survey.

Indicator data for allied health practitioners are not comparable between 2011 and 2012 due to four additional professions joining the NRAS in 2012. For 2011, data was collected for seven professions: chiropractors, optometrists, osteopaths, pharmacists, physiotherapists, psychologists and podiatrists. For 2012, in addition to the seven in 2011, data was collected for Aboriginal and Torres Strait Islander health practitioners, Chinese medicine practitioners, medical radiation practitioners and occupational therapists.

Due to transitional arrangements with the migration of data from state and territory-based systems to NRAS, in 2012, many medical radiation practitioners in Queensland, Western Australia and Tasmania were not required to renew their registrations and, as a result did not complete a workforce survey. As a consequence, data for Queensland, Western Australia and Tasmania for this profession are excluded from the indicator data for allied health practitioners.

For the same reason, occupational therapists in Queensland, Western Australia and South Australia are excluded from the indicator data for allied health practitioners in 2012.

Accuracy:

Data manipulation and estimation processes

The registration and workforce survey data for each health profession are combined, cleansed and adjusted for non-response to form the National Health Workforce Data Set (NHWDS). The cleaning and editing procedures included range and logic checks, clerical scrutiny at unit record level, and validation of unit record and aggregate data.

The data have undergone imputation for item non response and are weighted to the total number of registered practitioners to adjust for population non response. It should be noted that both of these kinds of non-response is likely to introduce some bias in the estimates and any bias is likely to become more pronounced when response rates are low or when estimates are based on a small number of records. Care should be taken when drawing conclusions about the size of the differences between estimates.

As a result of the estimation method to adjust for non-response, numbers of medical practitioners, dental practitioners, nurses/midwives or allied health practitioners may have been in fractions, but have been rounded to whole numbers for this indicator. The full-time equivalent (FTE) rate calculations are based on rounded numbers.

Registration data from the National Registration and Accreditation Scheme (NRAS)

Registration details were migrated from the respective state and territory professional board (or council) for practitioners with registrations expiring after the official AHPRA closing date for their profession.

Some data items previously collected by the AIHW Labour Force Surveys are now collected by the NRAS. However, some data quality issues due to migrated data items from the respective state and territory health profession boards may have affected the weighting method.

Medical practitioners, dental practitioners, nurses/midwives and allied health practitioners who reside overseas have been included with practitioners whose state or territory of principal practice and state or territory of main job, respectively, could not be determined.

Health Workforce Survey

The online survey questionnaire does not include electronic sequencing of questions to automatically guide the respondent to the next appropriate question based on previous responses to questions. This resulted in a number of inconsistent responses.

The order of the response categories for some questions may have also impacted on the accuracy of the information captured. In addition, there was variation in some responses between the online and paper surveys.

NHWDS data by profession

The following should be noted when comparing state and territory indicator data:

- The data include employed professionals who did not state or adequately describe their state of principal practice and employed professionals who reside overseas. The national estimates include this group.

National Health Workforce Data Set: medical practitioners 2010, 2011 and 2012

- The overall response rate for 2010 (excluding Queensland and Western Australia) was 76.6 per cent.
- The overall response rate for 2011 was 85.3 per cent.
- The overall response rate for 2012 was 90.1 per cent.

National Health Workforce Data Set: nurses and midwives 2011 and 2012

- The overall response rate for 2011 was 85.1 per cent.
- The overall response rate for 2012 was 93.3 per cent.

National Health Workforce Data Set: dental practitioners 2011 and 2012

- The overall response rate for 2011 was 88.3 per cent.
- The overall response rate for 2012 was 92.2 per cent.

National Health Workforce Data Set: allied health practitioners 2011 and 2012

- The overall response rate for 2011 was 87.0 per cent.
- The overall response rate for 2012 was 87.7 per cent.

Coherence:

Health Workforce Survey—coherence with previous surveys

Labour force data published by the AIHW before the NRAS was established in July 2010, were the result of collated jurisdiction-level occupation-specific surveys. The current Health Workforce Survey gathers similar information from each professional group through a separate questionnaire, tailored slightly to take account of profession-specific responses to certain questions, e.g. work setting of main job.

For this indicator, the workforce surveys for medical practitioners, dental practitioners, nurses/midwives and allied health practitioners collect similar data items, but the methodology differs from previous years. The AHPRA is now the single source of registered practitioner data instead of eight state and territories bodies for each profession, and there is greater consistency between jurisdictions and years in the scope of registration information.

The scope and coverage of the Health Workforce Survey is also different from that of the previous series of AIHW Labour Force Surveys as not all jurisdictions surveyed all types of registered health practitioners.

If the location of principal practice recorded in the registration data was different from the corresponding details of their main job self-reported by practitioners in the survey, the location was derived hierarchically based on main job information and then on principal practice location then place of residence.

Date of birth is one of many data items previously collected by the AIHW Labour Force Surveys, which is now collected by the NRAS.

The three employment-related questions in the new survey are now nationally consistent, but vary from the previous AIHW Labour Force Survey. Due to the differences in data collection (including survey design and questionnaire), processing and estimation methods, it is recommended that comparisons between workforce data from the NHWDS and the previous AIHW Labour Force Survey be made with caution.

AIHW Published Numbers

For this indicator, the rates are based on practitioners employed in the medical, allied health and nursing and midwifery workforces, which is consistent with data published in AIHW's workforce reports. Except dental practitioner data are restricted to persons employed in the public sector and are thus not comparable to figures published elsewhere by the AIHW.

Registration data from the NRAS—coherence with published AHPRA/Board data

The NHWDS comprises the registration data extracted at a point in time from the NRAS, while the AHPRA/Board numbers include people registered in the previous 12 months, thereby including registrants whose registration terminated during that period (including short term registrants).

For 2011, the only source of published statistics about registered health professionals is the 2010–11 AHPRA annual report. From March 2012, each Board publishes the data on a quarterly basis.

Medical practitioners in 2010, 2011 and 2012

The NHWDS numbers of registered medical practitioners for 2010 and 2011 are similar to data reported in the 2010–11 AHPRA annual report. For 2010, there were 84,516 registered practitioners for 2010, compared with 88,293 registered practitioners at 30 June 2011 in the AHPRA annual report.

For 2011, there were 87,790 registered medical practitioners in the NHWDS. Furthermore, the Medical Board of Australia in their quarterly data tables reported 91,354 for March 2012 and 91,645 for June 2012.

For 2012, there were 91,504 registered medical practitioners in the NHWDS, compared with 91,745 reported at December 2012 in the AHPRA quarterly data tables.

Nurses/midwives in 2011 and 2012

The NHWDS number of registered nurses and midwives for 2011 is similar to data reported in the 2010–11 AHPRA annual report, with 330,680 registered nurses and midwives in the NHWDS, compared with 332,185 registered nurses and midwives at 30 June 2011 in the AHPRA annual report. The Nursing and Midwifery Board of Australia in their quarterly data tables reported 341,189 for March 2012.

For 2012, there were 334,078 registered nurses and midwives in the NHWDS, compared with 343,703 reported at June 2012 in the 2011–12 AHPRA annual report.

Dental practitioners in 2011 and 2012

The NHWDS number of registered dental practitioners for 2011 is similar to data reported in the 2010–11 AHPRA annual report, with 18,660 registered practitioners in the NHWDS, compared with 18,319 registered dental practitioners at 30 June 2011 in the AHPRA annual report. The Dental Board of Australia in their quarterly data tables reported 18,902 for March 2012 and 19,087 for June 2012.

For 2012, there were 19,462 registered dental practitioners in the NHWDS, compared with 19,759 reported at December 2012 in the AHPRA quarterly data tables.

Allied health practitioners in 2011 and 2012

The NHWDS number of registered allied health practitioners for 2011 and 2012 are similar to data reported in the 2010–11 AHPRA annual report. For 2011, there were 91,587 registered practitioners in the NHWDS, compared with 91,318 registrations at 30 June 2011 in the AHPRA annual report.

For 2012, there were 126,788 registered allied health practitioners in the NHWDS, compared with 128,408 reported at December 2012 in the AHPRA quarterly data tables.

Relational attributes

Related metadata references:

Supersedes [National Healthcare Agreement: PI 33-Full time equivalent employed health practitioners per 1,000 population \(by age group\), 2013 QS Health!](#), Superseded 14/01/2015

Has been superseded by [National Healthcare Agreement: PI 33-Full time equivalent employed health practitioners per 1,000 population \(by age group\), 2015 QS Health!](#), Superseded 08/07/2016

Indicators linked to this Data Quality statement:

[National Healthcare Agreement: PI 33-Full time equivalent employed health practitioners per 1,000 population \(by age group\), 2014 Health!](#), Superseded 14/01/2015