



Australian Government

Australian Institute of
Health and Welfare

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NATIONAL HEALTH WORKFORCE SERIES

Number 2

Nursing and midwifery workforce 2011

Australian Institute of Health and Welfare
Canberra

Cat. no. HWL 48

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This publication is part of the Australian Institute of Health and Welfare's National health workforce series. A complete list of the Institute's publications is available from the Institute's website <www.aihw.gov.au>.

ISSN 1446-9820

ISBN 978-1-74249-319-0

Suggested citation

Australian Institute of Health and Welfare 2012. Nursing and midwifery workforce 2011. National health workforce series no. 2. Cat. no. HWL 48. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare

Please note that there is the potential for minor revisions of data in this report. Please check the online version at <www.aihw.gov.au> for any amendments.

Contents

Acknowledgments.....	v
Abbreviations.....	vi
Symbols.....	vi
Technical notes	vii
Summary	viii
1 Introduction.....	1
1.1 Nurses and midwives in Australia.....	1
1.2 National registration of nurses and midwives	3
1.3 Nursing and Midwifery Workforce Survey	5
1.4 Additional information	6
2 Registered and enrolled nurses and direct entry midwives	7
2.1 At a glance.....	7
2.2 Workforce status	10
3 Nurses and midwives employed in nursing and midwifery in Australia	14
3.1 Age and sex.....	14
3.2 Aboriginal and Torres Strait Islander nurses and midwives.....	16
3.3 Role in nursing and midwifery	17
3.4 Area of nursing and midwifery	18
3.5 Country of first nursing and midwifery qualification.....	20
3.6 Work setting.....	20
3.7 Working hours.....	22
4 Supply of nurses and midwives	26
4.1 Overall supply	26
4.2 Supply of employed nurses and midwives.....	26
5 Regional profile of employed nurses and midwives	30
5.1 Remoteness areas of Australia	30
5.2 States and territories of Australia	39
6 Selected characteristics of midwives	42
6.1 Overview	42
6.2 Area of nursing or midwifery	42
6.3 Remoteness areas of Australia	44
6.4 States and territories of Australia	45

7	Sources of new entrants and re-entrants to the nursing and midwifery workforce	47
7.1	Nurse training.....	47
7.2	Nurses and midwives not employed in nursing or midwifery.....	48
Appendix A:	Explanatory notes on Nursing and Midwifery Workforce 2011 data sources	50
Appendix B:	2010 nursing and midwifery registration numbers from state and territory boards/councils	61
Appendix C:	Additional information available from the AIHW website.....	62
Appendix D:	Population estimates.....	63
Appendix E:	Data Quality Statement: National Health Workforce Data Set: nurses and midwives 2011.....	65
	Glossary.....	73
	References	76
	List of tables	78
	List of figures	80

Acknowledgments

This report was prepared by Ian Titulaer, Janice Miller, Stephen Dent and Vicki Bennett.

Thanks go to the Australian Health Practitioner Regulation Agency and Health Workforce Australia for the collection and supply of data for review and input into this report.

This project was possible due to funding made available by Health Workforce Australia.



An Australian Government Initiative



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The work survey data was provided by the Australian Health Practitioner Regulation Agency.



Australian
Health Practitioner
Regulation Agency

Abbreviations

ABS	Australian Bureau of Statistics
AHMAC	Australian Health Ministers Advisory Council
AHPRA	Australian Health Practitioner Regulation Agency
AIHW	Australian Institute of Health and Welfare
ASGC	Australian Standard Geographical Classification
ASGC RA	Australian Standard Geographical Classification Remoteness Area
COAG	Council of Australian Governments
FTE	full-time equivalent
HWA	Health Workforce Australia
NHWDS	National Health Workforce Data Set
NMBA	Nursing and Midwifery Board of Australia
NRAS	National Registration and Accreditation Scheme
VET	Vocational Educational and Training

Symbols

<	less than
+	and over
—	nil or rounded to zero
-	negative or minus value
..	not applicable (category/data item does not apply)
n.a.	not available
n.p.	not published (data cannot be released due to quality issues, confidentiality or permission not granted).

Technical notes

1. Numbers in tables may not sum to the totals shown due to the estimation procedure to adjust for non-response (see Appendix A). As a result, the estimated numbers of nurses and midwives may be in fractions, but are rounded to whole numbers for publication.
2. Percentages in tables may not sum to 100 due to rounding.
3. *Italic* type within a table denotes a subtotal.
4. Explicit references to categories of data items are in quotation marks.

Summary

This report presents information on the nursing and midwifery workforce, based primarily on estimates derived from the National Health Workforce Data Set: nurses and midwives 2011, the first in this new series. The data set contains information on the demographic and employment characteristics of nurses and midwives who were registered in Australia in 2011. Data are collected via registration forms and a survey instrument administered by the Australian Health Practitioner Regulation Agency, in conjunction with the annual registration renewal process for nurses and midwives.

The main findings of the report are:

Size of nursing and midwifery workforce

- In 2011, the total number of nurses and midwives registered in Australia was 326,669, a 6.8% increase since 2007 (305,834).
- Between 2007 and 2011, the number of nurses and midwives employed in nursing or midwifery increased by 7.7% from 263,331 (86.1% of registrations) to 283,577 (86.8% of registrations).
- Of these people employed in nursing and midwifery, 36,074 were midwives (including 1,517 people registered as midwives but not nurses), though only 15,523 reported working in midwifery as the principal area of their main job.
- Overall, nursing and midwifery supply decreased by 1.3% between 2007 and 2011, from 1,095.1 to 1,081.1 full-time equivalent nurses and midwives per 100,000 population, based on a 38-hour week. This was mainly a result of a 7.4% decrease in the number of employed enrolled nurses and a 1.6% decrease in the average hours worked by all nurses and midwives over this period.
- Nursing and midwifery supply across regions ranged from 1,101.6 full-time equivalent nurses and midwives per 100,000 population in *Major cities* to 994.7 in *Outer regional* areas to 1,335.5 in *Very remote* areas, based on a 38-hour week.

Demography

- Nursing and midwifery continued to be a female-dominated profession, with women comprising 90.1% of employed nurses and midwives in 2011 (down from 90.4% in 2007).
- The average age of the nursing and midwifery workforce increased between 2007 and 2011 (from 43.7 to 44.5 years). The proportion of nurses and midwives aged 50 or older increased from 33.0% to 38.6% over this period.

Working arrangements

- The average weekly hours worked by employed nurses and midwives decreased from 33.3 hours in 2007 to 32.8 hours in 2011.
- Of all employed clinical nurses and midwives, almost two-thirds (65.2%) worked in hospitals.
- Almost two-thirds of all nurses and midwives reported working in the public sector (59.3%), and these nurses and midwives worked an average of 2.4 hours more per week than their private sector counterparts.
- The clinical area of nursing and midwifery with the largest number of workers in 2011 was aged care (40,443), which also had the highest proportion of enrolled nurses (41.5%).

1 Introduction

This report provides data on the Australian nursing and midwifery workforce in 2011, and is the first report on this profession to use information from the new National Health Workforce Data Set (NHWDS): nurses and midwives 2011. The NHWDS combines data from the National Registration and Accreditation Scheme (NRAS) with health workforce survey data collected at the time of annual registration renewal.

The information presented in this report was collected from nurses and midwives when they renewed their registration via the mandatory registration process administered by the Australian Health Practitioner Regulation Agency (AHPRA). An optional survey collected a range of additional demographic and workforce information at the same time as registration renewal occurred.

Where the data allow, this report compares the 2011 results with estimates derived from surveys conducted in earlier years. Registration data from the now superseded state and territory nursing and midwifery boards and councils are also presented to provide time series information where possible.

Box 1.1: Who are nurses and midwives?

Midwifery and nursing professionals provide care to mothers and their babies, the elderly, and physically and mentally ill patients in hospitals, nursing homes, medical centres and the community; provide clinical education to midwives and nurses; conduct research into clinical nursing practice; and manage health service units and sub-units.

Midwives provide care and advice to women during pregnancy, labour and childbirth, and postnatal care for women and babies in a range of settings such as the home, community, hospitals, clinics and health units.

Registered nurses provide nursing care to patients in hospitals, aged care and other health-care facilities, and in the community.

Nursing educators and researchers provide clinical and theoretical education to, and promote professional development of, nurses and midwives; and conduct research into nursing practice.

Enrolled and mothercraft nurses provide nursing care to patients in hospitals, aged care and other health-care facilities and in the community; and assist parents in providing care to newborn infants under the supervision of a Registered Nurse or Midwife. (ABS 2006; ABS 2009).

1.1 Nurses and midwives in Australia

In Australia, nurses and midwives are trained to provide services to promote, maintain and restore health and wellbeing (see Box 1.1 and 'Glossary').

Under the NRAS, nurses can be registered in two divisions: registered nurse (Division 1) or enrolled nurse (Division 2). Midwife registrations have no division, though most midwives are also registered as nurses in Division 1 (registered nurses). The term 'registered nurse' has

been preserved in the NRAS and in the preceding state systems even though enrolled nurses are, in fact, 'registered' to practise as enrolled nurses.

In this report, because the data spans both old and new systems, the term 'nurse' includes all people who were either registered or enrolled with the Nursing and Midwifery Registration Boards at the time the Nursing and Midwifery Workforce Surveys were conducted (see Box 1.2).

'Registered nurses' (Division 1) include registered nurses, registered midwives, direct entry midwives, nurse practitioners, and midwife practitioners.

'Enrolled nurses' (Division 2) include enrolled nurses and enrolled nurses (mothercraft). To approve registration or enrolment, registration boards must be satisfied that the applicant has completed an appropriate nursing or midwifery course, is fit and competent to practise, has a state of health such that he or she can practise safely, and has sufficient command of the English language to ensure safe practice (NMBA 2012a).

Box 1.2: The Nursing and Midwifery Board of Australia

The Nursing and Midwifery Board of Australia (the National Board or the NMBA) is the national nursing and midwifery regulator in Australia. It is established under the Health Practitioner Regulation National Law, as in force in each state and territory (the National Law) (NMBA 2012b).

The functions of the NMBA include:

- registering nursing and midwifery practitioners and students
- developing standards, codes and guidelines for the nursing and midwifery profession
- handling notifications, complaints, investigations and disciplinary hearings
- assessing overseas trained practitioners who wish to practise in Australia
- approving accreditation standards and accredited courses of study.

The NMBA has established state and territory boards to support its work in the national scheme. The NMBA sets policy and professional standards, and the state and territory boards continue to make individual notification and registration decisions affecting individual nurses and midwives, based on the national policies and standards (AHPRA 2011c).

Most nurses are clinicians and, in the Nursing and Midwifery Workforce Survey, are defined as providing direct patient care, treatment, diagnosis or advice. Other nurses work as administrators, teachers/educators, and researchers.

The qualifications and skill level required for registration or enrolment vary, reflecting the type of work and level of responsibility for the various nursing classifications in the workplace. For registered nurses, a 3-year bachelor or postgraduate degree in nursing (or the equivalent) is usually required. This degree includes both theoretical and clinical aspects.

Midwives are now recognised as a separate profession. To register and practise as a midwife, a person must have appropriate qualifications in midwifery. There are two paths to these qualifications. Midwives can first qualify as a registered nurse and then undertake additional education and training in midwifery. However, some universities now offer direct entry midwifery undergraduate programs. Direct entry midwives, as with other midwives, must be registered with the Nursing and Midwifery Board of Australia to practise, but are

restricted to practising midwifery only, whereas other midwives are also able to practise general nursing.

Nurse practitioners also train as registered nurses but undergo additional education and training in nursing at an advanced level, in line with their additional responsibilities. Working autonomously in an advanced and extended clinical role, authorised nurse practitioners may perform some specified functions traditionally done by a medical practitioner, such as prescribing some medications, ordering diagnostic tests and making referrals when operating within approved guidelines (ANMC 2004). Nurse practitioners are currently a small group, numbering 624 in 2011 (AHPRA 2011a).

Enrolled nurses usually work with registered nurses to provide patients with basic nursing care, doing less complex procedures than registered nurses. Enrolled nurses must have completed an appropriate vocational education and training (VET) course or equivalent, lasting between 1 and 2 years, providing a theoretical base as well as supervised clinical experience.

In addition to requiring the appropriate qualifications, registered and enrolled nurses are expected to achieve and maintain competence in whatever setting they practise, and to meet guidelines on 'recency of practice'. National Competency Standards, which are agreed by all states and territories, set out the core competency standards by which a nurse's training and performance are assessed in order to obtain and retain registration or enrolment as a nurse in Australia (ANMC 2002; ANMC 2006). Nurses wishing to re-register who have not had sufficient nursing practice in the preceding 5 years are required to do a re-entry to practice program. First-year registered nurses are offered graduate nurse programs in the workplace to enable them to obtain the required clinical competencies to practise without supervision.

The standards relevant to nursing are available at the NMBA web site, <http://www.nursingmidwiferyboard.gov.au/Codes-Guidelines-Statements/Codes-Guidelines.aspx#competencystandards>.

1.2 National registration of nurses and midwives

All nurses and midwives must be registered with the AHPRA to practise in Australia. This applies to both those who trained in Australia and those who trained overseas. The AHPRA manages the NRAS, which replaced jurisdiction-based registration with a single national registration and accreditation system for health professionals in July 2010. As part of this scheme, the AHPRA supports National Health Practitioner Boards that are responsible for regulating registered health professions under nationally consistent legislation. Registration for each profession is granted by the relevant Boards, subject to applicants meeting the standards and policies set by each. The outcome of an application is either 'registration', 'registration with conditions' or 'rejection'.

Box 1.3: Which professions are included in the National Registration and Accreditation Scheme?

Since 1 July 2010, the following 10 professions have been regulated under the National Scheme:

- chiropractors
- dental practitioners (including dentists, dental hygienists, dental prosthetists and dental therapists)
- medical practitioners
- nurses and midwives
- optometrists
- osteopaths
- pharmacists
- physiotherapists
- podiatrists
- psychologists.

From 1 July 2012, the following four health professions will be included in the National Scheme:

- Aboriginal and Torres Strait Islander health practitioners
- Chinese medicine practitioners
- medical radiation practitioners
- occupational therapists.

Source: AHPRA 2011b.

At its introduction, the NRAS covered registration for 10 health professions; with an additional four scheduled for inclusion from 1 July 2012 (see Box 1.3). The type of registration held by nurses and midwives determines (or limits) the work they are licensed to perform. Registration is granted to nurses and midwives who have fulfilled the full requirements of the Board to practise. It permits nurses and midwives to work unsupervised in their field. If a nurse or midwife does not meet the requirements to become registered, they may obtain a registration with conditions – such as completion of further education or training within a specified period, or a specified period of supervised practice.

Although AHPRA registration data are used, the information provided in this report focuses on nurses and midwives who make up the workforce; thus, most of the data exclude those not actively working in nursing or midwifery. For this reason, figures in this report are not directly comparable with those on the number of registered nurses and midwives released by the AHPRA.

1.3 Nursing and Midwifery Workforce Survey

Access to reliable, comprehensive, timely and nationally consistent trend data is required to understand the current health labour force and for workforce planning. The size, distribution and expertise of the health workforce are of keen interest to governments, educators, health-care providers and the community. There is particular interest in changes to the size and composition of the various health professions, and the potential impacts of these changes on health-care delivery.

Recognising this, the Australian Health Ministers Advisory Council (AHMAC) commissioned the Australian Institute of Health and Welfare (AIHW) in 1990 to develop national health labour force statistics on the major registrable health professions. Nurses and midwives were identified as one of the key health professions for which ongoing information should be collected for monitoring and planning purposes. These practitioners have been the focus of a regular survey and AIHW report at least every second year since 1993.

Before 2011, the AIHW Nursing and Midwifery Labour Force Survey was managed by each state and territory health authority, with a questionnaire administered by the nursing and midwifery board (or council) in each jurisdiction as part of the registration renewal process. Under agreement with the Health Workforce Principal Committee of the AHMAC, the AIHW cleaned, collated and weighted the state and territory survey results to obtain national estimates of the total nursing and midwifery workforce, and reported the findings.

In 2010, the NRAS was introduced and the AIHW Nursing and Midwifery Labour Force Survey was replaced with the Nursing and Midwifery Workforce Survey. The new national survey is administered by the AHPRA and included as part of the registration renewal process.

The Nursing and Midwifery Workforce Survey is used to provide nationally consistent estimates of the nursing and midwifery workforce. It provides data not readily available from other sources, such as on the type of work done by, and job setting of, nurses and midwives; 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 nursing and midwifery workforce. The survey also provides information on those registered nurses and midwives who are not undertaking clinical work or who are not employed.

The overall response rate in 2011 was 86.2% which was the highest survey response rate ever recorded; it was almost double that of 2009 (44.4%) (Table A.2). Queensland and Victoria had the highest response rates at 91.5% and 90.4%, respectively. Western Australia had the lowest response rate at 62.1%. The Western Australian response rate was partly affected by transitional arrangements between the state-based registration and the establishment of the NRAS in 2010 (see Appendix A). Irrespective of this, the response rate for 2011 in Western Australia is still nearly double that achieved in 2009 (35.4% in 2009).

Responses to the survey have been weighted to benchmark figures to account for non-response. The benchmarks used are the number of nurses and midwives registered by main registration division in each state and territory (using principal address) by sex and age group. Those who registered only as midwives were weighted separately as they had completed a separate survey form. Because there were so few of these registrations (1,783, see Table 2.1), their responses have been included with those of registered nurses. This is in line with past practice and was undertaken because almost all of the nurses who are both

nurses and midwives are registered nurses. However, a subset of specific information on midwives is included in Chapter 6.

Past and present surveys have different collection and estimation methodologies and questionnaire designs. As a result, care should be taken in comparing historical data from the AIHW Nursing and Midwifery Labour Force Survey with data from the Nursing and Midwifery Workforce Survey 2011.

A detailed description of the Nursing and Midwifery Workforce Survey 2011, including a summary of changes from the 2009 AIHW Nursing and Midwifery Labour Force Survey and data collected, is provided at Appendix A.



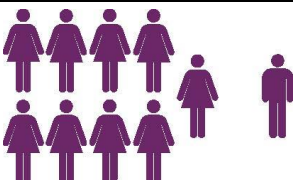




1.4 Additional information

Before the introduction of the NRAS in 2010, nursing registration numbers were published in annual reports of state and territory nursing boards or councils (see Appendix B). These figures are now published by the AHPRA, and are available from the AHPRA website at <http://www.ahpra.gov.au/>.

An electronic version of this report is available from the AIHW website at <http://www.aihw.gov.au/workforce-publications/> (select link to *Nursing and midwifery workforce 2011*). Additional data tables from the NHWDS: nurses and midwives 2011 are also available from the website.

2 Registered and enrolled nurses and direct entry midwives

2.1 At a glance

	In 2011, there were 326,669 nurses and midwives registered in Australia (268,018 registered nurses and 58,651 enrolled nurses).
	There were 36,074 midwives, including 1,517 people registered as midwives but not nurses, employed in nursing or midwifery in 2011, though only 15,523 reported working in midwifery as the principal area in their main job.
	Nine out of 10 of all nurses and midwives were women.
	Almost 2 in 5 of all employed nurses and midwives were aged 50 or older.
	Nurses and midwives work on average 32.8 hours per week.
	Almost 4 in 5 of all employed nurses were working in a clinical role.
	In 2010, 7,708 Australians completed registered nurse undergraduate training, and 3,938 Australians completed enrolled nurse vocational courses.

Source: NHWDS: nurses and midwives 2011.

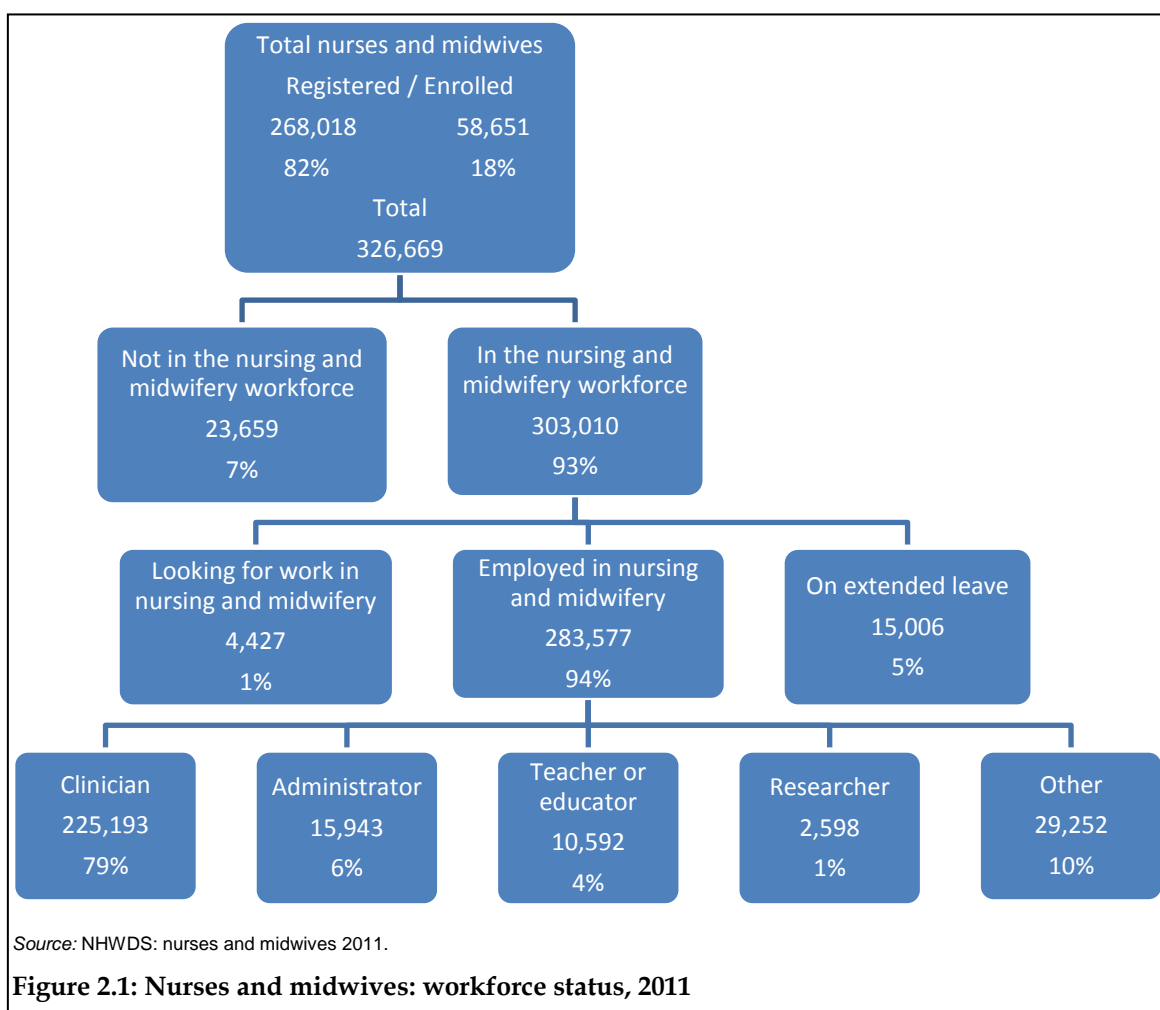
The total number of nurses and midwives registered in 2011 was 326,669 (Figure 2.1 and Table 2.1). This figure is the number of registered and enrolled nurses and midwives provided by the AHPRA from the NRAS, which closed on 31 May 2011, except in Queensland (closed 30 June 2011) and Western Australia (closed 31 December 2011). This represents a 6.8% increase since 2007, when the number registered was 305,834 (Tables 2.2 and 2.3).

Under the new system, people can be registered as nurses, midwives or both. Almost all midwives were also registered as nurses. Only 4% of midwife registrants did not also register as nurses (Table 2.1). Because there were so few midwives not also registered as nurses (1,783), they have been included with registered nurses (in line with past practice regarding direct entry midwives), and because almost all of the people who are both nurses and midwives are registered nurses (see 'A.3: Nursing and Midwifery Workforce Survey').

Table 2.1: Nurses and midwives: registration category, number of people registered, 2011

Registration category	Number
Midwife and registered nurse	38,197
Midwife and enrolled nurse	18
Midwife only	1,783
Registered nurse only	228,038
Enrolled nurse only	58,633
<i>Total midwife registrations</i>	<i>39,998</i>
<i>Total nurse registrations</i>	<i>324,886</i>
<i>Total registrations</i>	<i>364,884</i>
Total people registered	326,669

Source: NHWDS: nurses and midwives 2011.



In 2011, there were 268,018 people registered as registered nurses and midwives (including people registered as midwives only). This represents 82.0% of all nurses and midwives. Enrolled nurses numbered 58,651 (18%). Between 2007 and 2011, the number of registered nurses increased by 9.2%, while the number of enrolled nurses decreased by 2.8% (Table 2.2).

Table 2.2: Nurses and midwives: registered^(a) and enrolled, 2007 to 2009 and 2011

	2007	2008	2009	2011	Change between 2007 and 2011 (per cent)
Registered nurses ^(a)	245,491	253,685	260,121	268,018	9.2
Enrolled nurses	60,343	59,143	60,861	58,651	-2.8
All nurses	305,834	312,828	320,982	326,669	6.8

(a) Data for registered nurses include direct entry midwives 2007 to 2009 and people registered as midwives only 2011.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007 to 2009; NHWDS: nurses and midwives 2011.

2.2 Workforce status

In 2011, there were 326,669 registered and enrolled nurses and direct entry midwives registered through the NRAS. Of these, 283,577 were employed in nursing or midwifery in Australia (Table 2.3).

Between 2007 and 2011, the number of nurses and midwives employed in nursing and midwifery increased by 7.7% from 263,331 to 283,577 (Table 2.3).

Table 2.3: Nurses and midwives: workforce status, 2007 to 2009 and 2011

Workforce status	2007	2008 ^(a)	2009	2011	Change between 2007 and 2011 (per cent)
In the nursing and midwifery workforce	277,297	282,968	291,246	303,010	9.3
<i>Employed in nursing or midwifery</i>	263,331	269,909	276,751	283,577	7.7
On extended leave	9,863	9,383	9,880	15,006	52.1
<i>Looking for work in nursing or midwifery</i>	4,103	3,675	4,615	4,427	7.9
Employed elsewhere	1,515	1,440	1,815	1,856	22.5
Not employed	2,588	2,235	2,801	2,571	-0.7
Not in the nursing and midwifery workforce	28,537	29,860	29,735	23,659	-17.1
Overseas	2,047	2,315	3,233	10,166	396.6
<i>Not looking for work in nursing or midwifery</i>	26,490	27,544	26,503	11,269	-57.5
Employed elsewhere	12,628	13,556	13,210	6,155	-51.3
Not employed	13,862	13,988	13,293	5,113	-63.1
Retired from regular work ^(b)	..	..	..	2,225	..
Total nurses and midwives	305,834	312,828	320,982	326,669	6.8
Multiple registrations and enrolments ^(c)	11,783	12,755	13,046	..	..
Total registrations and enrolments	317,618	325,583	334,028	326,669	..

(a) Data for 2008 have been revised due to the correction of an error in processing data for Victoria.

(b) For 2007, 2008 and 2009, retired nurses and midwives were not separately identified.

(c) For 2007, 2008 and 2009, nurses and midwives may have been registered in more than one state or territory; this figure accounts for this potential source of double counting. See Appendix A for further information.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007, 2008 and 2009; NHWDS: nurses and midwives 2011.

Jurisdictional differences between the previous survey questionnaires, as well as changes to the new nationally standardised survey tool, have resulted in a slight change in the pattern of responses to the employment-related questions. As such, comparing data over time should be done with caution. (See Appendix A for further information on significant changes to the three employment-related questions.)

Nurses and midwives looking for work in nursing or midwifery numbered 4,427 in 2011, an increase of 7.9% from 4,103 in 2007. Those who were employed elsewhere and looking for work in nursing or midwifery increased by nearly a quarter (22.5%) over the same period; this high proportion may be due to the small numbers.

There was some movement between the number not looking for work in nursing or midwifery and the new response category of 'Retired from regular work'.

While there have been changes to the survey, there are a number of changes in the results that cannot be explained by methodology changes. These include:

- Between 2007 and 2011, nurses and midwives on leave from work for 3 months or more increased from 9,863 to 15,006 (Table 2.3).
- There was a large (17.1%) decrease in nurses and midwives who were not in the nursing and midwifery workforce, down from 28,537 in 2007 to 23,659 in 2011.
- There is a large change in the number of nurses and midwives working overseas (up 396.6% from 2,047 to 10,166) (Table 2.3).

Table 2.4: Nurses and midwives: workforce status and principal role of main job, state and territory^(a), 2011

Workforce status/Principal role of main job	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia^(b)
In the nursing and midwifery workforce	84,387	83,678	59,070	30,585	28,582	7,780	5,017	3,738	303,010
<i>Employed in nursing or midwifery</i>	<i>79,351</i>	<i>78,159</i>	<i>55,128</i>	<i>28,430</i>	<i>26,920</i>	<i>7,365</i>	<i>4,701</i>	<i>3,470</i>	<i>283,577</i>
Clinician	62,363	60,867	45,170	23,359	21,188	6,008	3,633	2,588	225,193
Administration	5,263	4,339	2,744	1,227	1,361	394	387	223	15,943
Teacher/educator	3,097	2,992	2,034	1,031	789	265	169	214	10,592
Researcher	698	731	500	257	234	65	73	40	2,598
Other	7,930	9,229	4,679	2,557	3,348	633	440	406	29,252
On extended leave	3,819	4,414	3,069	1,641	1,228	317	257	215	15,006
<i>Looking for work in nursing or midwifery</i>	<i>1,217</i>	<i>1,105</i>	<i>873</i>	<i>513</i>	<i>434</i>	<i>99</i>	<i>59</i>	<i>52</i>	<i>4,427</i>
Employed elsewhere	536	484	347	180	195	43	22	27	1,856
Not employed	681	621	526	333	239	55	37	25	2,571
Not in the nursing or midwifery workforce	6,125	3,255	2,710	1,642	1,052	257	335	175	23,659
Overseas	758	543	632	223	192	41	60	32	10,166
<i>Not looking for work in nursing or midwifery</i>	<i>4,379</i>	<i>2,355</i>	<i>1,739</i>	<i>1,186</i>	<i>706</i>	<i>166</i>	<i>217</i>	<i>129</i>	<i>11,269</i>
Employed elsewhere	2,788	1,144	866	552	342	89	149	86	6,155
Not employed	1,591	1,211	874	634	363	76	69	44	5,113
Retired from regular work	988	358	338	233	154	50	57	14	2,225
Total registered and enrolled nurses and midwives	90,512	86,933	61,780	32,226	29,634	8,037	5,351	3,913	326,669

(a) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(b) Data include employed nurses and midwives who did not state or adequately describe their state or territory, and nurses and midwives who reside overseas. Therefore, state and territory totals may not sum to the national total. In particular, the total for working overseas is noticeably higher than the sum of the state and territory figures.

Source: NHWDS: nurses and midwives 2011.

As outlined previously, the data transitioned from state- and territory-based systems to a national registration system in 2010. This has had consequences for the way data have been able to be reported by state and territory. Before the NRAS was introduced in 2010, data

were reported by state of registration. With the new system, data in this report are being reported on the basis of the most current address at the time the survey was undertaken, unless stated otherwise.

To reflect the most recent contact address, the state and territory used in the report (referred to as 'current' address) is derived from the location of the main job for nurses and midwives, or the location of the principal practice if their main job location was unavailable, or their residence address if the main job and principal practice locations were not available (see Appendix A). For example, if a nurse or midwife had a principal practice address in Sydney but worked for the week before the survey in the Northern Territory, they would be included in Northern Territory data for workplace location in this report. This change greatly enhances the accuracy of data reported for some areas where the turnover of nurses and midwives between jurisdictions was high. Notably, the Northern Territory reported a turnover in the nursing workforce to and from other jurisdictions of 35.4% between 2005 and 2006 and 81.7% over a 5-year period from 2001 to 2006 (Garrett et. al. 2008:17; Malyon et. al. 2008:9).

Over half (55.5%) of all nurses and midwives employed in nursing and midwifery had a current address in New South Wales or Victoria, the two most populous states in Australia. Similarly, 54.7% of nurses and midwives working in a clinical role had these states as their current address (Table 2.4).

More than two-fifths (44.9%) of nurses and midwives who were retired from regular work in nursing or midwifery had New South Wales as their current address (Table 2.4).

In 2011, the largest group among employed nurses and midwives was clinicians (225,215, or 79.4%). Nurses and midwives who reported being administrators and teachers/educators were the next largest groups at 5.6% and 3.7%, respectively.

The proportion of registered and enrolled nurses authorised to practise as midwives was 17.1% in 2007, while the proportion registered as midwives in 2011 was 12.2%. However, there are significant comparability issues between these 2 years. In 2007, authorised midwives were self-identified through a survey question, while in 2011 midwives were identified through being registered as a midwife (Table 2.5).

Table 2.5: Registered and enrolled nurses authorised to practise as midwives in 2007 and persons registered as nurses and midwives in 2011^{(a)(b)}, state and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
	2007^(c)								
<i>Registered nurses</i>									
<i>authorised as midwives</i>	17,116	13,311	11,374	3,594	3,986	779	993	881	52,032
Direct entry midwives	1,639	493	391	5	185	48	32	15	2,808
<i>Enrolled nurses</i>									
<i>authorised as midwives</i>	65	78	33	3	61	5	113	—	358
Total number authorised as midwife	17,172	13,430	11,416	3,627	4,065	782	999	883	52,374
Total registrations and enrolments	96,783	84,047	54,959	27,620	26,374	7,658	4,796	3,597	305,834
Authorised as midwife (per cent)	17.7	16.0	20.8	13.1	15.4	10.2	20.8	24.5	17.1

(continued)

Table 2.5 (continued): Registered and enrolled nurses authorised to practise as midwives in 2007 and persons registered as nurses and midwives in 2011^{(a)(b)}, state and territory

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
	2011^(a)								
Nurses also registered as midwives	13,043	9,972	7,094	3,205	2,530	698	736	660	38,215
Registered as midwife only	339	617	253	171	306	8	18	12	1,783
Total persons registered as midwife^(a)	13,382	10,589	7,347	3,376	2,836	706	754	672	39,998
Total nurse and midwife registrations ^(d)	103,555	96,905	68,874	35,431	32,164	8,735	6,087	4,573	364,884
Total persons registered as nurses and/or midwives	90,512	86,933	61,780	32,226	29,634	8,037	5,351	3,913	326,669
Persons registered as midwife (per cent)	14.8	12.2	11.9	10.5	9.6	8.8	14.1	17.2	12.2

(a) Data include employed nurses and midwives who did not state or adequately describe their state or territory, and nurses and midwives who reside overseas. Therefore, state and territory totals may not sum to the national total.

(b) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(c) State and territory estimates for 2007 are based on state or territory of registration and should be treated with caution due to low response rates in some jurisdictions, particularly in the Northern Territory (28.7%). See Appendix A for further information.

(d) Persons may be registered in more than one profession so a count of registrations is more than the count of persons.

Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

3 Nurses and midwives employed in nursing and midwifery in Australia

A nurse or midwife who reported working in nursing or midwifery in the week before the survey is considered to have been employed in nursing or midwifery, or to be an employed nurse and midwife, at the time of the survey (see 'Glossary'). In 2011, there were 283,577 nurses and midwives employed in nursing and midwifery in Australia (Figure 2.1).

The characteristics and supply of nurses and midwives employed in Australia are the focus of the remainder of this report.

3.1 Age and sex

Nursing and midwifery continued to be a female-dominated profession, with women comprising 90.1% of employed nurses and midwives in 2011 (down slightly from 90.4% in 2007). The proportion of registered nurses who were men increased slightly between 2007 and 2011 (10.2% in 2011, up from 9.6% in 2007). The proportion of male enrolled nurses decreased slightly over the same period (from 9.5% down to 8.8%) (Table 3.1).

Table 3.1: Employed nurses and midwives: division and midwifery status, age and sex, 2007 and 2011

Division/Midwifery status	Number	Men (per cent)	Average age (years)	Aged 50 and over (per cent)
2007				
Registered nurses ^(a)	212,342	9.6	43.8	33.3
Enrolled nurses	50,990	9.5	43.4	31.7
Persons authorised as midwife ^(b)	45,335	2.5	48.8	49.4
Direct entry midwives ^(c)	2,659	1.9	50.7	61.4
All nurses and midwives	263,331	9.6	43.7	33.0
2011				
Registered nurses ^(d)	232,045	10.2	44.3	37.4
Enrolled nurses	51,532	8.8	45.7	43.8
Persons registered as midwife ^(b)	36,074	1.9	50.2	59.4
Registered as midwife only ^(e)	1,517	0.4	38.1	15.2
All nurses and midwives	283,577	9.9	44.5	38.6

(a) Includes direct entry midwives.

(b) A subset of the registered and enrolled nurses categories.

(c) Included in persons authorised as midwife.

(d) Includes persons registered as midwives only.

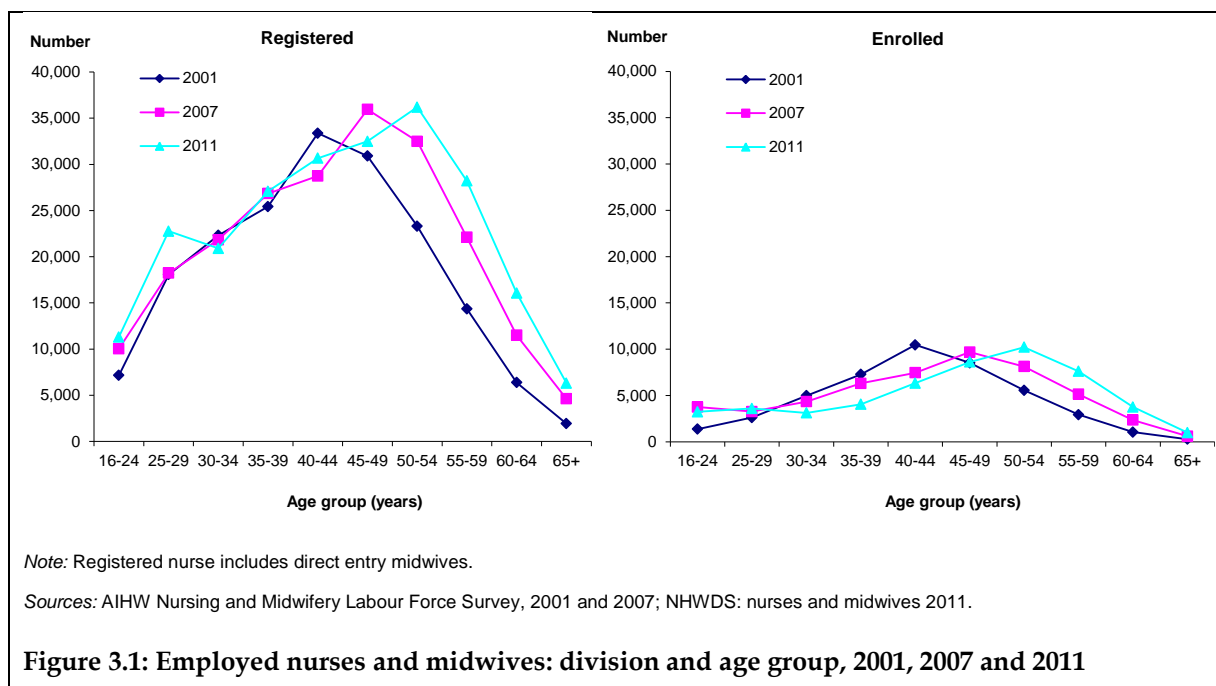
(e) Included in persons registered as midwife.

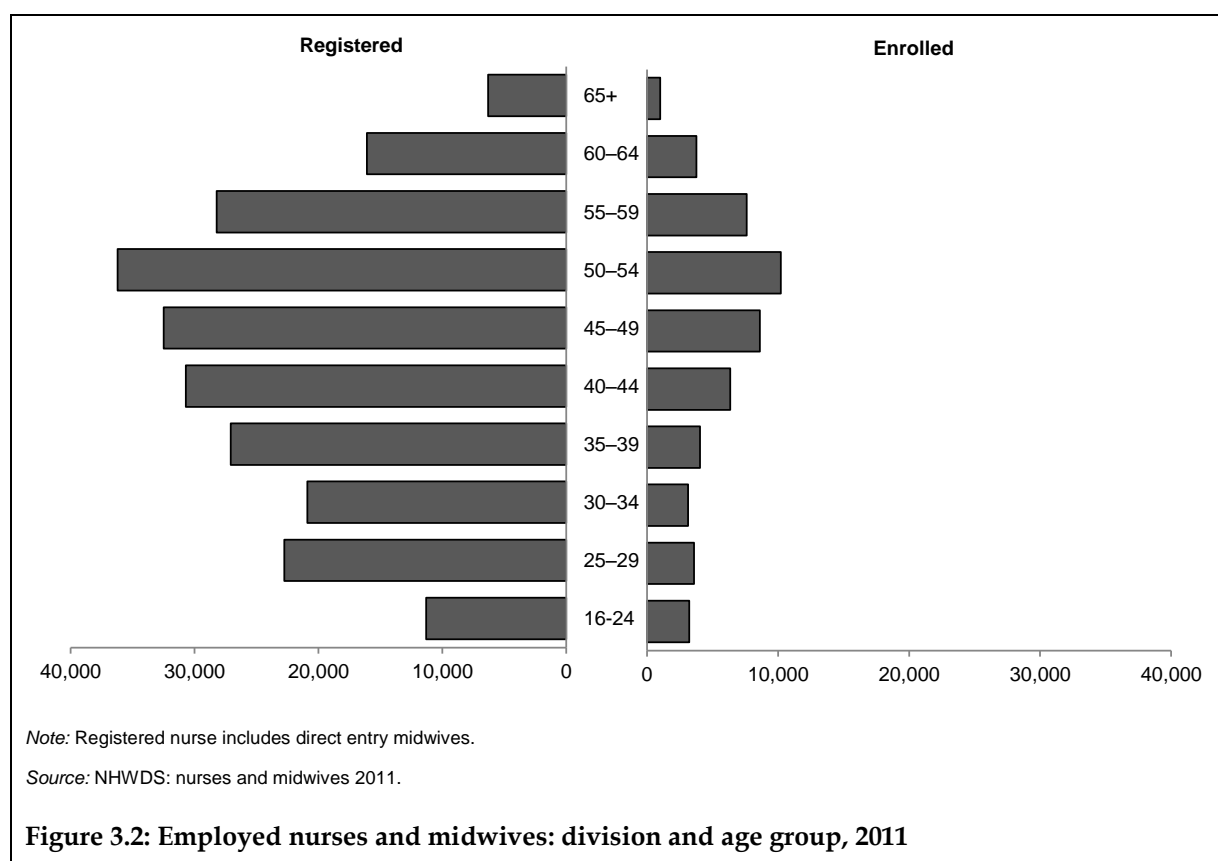
Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

Between 2007 and 2011, the average age of employed nurses and midwives increased from 43.7 years (43.8 for registered and 43.4 for enrolled) to 44.5 years (44.3 for registered and 45.7 for enrolled). The proportion of nurses and midwives who were aged 50 and over also increased from 33.0% to 38.6% over the same period. For enrolled nurses, the proportion aged over 50 increased significantly, from 31.7% to 43.8%, a 12.1 percentage point increase (Table 3.1).

However, there are some comparability issues between these 2 years which should be noted. In 2007, authorised midwives were self-identified through a survey question, while in 2011 midwives were identified through being registered as a midwife. Similarly, in 2007, direct entry midwives self-identified through a survey question while in 2011 those who are registered as midwives only are identified. In the past, it was noted that some people identified as both direct entry midwives and registered nurses.

The ageing of the nursing and midwifery workforce is illustrated in Figure 3.1. The peak age group for both registered and enrolled nurses and midwives increased in each of the years reported: 40–44 years in 2001, 45–49 years in 2007, and 50–54 years in 2011. The trend generally shows a reduction in the proportion of nurses and midwives in younger age categories and an increase in the proportion in older age categories. However, there was an increase from the previous year in the proportion of nurses and midwives aged under 30 in 2007 and 2011.





3.2 Aboriginal and Torres Strait Islander nurses and midwives

In 2011, there were 2,212 nurses and midwives employed in Australia who identified as Aboriginal or Torres Strait Islander. This represents 0.8% of all employed nurses and midwives who chose to provide their Indigenous status (Table 3.2).

Table 3.2: Employed nurses and midwives: division and Indigenous status, state and territory^(a), 2011

Division/Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<i>Registered nurses^(b)</i>	67,253	60,828	46,048	24,173	20,338	6,195	4,006	3,156	232,045
Indigenous	497	210	361	113	95	77	19	41	1,414
Non-Indigenous	66,477	60,395	45,516	23,948	20,163	6,089	3,967	3,099	229,701
Not stated	279	222	171	112	80	29	20	16	930
<i>Enrolled nurses</i>	12,098	17,332	9,080	4,257	6,582	1,170	695	314	51,532
Indigenous	353	100	184	51	71	27	6	6	798
Non-Indigenous	11,683	17,160	8,852	4,179	6,490	1,139	686	305	50,498
Not stated	62	72	44	27	21	4	4	3	236

(continued)

Table 3.2 (continued): Employed nurses and midwives: division and Indigenous status, state and territory^(a), 2011

Division/Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Total	79,351	78,159	55,128	28,430	26,920	7,365	4,701	3,470	283,577
Indigenous	850	310	545	164	167	103	25	47	2,212
Non-Indigenous	78,160	77,555	54,368	28,127	26,653	7,228	4,652	3,404	280,199
Not stated	341	294	215	139	101	33	24	19	1,166
Percentage of employed nurses and midwives who are Indigenous^{(c)(d)}	1.1	0.4	1.0	0.6	0.6	1.4	0.5	1.4	0.8

(a) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(b) Includes people registered as midwives only.

(c) Data include employed nurses and midwives who did not state or adequately describe their state or territory, and employed nurses and midwives who reside overseas. Therefore, state and territory totals may not sum to the national total.

(d) Percentages exclude the 'Not stated' category.

Source: NHWDS: nurses and midwives 2011.

Over half (52.4%) of Indigenous nurses and midwives were employed in New South Wales and Victoria, the two most populous states in Australia, with a further quarter (24.6%) employed in Queensland. Tasmania and the Northern Territory had the highest proportion of nurses and midwives who identified as Aboriginal or Torres Strait Islander, at 1.4%.

3.3 Role in nursing and midwifery

The principal role in nursing and midwifery in main job describes the types of work undertaken by employed nurses and midwives in the week before completing the survey. The 2011 survey categorised the roles as clinician, administrator, teacher/educator, researcher and other.

Most employed nurses and midwives in Australia in 2011 were working as clinicians (225,193 or 79.4%). Nurses and midwives working in the remaining areas are termed 'non-clinicians' (see 'Glossary'). Of the non-clinical workforce, half worked in roles other than teacher/educator, administrator or researcher (50.1%), followed by administrators (27.3%) teachers/educators (18.2%) and researchers (4.4%) (Table 3.3).

The number of clinicians in 2007 is not directly comparable with the number in 2011. This is due to differences in the classification of clinicians. In 2007, clinical nurse managers/administrators were included in the clinical category while in 2011 administrators were included in non-clinicians.

The number of clinical nurses and midwives increased by 6.0% between 2007 and 2011, up from 212,480. Administrators and teachers/educators were the next largest groups at 5.6% and 3.7%, respectively. The change in administrators between 2007 and 2011 is not directly comparable due to different classification categories used. Over the same period, researchers increased by 20.6% (2,153 to 2,597).

The definition of the 2007 category lecturer/teacher/educator and/or supervisor of new nurses seems broader than that of the 2011 Teacher/educator category, however, the 2011 category lacks the qualifier term 'new nurses'. This may help to explain why there is growth rather than decline between the two groups.

Nursing and midwifery roles in the 'Other' category more than doubled over the period (123.1%), increasing from 13,100 in 2007 to 29,228 in 2011. This group now comprises 10.3% of employed nurses and midwives. Further *investigation* should be undertaken to see if there are other significant subgroups within this category that should be captured in future surveys.

Table 3.3: Employed nurses and midwives: principal role of main job, selected characteristics, 2007 and 2011

Principal role of main job	Number	Enrolled (per cent)	Average age (years)	Aged 50 and over (per cent)	Average weekly hours ^(a)
2007					
<i>Clinical</i>	240,738	19.5	43.5	32.5	33.2
Clinical nurse	212,480	21.6	43.1	31.4	32.4
Clinical nurse manager/ administrator	28,258	3.4	46.5	40.3	39.2
<i>Non-clinical</i>	22,594	18.1	46.0	38.3	34.1
Lecturer/teacher/educator and/or supervisor of new nurses	7,341	5.6	44.8	32.5	36.5
Researcher	2,153	6.0	44.3	30.3	35.3
Other	13,100	27.1	47.0	42.9	32.4
Total	263,331	19.4	43.7	33.0	33.3
2011					
<i>Clinician</i>	225,193	17.2	44.0	37.1	32.3
<i>Non-clinician</i>	58,384	21.8	46.4	44.2	34.7
Administrator	15,943	7.3	49.6	54.8	38.3
Teacher/educator	10,592	5.3	46.4	40.0	34.1
Researcher	2,598	5.1	46.9	42.0	33.0
Other	29,252	37.2	44.6	40.0	33.2
Total	283,577	18.2	44.5	38.6	32.8

(a) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 and 2011.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007; NHWDS: nurses and midwives 2011.

In 2011, nurses and midwives working as clinicians were an average 2.4 years younger than those working in non-clinical roles (44.0 compared with 46.4), and less likely to be aged 50 and over (37.1% compared with 44.2%). Nurses and midwives in clinical roles also worked, on average, fewer hours than their counterparts in non-clinical roles (32.3 and 34.7 hours, respectively), while administrators worked the longest average hours per week (38.3 hours). Administrators were also the group with the largest proportion aged 50 and over (54.8%) (Table 3.3).

3.4 Area of nursing and midwifery

Survey respondents were asked to indicate the principal area of their main job in nursing and midwifery in the week before the survey. Seventeen (17) response categories were provided, with only one response allowed. Table 3.4 provides these responses disaggregated by selected characteristics of the respondent. People registered as midwives only answered a

different question but their data are included in Table 3.4, assuming they are working in the area of midwifery.

Table 3.4: Employed nurses and midwives: principal area of main job, selected characteristics, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours	FTE rate ^(b)
<i>Medical and surgical areas</i>								
Medical	24,333	41.6	29.6	9.3	77.2	86.6	33.1	93.8
Surgical	23,735	40.0	25.2	8.0	83.6	87.7	32.7	90.2
Mixed medical/surgical	15,083	44.0	37.3	7.4	76.2	85.5	31.8	55.9
<i>Other clinical areas</i>								
Aged care	40,443	48.5	53.9	7.4	58.5	72.9	32.0	150.3
Community health	13,939	47.7	47.2	8.0	88.2	81.2	32.1	52.1
Critical care and emergency	27,344	39.4	20.1	14.7	95.9	90.5	34.0	108.3
Family, maternal and child health	4,659	48.5	50.6	1.1	93.0	85.3	30.0	16.3
General practice/medical practice	12,576	46.2	43.7	3.8	76.5	84.6	28.8	42.2
Mental health	17,738	46.8	46.4	31.9	84.3	87.5	36.5	75.2
<i>Midwives</i>	<i>15,523</i>	<i>45.4</i>	<i>40.6</i>	<i>0.9</i>	<i>97.7</i>	<i>90.7</i>	<i>30.1</i>	<i>54.3</i>
Midwifery	14,006	46.2	43.4	0.9	97.4	90.6	29.9	48.7
Completed midwife survey	1,517	38.1	15.2	0.4	100.0	91.7	32.2	5.7
Paediatrics	7,762	39.0	21.5	4.7	91.7	87.9	32.2	29.1
Peri-operative	19,483	43.5	34.3	8.6	88.9	88.0	32.6	73.9
Rehabilitation and disability	8,352	46.5	46.6	12.3	65.6	78.4	32.9	32.0
<i>Non-clinical areas</i>								
Education	4,999	47.0	42.7	10.9	94.9	9.6	34.3	19.9
Management	7,611	48.3	47.9	14.1	97.9	17.5	39.1	34.6
Research	1,920	47.0	42.1	8.5	96.1	14.0	32.6	7.3
Other	23,839	46.4	43.7	8.0	85.4	70.9	32.9	91.3
Not stated	14,238	43.8	35.8	12.0	79.7	78.4	33.0	54.6
Total	283,577	44.5	38.6	9.9	81.8	79.4	32.8	1,081.2

(a) Clinical nurses and midwives include those whose role in their main job was clinician.

(b) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

The clinical area of nursing and midwifery with the largest number of workers in 2011 was aged care (40,443). Aged care also had the highest proportion of enrolled nurses (41.5%), followed by rehabilitation and disability (34.4%).

In contrast with the number of employed people registered as midwives in 2011 (36,074 in Table 3.1), 15,523 people either reported working in the area of midwifery (14,006) or were registered as midwives only and hence filled in the midwife only survey (1,517) (Table 3.4). The average age was oldest for those working in family, maternal and child health, and aged care (48.5 years for both areas). These areas also had the highest proportion of people aged 50 years or older (53.9% for aged care and 50.6% for family, maternal and child health).

The area of nursing and midwifery in which employed nurses and midwives worked the highest average weekly hours was management, followed by mental health (39.1 hours and 36.5 hours, respectively). The areas with the shortest average weekly hours were general practice/medical practice and family, maternal and child health (28.8 and 29.9 hours, respectively).

The areas of nursing and midwifery with the highest proportions of clinicians (by role) were midwives, and critical care and emergency (90.7% and 90.5%, respectively). The areas of education and research had the lowest proportions of clinicians (by role) (9.6% and 14.0%, respectively).

The area of nursing and midwifery with the highest proportion of men was mental health (31.9%). Critical care and emergency, and management had 14.7% and 14.1% men, respectively. Only 0.9% of those working in the area of midwifery were men.

3.5 Country of first nursing and midwifery qualification

Information about the country of first nursing or midwifery qualification was collected in previous AIHW Nursing and Midwifery Labour Force Surveys, however was not included as a survey question in 2011 as it is now collected as part of the NRAS registration data. Although it is understood that country of first nursing or midwifery qualification is being entered for new registrants, data migrated from some of the previous jurisdiction-based systems did not contain this information in a consistent manner, thus it could not be included in this report due to variability in scope and coverage. It is anticipated that this information will improve over time and will be able to be reported in subsequent years.

3.6 Work setting

Nurses and midwives were asked to indicate the setting of their main job in nursing or midwifery in the week before completing the Nursing and Midwifery Workforce Survey 2011.

Of all employed clinical nurses and midwives, almost two-thirds (65.2%) worked in hospitals at the time of the survey. Of clinicians in hospitals, only 2.8% indicated outpatient services as their main work setting (Table 3.5).

Clinical nurses and midwives working in residential health-care services made up 12.7% of all clinicians employed. Within this group, the majority (85.9%) worked in residential aged care, and a further 6.6% worked in residential mental health care.

There were 18,428 clinical nurses and midwives working in community health-care services, representing 8.2% of all clinicians employed.

Table 3.5: Employed nurses and midwives: work setting of main job and clinician status, number and average weekly hours worked, 2011

Work setting of main job	Clinicians ^(a)		All nurses and midwives	
	Number	Average weekly hours worked	Number	Average weekly hours worked
<i>Private practice</i>	11,547	27.6	14,322	27.9
General practitioner (GP) practice	7,225	27.2	8,334	27.3
Locum private practice	218	29.5	285	29.9
Other private practice	4,104	28.1	5,703	28.7
<i>Aboriginal health service</i>	994	38.6	1,327	38.1
<i>Community health-care services</i>	18,428	32.7	22,547	33.1
Community drug and alcohol service	838	34.8	1,014	35.2
Community health-care services	34	31.0	42	32.0
Community mental health service	4,232	36.9	4,774	37.1
Other community health-care service	13,324	31.3	16,717	31.8
<i>Hospital</i>	146,839	32.6	174,617	33.1
Outpatient services	4,045	32.2	4,793	32.5
Other hospital	142,794	32.6	169,824	33.1
<i>Residential health-care facility</i>	28,708	31.4	38,772	32.2
Hospice	687	29.8	790	30.3
Other residential health-care facility	n.p.	n.p.	n.p.	n.p.
Residential aged care facility	24,649	31.1	33,601	32.0
Residential health-care facility	n.p.	n.p.	n.p.	n.p.
Residential mental health-care service	1,894	35.0	2,273	35.3
<i>Commercial/business service</i>	464	31.1	1,237	32.9
<i>Educational facilities</i>	1,526	30.4	5,433	33.0
School	1,006	29.2	1,351	29.4
Tertiary educational facility	456	33.1	3,211	34.9
Other educational facility	64	30.5	871	31.4
<i>Correctional service</i>	1,095	37.6	1,251	37.7
<i>Defence forces</i>	441	33.6	778	35.8
<i>Other government department or agency</i>	1,033	34.6	2,601	35.5
<i>Other</i>	4,437	32.5	8,345	33.2
<i>Not stated</i>	9,680	32.8	12,346	32.9
Total	225,193	32.3	283,577	32.8

(a) Clinicians include those whose nursing or midwifery role in their main job was clinician.

Source: NHWDS: nurses and midwives 2011.

Private practice was the work setting of 11,547 clinical nurses and midwives, which represents only 5.1% of all clinicians employed. Among this group, 3 in 5 (62.6%) work in a general practitioner practice, nearly 2 in 5 work in other types of general practice and the remainder (1.9%) work in locum private practices.

Educational facilities were the main work setting for 1.9% of all employed nurses and midwives. Among all nurses and midwives working in educational facilities, about three-fifths (59.1%) were working in tertiary educational facilities. Two-thirds (65.9%) of clinical nurses and midwives employed in educational facilities work in schools (Table 3.5).

Less than 1% of all nurses and midwives were working in each of the following settings: other government department or agency (0.9%), Aboriginal health service (0.5%), commercial/business service (0.4%), correctional service (0.4%), and defence forces (0.3%).

The profile of nurses by employment sector changed little between 2007 and 2011, with around two-thirds of nurses and midwives employed in the public sector (falling from 66.0% in 2007 to 59.3% in 2011), though care should be taken in interpreting change in the estimates on sector due to changes in the relevant questions (Table 3.9).

3.7 Working hours

Comparison of working hours over time should be undertaken with care, due to differences between the survey questions used in the Nursing and Midwifery Workforce Survey 2011 and the previous AIHW Nursing and Midwifery Labour Force Survey (see Appendix A).

The hours worked by nurses and midwives differed by division of registration (Table 3.6). Enrolled nurses worked fewer hours than registered nurses in 2011. Three (3) in 5 (60.4%) enrolled nurses worked part-time hours (that is, less than 35 hours) compared with 1 in 2 (49.0%) registered nurses.

Weekly hours worked did not differ with age for enrolled nurses as much as it did for registered nurses and midwives. Enrolled nurses across most age groups were more likely to work part time than registered nurses and midwives.

Table 3.6: Employed nurses and midwives: division and age group, number and weekly hours worked, 2011

Age group (years)	Total weekly hours worked					Total number of nurses	Average weekly hours worked
	<20	20–34	35–49	50+	Total		
	(row per cent)						
Registered nurses ^(a)							
<25	2.6	24.8	68.6	4.1	100	11,298	37.6
25–34	10.2	28.5	57.6	3.8	100	43,668	34.6
35–44	16.1	38.5	41.7	3.7	100	57,774	31.4
45–54	9.5	40.2	45.2	5.1	100	68,702	33.5
55+	13.2	42.2	39.9	4.6	100	50,603	32.1
Total	11.7	37.3	46.7	4.4	100	232,045	33.1

(continued)

Table 3.6 (continued): Employed nurses and midwives: division and age group, number and weekly hours worked, 2011

Age group (years)	Total weekly hours worked					Total number of nurses	Average weekly hours worked
	<20	20–34	35–49	50+	Total		
	(row per cent)						
Enrolled nurses							
<25	18.1	43.0	35.7	3.2	100	3,229	30.1
25–34	15.8	45.0	35.3	3.9	100	6,723	30.8
35–44	15.4	47.7	33.6	3.3	100	10,384	30.4
45–54	10.4	48.8	37.3	3.5	100	18,826	32.0
55+	10.5	49.1	36.9	3.5	100	12,369	31.9
Total	12.6	47.8	36.1	3.5	100	51,532	31.4
All nurses and midwives							
<25	6.0	28.8	61.3	3.9	100	14,527	35.9
25–34	10.9	30.7	54.6	3.8	100	50,391	34.1
35–44	16.0	39.9	40.5	3.7	100	68,159	31.3
45–54	9.7	42.1	43.5	4.7	100	87,528	33.2
55+	12.7	43.5	39.3	4.4	100	62,971	32.0
Total	11.9	39.2	44.7	4.2	100	283,577	32.8

(a) Includes people registered as midwives only.

Source: NHWDS: nurses and midwives 2011.

The number of registered nurses and midwives working full-time hours decreased with age, from 72.7% in the under 25 years group to 44.5% among those aged 55 and over. The proportion of enrolled nurses working full time remained steady across all age groups, ranging from 33.6% in the 35–44 years group to 37.3% in the 45–54 years group.

States and territories

Across the jurisdictions, there was some variation in average weekly hours worked by nurses and midwives. In 2011, nurses and midwives in the Northern Territory worked the highest weekly hours on average (37.7 hours), followed by those working in the Australian Capital Territory (34.3 hours). Between 2007 and 2011, there was a decrease in the hours worked by nurses and midwives in most jurisdictions, while the average hours worked in the Australian Capital Territory increased by 1.4%. Nurses and midwives in the Northern Territory decreased their average hours by 3.8%, while average hours for nurses and midwives in Victoria decreased by 2.8%. Enrolled nurses in the Northern Territory showed the greatest decrease in average hours of 12.1% (4.7 hours) over the period (Table 3.7).

Table 3.7: Employed nurses and midwives: average total weekly hours^(a) worked, division, state and territory, 2007^(b) and 2011^(c)

Division	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2007^(b)									
<i>All nurses</i>	34.3	32.4	33.5	32.6	32.4	33.4	34.2	39.3	33.3
Registered nurses ^(e)	34.5	32.9	33.6	32.7	32.8	33.6	34.3	39.3	33.6
Enrolled nurses	33.0	30.6	32.9	32.2	31.1	32.2	33.9	39.1	31.9
2011^(d)									
<i>All nurses</i>	34.0	31.4	33.3	32.3	31.6	32.5	34.7	37.7	32.8
Registered nurses ^(e)	34.2	31.9	33.5	32.5	32.1	32.5	34.6	38.1	33.1
Enrolled nurses	33.1	29.9	32.2	31.2	30.3	32.7	35.0	34.3	31.4

(a) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 and 2011.

(b) State and territory estimates for 2007 are based on state or territory of registration and should be treated with caution due to low response rates in some jurisdictions, particularly the Northern Territory (28.7%). See Appendix A for further information.

(c) Includes direct entry midwives.

(d) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(e) Includes people registered as midwives only.

Source: NHWDS: nurses and midwives 2011.

Remoteness areas

The Remoteness Areas from the Australian Standard Geographical Classification (ASGC) (ABS 2008) have been used in this report to show data by geographic region (see 'Glossary' for further information).

Table 3.8: Employed nurses and midwives: average total weekly hours^(a) worked, division, remoteness area^(b) of main job, 2007 and 2011

Division	Major cities	Inner regional	Outer regional	Remote	Very remote ^(c)	Not stated	Australia
2007							
<i>All nurses</i>	33.5	32.5	33.3	34.7	38.9	32.4	33.3
Registered nurses ^(d)	33.8	32.9	33.8	35.1	39.6	32.9	33.6
Enrolled nurses	32.2	31.3	31.9	33.7	36.1	30.7	31.9
2011							
<i>All nurses</i>	32.9	31.9	33.1	35.2	39.5	31.5	32.8
Registered nurses ^(e)	33.1	32.2	33.6	36.3	40.1	32.0	33.1
Enrolled nurses	31.5	30.8	31.6	31.6	35.9	29.3	31.4

(a) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 to 2011.

(b) Derived from remoteness area of main job where available; otherwise, remoteness area of principal practice is used as a proxy. If remoteness area details unavailable, remoteness area of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

- (c) Includes *Migratory* areas.
- (d) Includes direct entry midwives.
- (e) Includes people registered as midwives only.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007; NHWDS: nurses and midwives 2011.

In 2011, nurses and midwives in *Remote* and *Very remote* areas worked longer hours than other nurses and midwives: an average of 35.2 hours per week in *Remote* areas and 39.5 hours in *Very remote* areas, compared with the national average of 32.8 hours (Table 3.8).

Nurses and midwives in Very Remote areas experienced larger increases in average hours between 2007 and 2011, rising by 0.6 hours, compared with the national decrease of 0.5 hours (Table 3.8).

Employment sector

In 2011, nurses and midwives employed in the public sector worked, on average, 2.4 hours per week more than nurses and midwives employed in the private sector. There was a similar difference in hours between sectors in previous years (Table 3.9).

Table 3.9: Employed nurses and midwives: employment sector of main job^(a), selected characteristics, 2007 to 2011

Characteristic	2007	2008	2009	2011
Public sector^(b)				
Number	173,903	181,621	186,194	168,055
Percentage of nurses and midwives employed in sector	66.0	67.3	67.3	59.3
Percentage of nurses and midwives who are registered nurses	82.0	82.8	82.9	84.5
Average weekly hours worked	34.1	34.2	34.0	33.6
Private sector				
Number	89,428	88,289	90,557	94,116
Percentage of nurses and midwives employed in sector	34.0	32.7	32.7	33.2
Percentage of nurses and midwives who are registered nurses	77.9	78.4	78.0	78.0
Average weekly hours worked	31.8	32.0	31.9	31.2

(a) Care should be taken in interpreting change in the estimates on sector due to changes in the relevant questions over time.

(b) Data for a small number (1,710) of nurses who worked equal hours in both sectors in 2011 have been included in the public sector. Data for 21,399 records with unknown sector omitted. In prior years, sector of main job was defined on a 'tick box' basis and imputed where missing.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007 to 2009; NHWDS: nurses and midwives 2011.

4 Supply of nurses and midwives

4.1 Overall supply

Data on the size and characteristics of the nursing and midwifery workforce present a valuable profile of nurses and midwives, but do not give a complete picture of the overall level of service provided. Some nurses and midwives have long working weeks and others work part time; therefore, their relative contributions to the level of service need to be taken into account to measure the overall supply effectively.

Box 4.1: Full-time equivalent

The number of full-time equivalent (FTE) nurses and midwives is calculated by multiplying the number of nurses and midwives by the average weekly hours worked, and dividing by the number of hours in a standard full-time working week.

FTE gives a useful measure of supply because it takes into account both those working full time and those working part time.

The concept of FTE depends on what may reasonably be regarded as a full-time job, and this varies across occupations. The Australian Bureau of Statistics (ABS) defines full-time work as being at least 35 hours per week, and many FTE calculations are based on this (ABS 1996).

However, people in managerial or professional jobs tend to work more than 35 hours per week (ABS 2012) and nurses and midwives have worked, on average, 32.8 hours per week (Table 3.6). In this report, a standard week of 38 hours has been used to calculate realistic FTE measures of service delivery by practitioners. That is, FTE measures the number of 38-hour week workloads.

To do this, information on the number of employed nurses and midwives, together with their average hours worked, has been used to calculate a 'full-time equivalent' (FTE) number of practitioners, based on a 'standard full-time working week' (Box 4.1).

To take account of population differences across Australia, and across time, Australian Bureau of Statistics estimated resident population figures have been used to convert the FTE number to an FTE rate (FTE per 100,000 population) (see Appendix D).

4.2 Supply of employed nurses and midwives

The overall supply of employed nurses and midwives in Australia decreased by 1.3% between 2007 and 2011, from 1,095.1 FTE per 100,000 population in 2007 to 1,081.1 in 2011. The decrease in supply, despite a 7.7% increase in the number of employed nurses and midwives, is due to a slight decrease in the average weekly hours worked, from 33.3 hours to 32.8 over the period (Table 4.1).

Among employed nurses and midwives, registered nurses and midwives increased 9.3% in number between 2007 and 2011 (212,342 to 232,045, respectively) but their average weekly hours worked decreased slightly from 33.6 hours to 33.1 (-1.6%) over the same period. As a result, the supply remained the same (891.5 and 893.0 FTE registered nurses and midwives per 100,000 population, respectively). However, in the intervening years, supply increased in 2008 to peak at 906.6 FTE registered nurses and midwives per 100,000 population, then staying steady in 2009 at 906.2.

Between 2007 and 2011, numbers of enrolled nurses increased by 1.1% (50,990 in 2007 to 51,532 in 2011). They worked, on average, 31.9 hours per week in 2007 compared with 31.4 hours in 2011 – a decrease of a half-hour (–1.7%). This resulted in a 7.4% decrease in supply between 2007 and 2011, from 203.2 FTE enrolled nurses per 100,000 population in 2007 to 188.1 in 2011.

Table 4.1: Employed nurses and midwives: number, average total weekly hours^(a) worked, FTE number^(b) and FTE rate^(c), division, 2007 to 2009 and 2011

Characteristic	2007	2008	2009	2011	Change between 2007 and 2011 (per cent)
Registered nurses^(d)					
Number	212,342	219,646	225,040	232,045	9.3
Average weekly hours ^(a) worked	33.6	33.7	33.6	33.1	–1.6
FTE number ^(b)	187,867	194,907	198,924	202,001	7.5
FTE rate ^(c)	891.5	906.6	906.2	893.0	0.2
Enrolled nurses					
Number	50,990	50,263	51,711	51,532	1.1
Average weekly hours ^(a) worked	31.9	32.2	32.1	31.4	–1.7
FTE number ^(b)	42,818	42,631	43,614	42,541	–0.6
FTE rate ^(c)	203.2	198.3	198.7	188.1	–7.4
All nurses					
Number	263,331	269,909	276,751	283,577	7.7
Average weekly hours ^(a) worked	33.3	33.4	33.3	32.8	–1.6
FTE number ^(b)	230,762	237,520	242,521	244,548	6.0
FTE rate ^(c)	1,095.1	1,104.8	1,104.8	1,081.1	–1.3

(a) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 to 2011.

(b) Full-time equivalent (FTE) nurses working a standard full-time working week (see 'Glossary'). For 2007 and 2011, FTE is based on total weekly hours worked (see 'Glossary'). For 2007 and 2011, FTE is based on a 38-hour working week.

(c) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary'). For 2007 and 2011, FTE is based on a 38-hour working week.

(d) Includes direct entry midwives 2007 to 2009 and people registered as midwives only 2011.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007, 2008 and 2009; NHWDS: nurses and midwives 2011.

In 2011, the Australian supply of employed nurses and midwives was 1,081.1 per 100,000 population; this varied between a low of 971.8 per 100,000 population in New South Wales to a high of 1,351.4 per 100,000 population in South Australia and 1,497.4 in the Northern Territory. In comparison, the supply was more similar across the states and territories in 2007 (excluding the state and territory with the lowest and highest values), ranging from 1,006.7 FTE nurses per 100,000 population in New South Wales to 1,286.5 in South Australia (Table 4.2).

The supply of all nurses and midwives between 2007 and 2011 decreased in three states, namely New South Wales (1,006.7 FTE nurses per 100,000 population to 971.8), Victoria (1,224.4 to 1,149.8) and Tasmania (1,254.4 to 1,232.9). In all three states, decreases were recorded for both registered nurses and enrolled nurses (Table 4.2).

The supply of nurses and midwives increased in Queensland, Western Australia, South Australia, the Northern Territory and the Australian Capital Territory. Western Australia and the Australian Capital Territory reported the largest change between 2007 and 2011 (up 6.1%) and Queensland had the smallest increase in supply (2.0% from 1,032.3 FTE nurses and midwives per 100,000 population in 2007 to 1,053.0 in 2011) over the same period.

Table 4.2: Employed nurses and midwives: FTE rate^(a), division, state and territory, 2007^(b) and 2011^(c)

Division	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2007									
Registered nurses ^(d)	847.3	949.1	872.9	772.1	987.2	1,083.8	926.4	1,271.1	891.5
Enrolled nurses	159.2	275.1	159.2	200.4	299.3	170.3	179.7	160.1	203.2
Total nurses	1,006.7	1,224.4	1,032.3	972.3	1,286.5	1,254.4	1,106.1	1,431.0	1,095.1
2011									
Registered nurses ^(e)	827.5	907.7	884.9	882.2	1,035.2	1,036.2	999.0	1,374.2	893.0
Enrolled nurses	144.4	242.4	168.1	148.8	316.2	196.9	175.2	123.3	188.1
Total nurses	971.8	1,149.8	1,053.0	1,031.2	1,351.4	1,232.9	1,174.1	1,497.4	1,081.1

(a) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary'). For 2007 and 2011, FTE is based on a 38-hour working week.

(b) State and territory estimates for 2007 are based on state or territory of registration and should be treated with caution due to low response rates in some jurisdictions, particularly the Northern Territory (28.7%). See Appendix A for further information.

(c) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(d) Includes direct entry midwives.

(e) Includes people registered as midwives only.

Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

The supply of all nurses and midwives between 2007 and 2011 increased in all remoteness areas except the *Inner regional* and *Outer regional* areas of Australia. For *Inner regional* areas, supply fell from 1,108 FTE nurses and midwives per 100,000 population in 2007 to 1,033 in 2011, with registered nurses accounting for the majority of the decrease (falling from 858 to 800 FTE nurses and midwives per 100,000 population). However, in the *Outer regional* areas, the decrease of 41 FTE nurses and midwives per 100,000 population (from 1,036 in 2007 to 995 FTE nurses and midwives per 100,000 population) was mainly due to a fall of 24 FTE per 100,000 population in enrolled nurses over the same period (Table 4.3).

Table 4.3: Employed nurses and midwives: FTE rate^(a), division, remoteness area^(b), 2007 and 2011

Division	Major cities	Inner regional	Outer regional	Remote	Very remote ^(c)	Australia
2007						
Registered nurses ^(d)	864.0	858.2	769.4	820.1	867.2	891.6
Enrolled nurses	163.2	249.8	266.6	299.5	188.3	203.2
Total nurses	1,027.3	1,108.4	1,036.2	1,119.6	1,055.5	1,095.2
2011						
Registered nurses ^(e)	93	799.5	751.1	902.9	1,164.7	893.0
Enrolled nurses	166.6	233.5	243.4	240.1	170.8	188.1
Total nurses	1,101.6	1,033.0	994.7	1,142.9	1,335.5	1,081.1

(a) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary'). For 2007 and 2011, FTE is based on a 38-hour working week.

(b) Derived from remoteness area of main job where available; otherwise, remoteness area of principal practice is used as a proxy. If remoteness area details unavailable, remoteness area of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(c) Includes *Migratory* areas.

(d) Includes direct entry midwives.

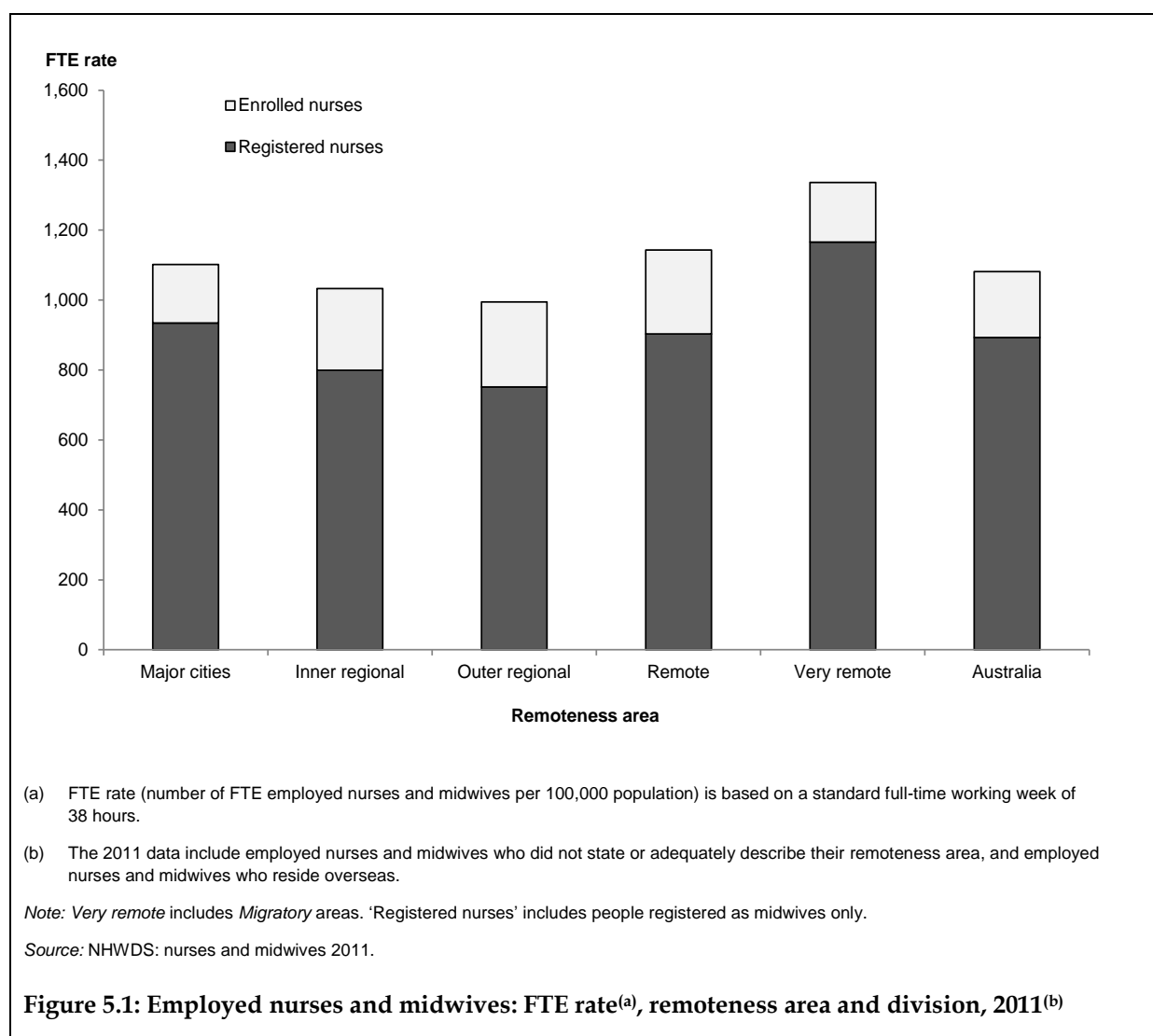
(e) Includes people registered as midwives only.

Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

5 Regional profile of employed nurses and midwives

5.1 Remoteness areas of Australia

The distribution of nurses and midwives across the remoteness classification in Australia is of considerable interest to both government and communities. Information on the work location of nurses and midwives is collected in the Nursing and Midwifery Workforce Survey 2011, providing a means, in combination with other data on hours and population, of examining variability in the supply of nurses and midwives across Australia.



Using the postcode of their main work location where available, each nurse or midwife is allocated to one of the following in the Australian Standard Geographical Classification Remoteness Area (ASGC RA): *Major cities*, *Inner regional*, *Outer regional*, *Remote*, *Very remote* and *Migratory* (see 'Glossary'). Otherwise, remoteness area of principal practice is used as a proxy; if remoteness area of principal practice is unavailable, remoteness area of residence is

used. For records with no information on all three locations, they are coded to 'Not stated' location. In this report, the *Very remote* and *Migratory* categories have been combined due to small numbers (Figure 5.1). In 2011, *Outer regional* areas had the lowest supply of nurses and midwives per 100,000 population (994.7) while *Very remote* areas had the highest (1,335.5). In 2007, *Remote* areas had the highest supply of nurses and midwives (Table 5.1).

Between 2007 and 2011, the FTE rate of nurses and midwives fell slightly on a national basis but increased slightly in *Major cities*, *Remote* and *Very remote* areas. While the proportion of clinical nurses and midwives fell, this may be due to the difference in survey questions (see Appendix A).

The proportion of registered nurses increased slightly in all areas, with the greatest rise in *Very remote* areas (from 80.8% to 85.9%). Nurses and midwives in *Very remote* areas worked the longest average hours (39.5) while nurses and midwives in *Inner regional* areas worked the shortest hours on average (31.9) (Table 5.1).

Table 5.1: Employed nurses and midwives: selected characteristics, remoteness area^(a), 2007 and 2011

Characteristic	Remoteness area						Australia
	Major cities	Inner regional	Outer regional	Remote	Very remote ^(b)	Not stated	
2007							
Number	168,209	53,804	23,581	3,889	1,725	12,123	263,331
Average age (years)	43.2	44.8	45.1	43.9	44.1	43.2	43.7
Aged 50 and over (per cent)	31.7	35.6	36.3	34.2	33.6	32.8	33.0
Men (per cent)	10.0	9.5	7.1	6.5	13.8	10.3	9.6
Registered nurses (per cent)	83.5	76.5	73.1	72.5	80.8	76.8	80.6
Clinical nurses (per cent) ^(c)	91.2	92.1	92.0	91.8	90.6	90.3	91.4
Average weekly hours ^(d) worked	33.5	32.5	33.3	34.7	38.9	32.4	33.3
FTE rate ^(e)	1,027.3	1,108.4	1,036.2	1,119.6	1,055.5	..	1,095.2
2011							
Number	198,103	54,949	24,006	4,051	2,283	185	283,577
Average age (years)	43.8	46.4	46.2	45.0	45.7	43.5	44.5
Aged 50 and over (per cent)	36.0	45.1	44.4	41.1	44.3	36.5	38.6
Men (per cent)	10.3	9.4	8.0	8.3	15.0	12.4	9.9
Registered nurses (per cent)	84.3	76.6	74.4	76.6	85.9	83.5	81.8
Clinical nurses (per cent) ^(f)	79.0	80.6	79.8	77.9	81.5	63.6	79.4
Average weekly hours ^(d) worked	32.9	31.9	33.1	35.2	39.5	37.9	32.8
FTE rate ^(e)	1,101.6	1,033.0	994.7	1,142.9	1,335.5	..	1,081.2

(a) Derived from remoteness area of main job where available; otherwise, remoteness area of principal practice is used as a proxy. If remoteness area details unavailable, remoteness area of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(b) Includes *Migratory* areas.

(c) Clinical nurses include those whose role in their main job was 'clinical nursing' or 'clinical management and/or nurse/midwifery administration' (see 'Glossary').

(d) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 to 2011.

(e) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

(f) Clinical nurses include those who stated the principal nursing or midwifery role in their main job was 'clinician'.

Note: In 2011, a total of 756 employed nurses and midwives did not report the remoteness area (RA) in which they worked; in 2007, 12,123 did not report the RA in which they worked. Hence, the number of employed nurses and midwives stated by RA is an underestimate. Due to the update cycle of the ABS, RA population estimates do not balance with the most recent update of state and territory estimates.

Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

Major cities

Of the nurses and midwives employed in *Major cities* in 2011, 79.0% were clinicians. The average age of nurses in *Major cities* was 43.8, which was lower than the national average of 44.5 (Table 5.1).

Nurses and midwives working in aged care (24,376, or 12.3% of the total) were the largest individual group, though nationally 14.3% of nurses and midwives worked in aged care (Tables 3.5 and 5.2).

Taken as a whole, the group working in medical and surgical areas was over 45,000 (22.9% of the total). Nationally, the figure was 22.3% (Table 3.4).

Table 5.2: Employed nurses and midwives in *Major cities*: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
<i>Medical and surgical areas</i>								
Medical	16,466	40.6	26.2	9.6	80.8	86.2	33.4	93.0
Surgical	19,123	39.7	24.2	8.1	84.8	87.5	32.8	106.0
Mixed medical/surgical	9,824	42.8	33.2	8.3	79.4	84.2	31.8	52.9
<i>Other clinical areas</i>								
Aged care	24,376	47.8	51.7	8.4	64.4	71.3	32.4	133.7
Community health	8,158	47.0	44.0	8.1	89.1	80.9	32.0	44.2
Critical care and emergency	20,207	38.7	18.1	14.7	96.5	89.8	34.0	116.2
Family, maternal and child health	3,290	48.1	49.3	1.3	91.9	84.2	29.6	16.5
General practice/medical practice	7,436	45.5	41.3	4.1	77.7	83.5	28.7	36.1
Mental health	13,009	46.3	44.7	31.8	84.4	87.3	36.5	80.3
<i>Midwives</i>	<i>11,147</i>	<i>45.1</i>	<i>39.8</i>	<i>0.7</i>	<i>97.6</i>	<i>90.3</i>	<i>29.9</i>	<i>56.4</i>
Midwifery	9,815	46.2	43.4	0.8	97.3	90.0	29.6	49.1
Completed midwife survey	1,332	37.5	13.2	0.4	100.0	92.2	32.4	7.3

(continued)

Table 5.2 (continued): Employed nurses and midwives in *Major cities*: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
Paediatrics	6,477	38.6	20.1	4.9	92.7	87.6	32.2	35.3
Peri-operative	14,779	43.1	33.1	8.4	89.8	87.6	32.8	81.9
Rehabilitation and disability	6,636	46.2	45.7	11.8	66.4	77.9	32.9	37.0
<i>Non-clinical areas</i>								
Education	3,520	46.8	42.0	11.5	95.9	9.9	34.2	20.4
Management	5,165	47.8	45.4	14.0	97.9	17.6	38.6	33.7
Research	1,694	46.8	41.5	8.3	96.2	14.5	32.6	9.3
Other	16,758	46.0	42.3	7.8	86.5	69.9	32.6	92.5
Not stated	10,038	43.2	33.9	12.6	81.8	78.7	33.0	56.1
Total	198,103	43.8	36.0	10.3	84.3	79.0	32.9	1,101.6

(a) Clinical nurses include those whose nursing or midwifery role in their main job was clinician.

(b) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

The oldest group, in terms of average age, was nurses and midwives working in family, maternal and child health (48.1 years); however, in terms of proportion aged 50 and over, aged care had the highest proportion (51.7%).

In *Major cities*, nurses and midwives in management worked the longest average hours (38.6 hours) compared with the overall average for *Major cities* (32.9 hours) and the national averages of 39.1 hours for nurses and midwives in management and 32.8 hours for all employed nurses and midwives (Tables 3.4 and 5.2). Of those nurses and midwives working in *Major cities*, those working in general practice/medical practice worked the shortest average hours (28.7 hours).

Inner regional areas

Of the nurses and midwives employed in *Inner regional* areas in 2011, 80.6% were clinicians. The average age of nurses and midwives in *Inner regional* areas was 46.4, which was higher than the national average of 44.5 in 2011 (Tables 5.1 and 5.3).

Nurses and midwives working in aged care (10,519, or 19.1% of the total) were the largest individual group in *Inner regional* areas, compared with the national figure of 14.3% of nurses and midwives in aged care (Tables 3.4 and 5.3).

Taken as a whole, the group working in medical and surgical areas was just over 11,000 (20.4% of all nurses and midwives in *Inner regional* areas). Nationally, the figure was 22.3% (Table 3.4).

Table 5.3: Employed nurses and midwives in *Inner regional* areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
<i>Medical and surgical areas</i>								
Medical	4,702	43.6	36.1	9.0	71.6	88.0	31.9	88.6
Surgical	3,441	41.4	29.3	7.5	79.6	89.8	31.7	64.4
Mixed medical/surgical	3,065	46.4	46.0	5.7	70.3	88.1	30.8	55.6
<i>Other clinical areas</i>								
Aged care	10,519	49.5	57.7	5.9	50.4	75.0	30.9	191.6
Community health	3,309	49.0	52.9	7.7	86.7	82.2	31.1	60.7
Critical care and emergency	4,476	41.3	25.5	14.7	95.6	92.5	33.3	87.8
Family, maternal and child health	796	50.6	55.7	0.4	94.2	88.3	29.6	13.9
General practice/medical practice	3,049	47.5	47.5	2.6	76.7	86.8	27.9	50.2
Mental health	3,569	48.2	51.7	32.2	82.1	88.0	36.2	76.2
<i>Midwives</i>	<i>2,867</i>	<i>46.5</i>	<i>44.0</i>	<i>1.1</i>	<i>97.4</i>	<i>91.9</i>	<i>29.7</i>	<i>50.3</i>
Midwifery	2,740	46.5	44.5	1.2	97.3	92.1	29.7	48.0
Completed midwife survey	127	44.9	32.2	0.0	100.0	87.3	30.8	2.3
Paediatrics	882	42.2	31.8	3.2	87.8	90.2	30.7	16.0
Peri-operative	3,449	44.8	38.6	9.3	86.7	90.0	31.6	64.3
Rehabilitation and disability	1,412	47.6	51.5	14.9	63.1	81.8	33.0	27.5
<i>Non-clinical areas</i>								
Education	985	47.7	44.1	9.6	92.5	8.3	33.9	19.7
Management	1,446	49.5	53.2	15.3	97.7	17.2	39.3	33.5
Research	146	50.0	53.3	12.1	93.5	10.9	32.6	2.8
Other	4,117	47.6	47.6	7.8	82.7	73.0	32.1	78.0
Not stated	2,718	45.5	41.0	11.3	75.4	77.8	32.4	51.9
Total	54,949	46.4	45.1	9.4	76.6	80.6	31.9	1,033.0

(a) Clinical nurses include those whose nursing or midwifery role in their main job was clinician.

(b) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

The oldest group, in terms of average age, was nurses and midwives working in family, maternal and child health (50.6 years); though in terms of proportion aged 50 and over, aged care had the highest proportion (57.7%).

In *Inner regional* areas, nurses and midwives in management worked the longest average hours (39.3 hours) compared with the overall average for *Inner regional* areas of 31.9 hours and the national averages of 39.1 hours for nurses and midwives in management and 32.8 hours over all employed nurses and midwives. Of those working in *Inner regional* areas, those working in general practice/medical practice worked the shortest average hours (27.9 hours) (Tables 3.4 and 5.3).

Outer regional areas

Of the nurses and midwives employed in *Outer regional* areas in 2011, 79.8% were clinicians. The average age of nurses and midwives was 46.2 in *Outer regional* areas, which was higher than the national average of 44.5 in 2011 (Tables 5.1 and 5.4).

Table 5.4: Employed nurses and midwives in *Outer regional* areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
<i>Medical and surgical areas</i>								
Medical	2,497	43.9	37.6	8.8	66.6	86.9	33.3	104.1
Surgical	1,063	40.7	28.8	7.5	75.5	86.4	33.2	44.2
Mixed medical/surgical	1,756	45.7	43.7	5.3	69.3	87.6	32.8	72.1
<i>Other clinical areas</i>								
Aged care	4,716	49.4	57.0	5.4	47.9	75.7	31.7	187.5
Community health	1,732	48.9	51.2	4.9	85.5	80.6	32.0	69.5
Critical care and emergency	1,960	41.1	26.0	14.4	92.8	93.0	35.2	86.4
Family, maternal and child health	422	47.7	48.6	0.5	96.6	88.3	32.3	17.1
General practice/medical practice	1,650	47.3	47.4	3.3	71.9	85.4	29.4	60.8
Mental health	961	47.8	49.4	32.1	89.3	88.8	37.3	44.9
<i>Midwives</i>	1,203	45.3	39.9	1.0	98.6	91.1	31.7	47.7
Midwifery	1,166	45.5	40.5	1.0	98.6	91.1	31.6	46.1
Completed midwife survey	37	38.2	20.3	0.0	100.0	93.7	33.8	1.6
Paediatrics	286	38.6	20.6	3.5	84.5	90.1	33.6	12.1
Peri-operative	1,109	44.7	38.2	8.6	83.7	87.6	33.7	46.8
Rehabilitation and disability	270	46.2	43.4	11.5	59.6	77.5	32.2	10.9

(continued)

Table 5.4 (continued): Employed nurses and midwives in *Outer regional* areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
<i>Non-clinical areas</i>								
Education	391	47.8	46.3	8.1	93.3	11.3	35.1	17.2
Management	712	50.0	56.8	11.4	98.7	14.9	40.6	36.2
Research	64	46.2	35.0	4.8	98.1	10.2	31.9	2.5
Other	2,091	47.1	46.6	7.7	81.9	73.4	33.8	88.4
Not stated	1,124	45.0	39.9	9.2	70.8	77.9	33.0	46.4
Total	24,006	46.2	44.4	8.0	74.4	79.8	33.1	994.7

(a) Clinical nurses include those whose nursing or midwifery role in their main job was clinician.

(b) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

Nurses and midwives working in aged care (4,716 or 19.6% of the total) were the largest individual group, compared with the national figure of 14.3% of nurses and midwives in aged care (Tables 3.4 and 5.4).

Taken as a whole, the group working in medical and surgical areas was 5,316 (22.1% of all nurses and midwives in *Outer regional* areas). Nationally, the figure was 22.3% (Table 3.4).

The oldest group, in terms of average age, was nurses and midwives working in management (50.0 years); though in terms of proportion aged 50 and over, aged care had the highest proportion (57.0%).

In *Outer regional* areas, nurses in management had the longest average hours (40.6 hours) compared to the overall average for *Outer regional* areas of 33.1 hours and the national averages of 39.1 hours for nurses and midwives in management and 32.8 hours over all employed nurses and midwives. Of those nurses and midwives in *Outer regional* areas, those working in rehabilitation and disability worked the shortest average hours (32.2 hours) (Tables 3.4 and 5.4).

Remote areas

Of the nurses and midwives employed in *Remote* areas in 2011, 77.9% were clinicians. The average age of nurses and midwives in *Remote* areas was 45.0, which was marginally higher than the national average of 44.5 in 2011 (Tables 5.1 and 5.5).

Nurses and midwives working in aged care (642, or 15.8% of the total) were the largest individual group compared with the national figure of 14.3% of nurses and midwives who worked in aged care (Tables 3.4 and 5.4).

Taken as a whole, the group working in medical and surgical areas was 805 (19.9% of all nurses and midwives in *Remote* areas). Nationally, the figure was 22.3% (Table 3.4).

The oldest group was nurses working in mental health (average age of 49.8 years, 60.3% are aged 50 and over).

In *Remote* areas, nurses and midwives in management worked the longest average hours (42.6 hours) compared with the overall average for *Remote* areas of 35.2 hours and the national averages of 39.1 hours for nurses and midwives in management and 32.8 hours over all employed nurses and midwives. Of those nurses and midwives working in *Remote* areas, those working in aged care worked the shortest average hours (31.8 hours) (Tables 3.4 and 5.5).

Table 5.5: Employed nurses and midwives in *Remote* areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	FTE rate ^(b)
<i>Medical and surgical areas</i>								
Medical	414	42.9	35.0	6.6	64.1	84.3	34.1	113.0
Surgical	86	37.0	22.5	6.8	77.5	73.4	35.0	24.2
Mixed medical/surgical	305	44.2	41.2	6.9	72.8	89.7	35.6	86.9
<i>Other clinical areas</i>								
Aged care	642	48.4	52.8	5.8	48.3	76.6	31.8	163.5
Community health	346	47.2	44.1	7.9	86.8	76.0	34.3	95.1
Critical care and emergency	425	40.1	25.4	12.5	88.9	91.7	37.2	126.5
Family, maternal and child health	89	47.4	51.3	1.3	100.0	82.7	34.0	24.2
General practice/medical practice	270	45.1	44.0	5.3	66.9	82.4	33.2	71.8
Mental health	115	49.8	60.3	28.1	93.2	85.4	37.5	34.3
<i>Midwives</i>	205	45.0	43.1	1.6	98.8	92.6	33.7	55.2
Midwifery	191	44.9	42.9	1.2	98.7	92.6	33.8	51.6
Completed midwife survey	14	46.7	44.8	7.1	100.0	92.9	32.5	3.6
Paediatrics	100	38.1	19.9	6.8	83.4	87.4	37.4	30.1
Peri-operative	110	45.0	36.9	4.8	88.5	86.9	33.6	29.5
Rehabilitation and disability	24	43.9	27.2	13.8	61.1	54.9	31.5	6.2
<i>Non-clinical areas</i>								
Education	66	45.9	36.5	3.5	92.9	6.8	35.7	18.7
Management	182	47.4	45.5	13.4	98.7	23.2	42.6	62.1
Research	8	41.9	14.0	14.3	100.0	14.6	36.0	2.2
Other	485	46.0	43.0	10.8	82.3	72.1	38.4	149.2
Not stated	180	44.2	39.7	9.7	77.1	83.0	34.7	50.0
Total	4,051	45.0	41.1	8.3	76.6	77.9	35.2	1,142.9

(a) Clinical nurses include those whose nursing or midwifery role in their main job was clinician.

(b) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

Very remote areas

Of the nurses and midwives employed in *Very remote* areas in 2011, 81.4% were clinicians. The average age of nurses and midwives in *Very remote* areas was 45.7, which was higher than the national average of 44.5 in 2011 (Tables 5.1 and 5.5). Nurses and midwives working in community health (384 or 16.8% of the total) were the largest individual group; this compares with the national figure of 4.9% of nurses and midwives worked in community health. In *Very remote* areas only 181 nurses and midwives (7.9% of the total) worked in aged care (Tables 3.4 and 5.6).

Table 5.6: Employed nurses and midwives in *Very remote*^(a) areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(b)	Average weekly hours worked	FTE rate ^(c)
<i>Medical and surgical areas</i>								
Medical	246	42.0	37.3	7.8	73.6	90.3	36.9	134.5
Surgical	19	43.1	36.9	11.7	91.8	68.6	35.8	10.2
Mixed medical/surgical	127	45.8	50.1	9.7	77.1	87.6	37.9	71.4
<i>Other clinical areas</i>								
Aged care	181	48.5	54.6	10.7	56.8	73.4	38.6	103.7
Community health	384	47.7	50.6	19.7	94.7	86.0	41.5	236.4
Critical care and emergency	270	40.5	27.1	16.1	92.1	92.2	38.1	152.3
Family, maternal and child health	58	49.6	60.8	0.0	98.0	92.6	37.0	32.0
General practice/medical practice	165	45.5	40.8	13.6	80.9	88.6	39.9	97.3
Mental health	77	47.0	44.2	30.6	96.6	90.5	38.8	44.2
Midwives	96	46.1	44.3	4.9	98.1	93.2	37.2	52.8
Midwifery	91	47.0	46.5	5.2	98.0	92.8	37.1	50.2
Completed midwife survey	5	29.2	0.0	0.0	100.0	100.0	38.4	2.7
Paediatrics	17	44.1	47.6	6.8	93.0	79.9	42.5	10.6
Peri-operative	30	41.9	24.0	7.3	75.0	79.8	34.7	15.5
Rehabilitation and disability	10	42.2	49.7	0.0	72.6	38.9	38.8	5.6
<i>Non-clinical areas</i>								
Education	30	46.8	39.3	17.0	92.3	11.1	38.4	16.8
Management	102	47.7	45.0	22.5	98.9	29.2	42.4	64.0
Research	7	46.4	36.0	0.0	82.4	0.0	33.8	3.4

(continued)

Table 5.6 (continued): Employed nurses and midwives in *Very remote*^(a) areas: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age (years)	Aged 50 and over (per cent)	Men (per cent)	Registered nurses (per cent)	Clinical nurses (per cent) ^(b)	Average weekly hours worked	FTE rate ^(c)
Other	374	47.1	47.7	18.8	91.0	79.2	42.5	235.6
Not stated	91	46.8	49.8	18.9	79.2	78.6	37.4	50.2
Total	2,283	45.7	44.3	15.0	85.9	81.4	39.5	1,335.5

(a) Includes *Migratory* areas.

(b) Clinical nurses include those whose nursing or midwifery role in their main job was clinician.

(c) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

Taken as a whole, the group working in medical and surgical areas was just 392 (17.2% of all nurses and midwives in *Very remote* areas). Nationally, the figure was 22.3% (Table 3.4).

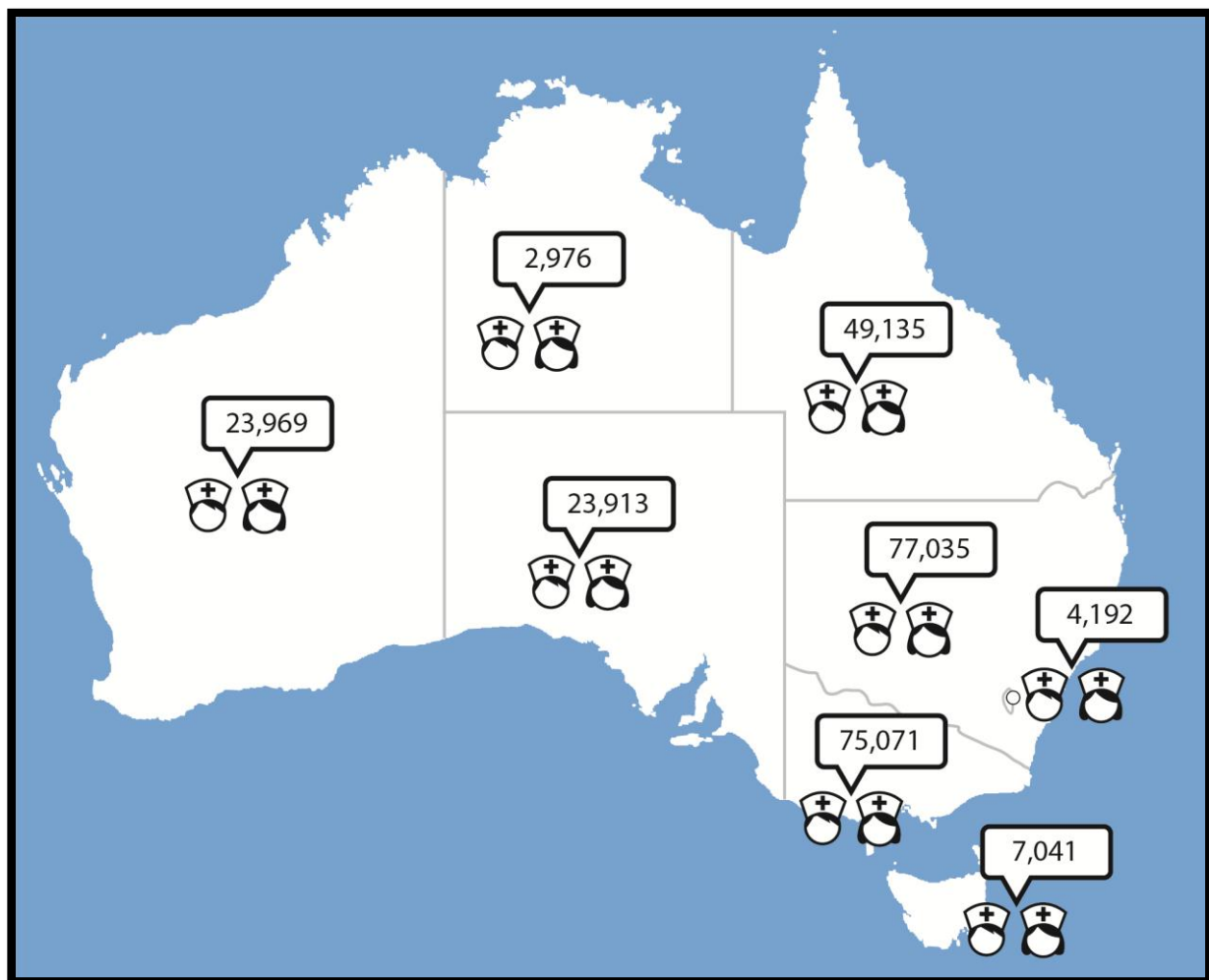
The oldest group was nurses and midwives working in family, maternal and child health (average age 49.6 years, 60.8% are aged 50 and over).

In *Very remote* areas, nurses and midwives in paediatrics had the longest average hours (42.5 hours) compared with the overall average for *Very remote* areas of 39.5 hours and the national averages of 32.2 hours for nurses and midwives in paediatrics and 32.8 hours for all employed nurses and midwives. In *Very remote* areas, nurses and midwives working in research worked the shortest average hours (33.8 hours) (Tables 3.4 and 5.6).

5.2 States and territories of Australia

The characteristics of nurses and midwives varied across jurisdictions in 2011. Nationally, the average age of employed nurses and midwives was 44.5 years. The highest average age was in Tasmania (46.0 years) and the lowest in the Northern Territory (43.3 years) (Table 5.7). The proportion of nurses and midwives who were men was highest in the Northern Territory (13.4%) and lowest in Western Australia (8.6%), compared with a national average of 9.9%.

The supply of all nurses and midwives between 2007 and 2011 decreased in three states, namely New South Wales (1,006.7 FTE nurses per 100,000 population to 971.8), Victoria (1,224.4 to 1,149.8) and Tasmania (1,254.4 to 1,232.9). In all three states, decreases were recorded for both registered nurses (including direct entry midwives) and enrolled nurses (Tables 4.2 and 5.7).



Note: 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

Source: NHWDS: nurses and midwives 2011.

Figure 5.2: Employed nurses and midwives, state and territory, 2011

The supply of nurses and midwives increased in Queensland, Western Australia, South Australia, the Northern Territory and the Australian Capital Territory. Western Australia and the Australian Capital Territory reported the largest change between 2007 and 2011 (up 6.1%) and Queensland had the smallest increase in supply (2.0% from 1,032.3 FTE nurses per 100,000 population in 2007 to 1,053.0 in 2011) over the same period (Tables 5.7 and 4.2).

Table 5.7: Employed registered and enrolled nurses: selected characteristics, state and territory, 2007^(a) and 2011^(b)

Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2007									
Number	77,035	75,071	49,135	23,969	23,913	7,041	4,192	2,976	263,331
Average age	43.2	43.1	43.7	45.2	45.3	45.2	43.5	42.6	43.7
Aged 50 and over (per cent)	32.0	31.9	32.2	37.0	36.7	37.7	31.6	31.3	33.0
Men (per cent)	11.3	8.8	9.2	7.8	9.2	10.5	7.5	10.9	9.6
Registered nurses (per cent)	83.6	76.3	84.3	79.2	75.8	85.9	83.6	88.8	80.6
Clinical nurses (per cent) ^(c)	91.4	91.2	91.7	94.3	89.1	92.6	91.5	86.6	91.4
Average weekly hours ^(d) worked	34.3	32.4	33.5	32.6	32.4	33.4	34.2	39.3	33.3
FTE rate ^(e)	1,006.7	1,224.4	1,032.3	972.3	1,286.5	1,254.4	1,106.1	1,431.0	1,095.1
2011									
Number	79,351	78,159	55,128	28,430	26,920	7,365	4,701	3,470	283,577
Average age	45.3	43.8	44.3	44.4	45.0	46.0	44.5	43.3	44.5
Aged 50 and over (per cent)	41.8	36.1	36.4	38.1	40.4	44.2	39.1	35.3	38.6
Men (per cent)	10.8	9.4	9.8	8.6	10.0	11.5	8.9	13.4	9.9
Registered nurses (per cent)	84.8	77.8	83.5	85.0	75.6	84.1	85.2	91.0	81.8
Clinical nurses (per cent) ^(f)	78.6	77.9	81.9	82.2	78.8	81.6	77.3	74.6	79.4
Average weekly hours ^(d) worked	34.0	31.4	33.3	32.3	31.6	32.5	34.7	37.7	32.8
FTE rate ^(e)	971.8	1,149.8	1,053.0	1,031.2	1,351.4	1,232.9	1,174.1	1,497.4	1,081.1

(a) State and territory estimates for 2007 are based on state or territory of registration and should be treated with caution due to low response rates in some jurisdictions, particularly the Northern Territory (28.7%). (See Appendix A for further information.)

(b) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(c) Clinical nurses include those whose nursing role in their main job was 'clinical nursing' or 'clinical management and or nurse/midwifery administration/ management' (see 'Glossary').

(d) Care should be taken in interpreting change in the estimates on hours worked due to changes in the question on hours worked from 2007 to 2011.

(e) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

(f) Clinician nurses include those whose nursing or midwifery role in their main job was 'clinician'.

Sources: AIHW Nursing and Midwifery Labour Force Survey 2007; NHWDS: nurses and midwives 2011.

6 Selected characteristics of midwives

6.1 Overview

In the data provided by the NRAS system, there are two major ways to classify midwives – firstly, by whether they were registered as midwives and, secondly, by whether they worked in the area of midwifery as the principal area in their main job.

There were a small but significant number of nurses (1,161) who were not registered as midwives who principally worked in a midwifery area in their main job.

Table 6.1: Employed nurses and midwives: midwifery as the principal area of main job, registration category, 2011

Registration category	Working in a midwifery area	Working in areas other than midwifery	Total
Nurse only	1,161	246,341	247,503
Midwife only	1,517	..	1,517
Both midwife and nurse	12,844	21,712	34,557
Total	15,523	268,054	283,577

Source: NHWDS: nurses and midwives 2011.

6.2 Area of nursing or midwifery

The principal areas in which people registered as midwives work in their main jobs differ from that for all nurses and midwives (Table 3.4). Notably, 39.8% of them work as midwives – 91.7% of those employed in that principal area in their main job. The other area where midwives tended to be in high numbers was 'Family, maternal and child health', where 60.9% of those employed in that principal area in their main job were registered as midwives, compared with 12.7% of all employed nurses and midwives. There are other obvious differences such as for aged care, where only 4.9% of those employed are registered as midwives, compared with 14.3% for all employed nurses and midwives.

Those working in the principal area of midwifery in their main job tended to be younger, on average, than those registered as midwives; the average age of people working in midwifery as the principal area in their main job was 45.4 compared with 50.2 for employed registered midwives. Similarly, while 59.2% of employed registered midwives were aged 50 and over, only 40.6% of those employed in midwifery as the principal area in their main job were aged 50 and over (Tables 6.3 and 6.4).

Table 6.2: Employed registered midwives: selected characteristics, principal area of main job, 2011

Principal area of main job	Number	Average age	Aged 50 and over (per cent)	Men (per cent)	Clinical nurses (per cent) ^(a)	Average weekly hours worked	Percentage of all employed in principal area ^(b)	FTE rate ^(c)
<i>Medical and surgical areas</i>								
Medical	870	53.3	73.7	2.8	90.4	32.1	3.6	3.2
Surgical	791	54.1	77.1	1.6	89.0	30.4	3.3	2.8
Mixed medical/surgical	1,063	53.9	76.5	1.9	85.2	31.2	7.0	3.9
<i>Other clinical areas</i>								
Aged care	1,973	58.0	89.6	2.4	68.7	32.0	4.9	7.3
Community health	2,033	52.8	69.7	1.4	80.9	32.9	14.6	7.8
Critical care and emergency	1,459	50.6	60.5	7.4	90.3	33.2	5.3	5.6
Family, maternal and child health	2,839	51.7	62.4	0.5	87.6	30.1	60.9	9.9
General practice/medical practice	1,213	52.9	69.1	0.8	85.0	27.5	9.6	3.9
Mental health	483	55.1	78.7	6.8	83.2	35.6	2.7	2.0
Midwifery ^(d)	14,361	45.8	41.6	0.8	91.0	30.1	92.5	50.3
Midwifery	12,844	46.7	44.8	0.9	90.9	29.8	91.7	44.6
Completed midwife survey	1,517	38.1	15.2	0.4	91.9	32.2	100.0	5.7
Paediatrics	604	51.5	64.6	1.9	83.0	31.2	7.8	2.2
Peri-operative	1,035	54.6	79.8	1.7	90.3	30.4	5.3	3.7
Rehabilitation and disability	338	56.0	84.4	2.0	74.9	29.9	4.0	1.2
<i>Non-clinical areas</i>								
Education	737	52.8	70.5	4.7	10.3	35.0	14.8	3.0
Management	1,486	53.2	73.2	5.8	13.5	39.1	19.5	6.8
Research	245	53.0	72.6	0.9	9.6	32.6	12.7	0.9
Other	2,952	52.8	69.8	3.0	70.0	33.6	12.4	11.5
Not stated	1,592	50.7	60.9	2.3	77.1	32.3	11.2	6.0
Total	36,074	50.2	59.4	1.9	80.4	31.5	12.7	132.0

(a) Clinician nurses include those whose nursing or midwifery role in their main job was 'clinician'.

(b) Proportion of enrolled midwives working in the area in their main job to all nurses and midwives working in the area in their main job.

(c) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

(d) The number of people working in midwifery in this table does not include the 1,161 people registered as nurses (but not midwives) who work in a midwifery area in their main job.

Source: NHWDS: nurses and midwives 2011.

6.3 Remoteness areas of Australia

A relatively high proportion of nurses and midwives working in *Remote* and *Very remote* areas have midwife registration. The proportion of nurses and midwives in *Very remote* areas registered as midwives was 18.5%, compared with 12.3% in *Major cities*. However, only 4.2% of nurses and midwives in *Very remote* areas worked in the area of midwifery in their main job, compared with 5.6% of nurses and midwives in *Major cities* (Table 6.3).

Table 6.3: Employed nurses and midwives registered as midwives and working in a midwifery area in principal area of main job: selected characteristics, remoteness area^(a), 2011

Characteristic	Remoteness area						Australia
	Major cities	Inner regional	Outer regional	Remote	Very remote	Not stated	
Registered in midwifery							
Number	24,388	7,198	3,432	617	423	16	36,074
Average age	50.0	50.9	50.2	49.5	51.2	47.1	50.2
Aged 50 and over (per cent)	58.8	61.4	59.3	57.2	63.9	63.1	59.4
Men (per cent)	1.7	2.3	2.2	2.5	7.9	0.0	1.9
Registered nurses (per cent) ^(b)	100.0	100.0	100.0	99.8	100.0	100.0	100.0
Clinical nurses (per cent) ^(c)	79.8	82.4	80.6	78.0	81.2	71.0	80.4
Average weekly hours worked	31.1	31.2	32.7	36.0	39.8	35.2	31.5
Employed nurses and midwives (per cent)	12.3	13.1	14.3	15.2	18.5	8.7	12.7
FTE rate ^(d)	138.2	142.3	148.2	184.1	264.9	..	141.7
Working in the area of midwifery in main job or registered as midwife only							
Number	11,147	2,867	1,203	205	96	6	15,523
Average age	45.1	46.5	45.3	45.0	46.1	40.3	45.4
Aged 50 and over (per cent)	39.8	44.0	39.9	43.1	44.3	37.8	40.6
Men (per cent)	0.7	1.1	1.0	1.6	4.9	0.0	0.9
Registered nurses (per cent) ^(b)	97.6	97.4	98.6	98.8	98.1	100.0	97.7
Clinical nurses (per cent) ^(c)	90.3	92.0	91.1	92.8	93.2	100.0	90.7
Average weekly hours worked	29.9	29.7	31.7	33.7	37.2	29.3	30.1
Employed nurses and midwives (per cent)	5.6	5.2	5.0	5.1	4.2	3.2	5.5
FTE rate ^(d)	56.4	50.2	47.7	55.2	52.8	..	54.3

(a) Derived from remoteness area of main job where available; otherwise, remoteness area of principal practice is used as a proxy. If remoteness area details unavailable, remoteness area of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(b) Data for registered nurses include people registered as midwives only.

(c) Clinical nurses include those whose nursing or midwifery role in their main job was 'clinician'.

(d) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

Remote areas also had the highest proportion of midwives that were men (using both measures – those registered as, and those working in, midwifery); midwives were over 4 times more likely to be men in *Very remote* areas than in *Major cities*.

6.4 States and territories of Australia

The state or territory with the highest FTE number per 100,000 population of midwives (using both measures – those registered as, and those working, in midwifery) was the Northern Territory. It had close to double the national rate for both measures – at 2.1 and 1.9 times the rate for those registered as, and working, in midwifery, respectively.

Table 6.4: Employed nurses and midwives registered as midwives and working in a midwifery area in principal area of main job: selected characteristics, states and territories^(a), 2011

Characteristic	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Registered in midwifery									
Number	11,876	9,903	6,699	3,009	2,642	645	663	633	36,074
Average age	51.6	50.1	49.5	48.2	48.9	49.1	51.0	49.1	50.2
Aged 50 and over (per cent)	65.8	60.5	52.4	50.1	56.2	52.4	63.5	56.5	59.4
Men (per cent)	2.1	1.3	2.2	1.6	2.2	3.5	2.6	4.8	1.9
Registered nurses (per cent) ^(b)	100.0	99.9	100.0	100.0	99.9	100.0	100.0	100.0	100.0
Clinical nurses (per cent) ^(c)	78.2	80.7	81.6	83.3	82.8	87.1	76.4	75.3	80.4
Average weekly hours worked	32.3	29.9	32.2	30.8	30.5	30.2	33.6	37.4	31.5
Employed nurses and midwives (per cent)	15.0	12.7	12.2	10.6	9.8	8.8	14.1	18.2	12.7
FTE rate ^(d)	138.4	138.5	123.9	103.8	128.0	100.5	160.4	270.6	132.0
Working in the area of midwifery in main job or registered as midwife only									
Number	4,121	4,397	3,008	1,772	1,302	377	283	262	15,523
Average age	45.8	44.7	45.5	45.3	45.6	47.5	47.7	44.8	45.4
Aged 50 and over (per cent)	41.9	40.3	37.0	38.7	44.4	44.5	52.0	43.5	40.6
Men (per cent)	0.9	0.5	1.0	0.9	0.7	2.8	0.5	0.8	0.8
Registered nurses (per cent) ^(b)	97.6	96.5	97.8	98.9	98.6	99.7	98.4	99.6	97.7
Clinical nurses (per cent) ^(c)	90.5	89.7	91.6	90.6	91.9	92.7	92.9	88.6	90.7
Average weekly hours worked	31.8	28.9	30.2	29.2	29.1	28.1	31.5	34.1	30.1
Employed nurses and midwives (per cent)	5.2	5.6	5.5	6.2	4.8	5.1	6.0	7.6	5.5
FTE rate ^(d)	47.2	59.5	52.1	58.0	60.2	54.7	64.1	102.2	54.3

(a) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

- (b) Data for registered nurses include people registered as midwives only.
- (c) Clinical nurses include those whose nursing or midwifery role in their main job was 'clinician'.
- (d) Full-time equivalent (FTE) number per 100,000 population. FTE is based on total weekly hours worked (see 'Glossary').

Source: NHWDS: nurses and midwives 2011.

The Northern Territory midwives also reported working the longest hours on average (37.4 and 34.1 hours for those registered as, and those working in, midwifery, respectively) (Table 6.4).

The state with the lowest FTE rate for those working in midwifery as the principal area in their main job was New South Wales (47.2). For those registered in midwifery, the FTE rate was the lowest in Tasmania (100.5) (Table 6.4). The Australian Capital Territory has the oldest midwives (average age 47.7), with 52.0% of those working in midwifery as the principal area in their main job being aged 50 and over (Table 6.4).

7 Sources of new entrants and re-entrants to the nursing and midwifery workforce

There are three sources of recruits to the nursing workforce. The main source of nurses and midwives is via the training of new graduates. The time required for students to complete training and enter the workforce is such that any acute change in the demand for nurses and midwives cannot be met by this group. In addition, the pool of nurses and midwives who have maintained their registration or enrolment but who are not employed in nursing or midwifery are a potential source of re-entrants. The third source of recruits to the nursing and midwifery workforce is through the migration of overseas-trained people. This chapter discusses data relevant to the first two of these sources.

While immigration is a further potential source of new nurses and midwives, the data on these nurses will become available as the NRAS matures and new entrants can be tracked more thoroughly.

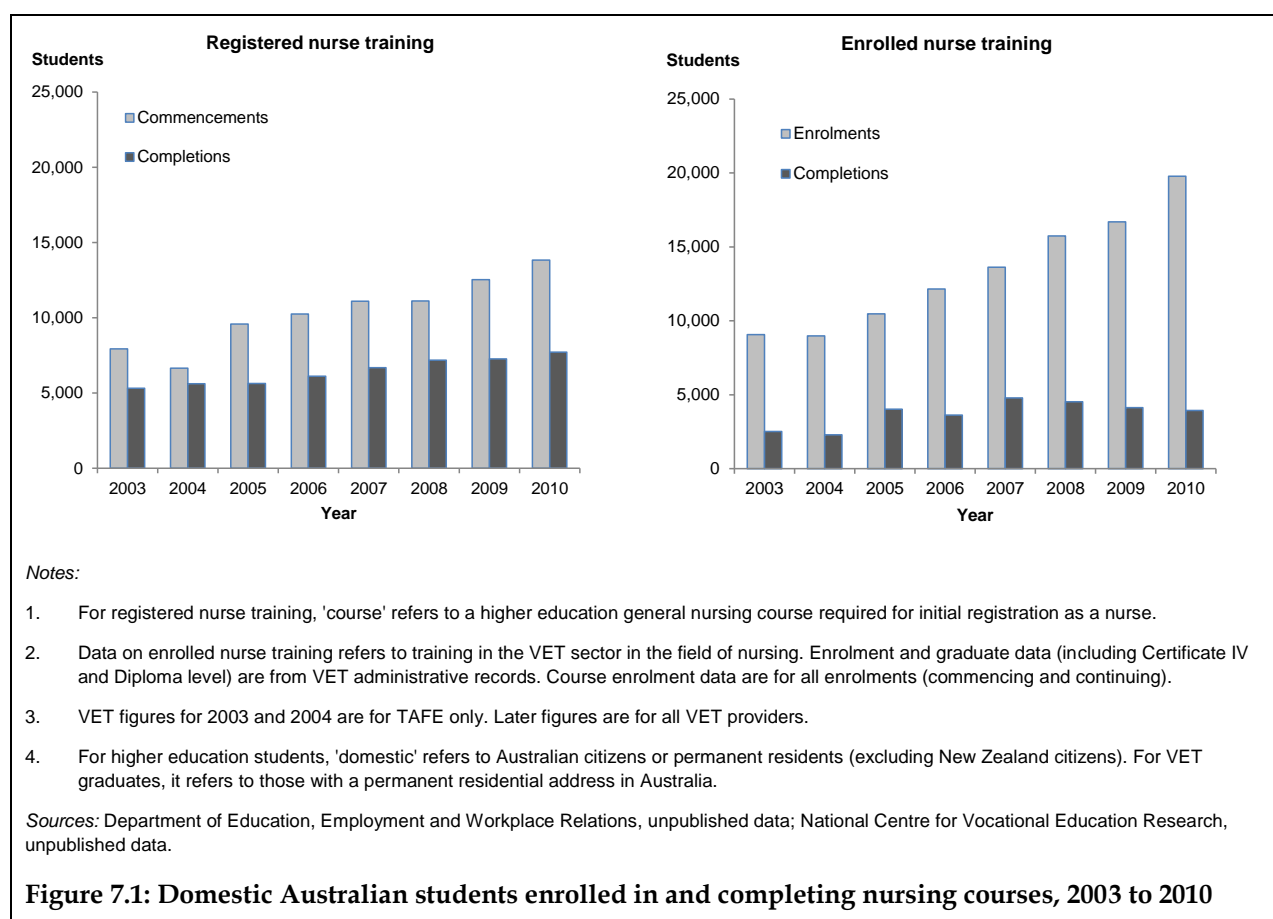
7.1 Nurse training

Basic training for nursing is provided through universities for registered nurses and midwives and vocational education and training (VET) institutions for enrolled nurses. Information on nursing student commencements and completions of higher education (university) courses are derived from data provided by the Department of Education, Employment and Workplace Relations. Data on enrolled nurse training is sourced from the National Centre for Vocational Education Research.

Enrolled nurses can upgrade their qualifications to become registered nurses. This has been encouraged over the past decade through more varied training pathways, such as training packages that focus on competencies that can be achieved either in a clinical setting or in the classroom (ANMC 2002). This explains, in part, the slowing growth rate of enrolled nurse numbers compared with registered nurse numbers (Table 2.2).

University-level general nursing courses required for initial registration as a nurse are usually 3 or 4 years long when studied full time. The number of commencements in these courses dropped between 2003 and 2004, then showed a gradual increase through to 2010 (7,926 commencements in 2003 and 13,838 in 2010). Completions have also grown over the period (5,306 domestic completions in 2003 to 7,708 in 2010) (Figure 7.1).

The basic training for an enrolled nurse is shorter than for a registered nurse. Enrolled nurse training varies across jurisdictions, although there is a national set of competencies (ANMC 2002). Enrolled nurse courses are generally Certificate IV or Diploma level training programs. They can take between 1 and 2 years to complete, depending on the level of theory mixed with clinical experience. In 2010, there were 19,748 students enrolled in VET nursing courses, and 3,938 students completed their course in that year (Figure 7.1). Numbers of VET nursing enrolments gradually increased over the period but numbers of graduates have remained relatively flat.



7.2 Nurses and midwives not employed in nursing or midwifery

The Nursing and Midwifery Workforce Survey collects some basic information on those nurses and midwives who are registered or enrolled, but who are not actively employed in nursing or midwifery in Australia: that is, nurses and midwives on extended leave, working overseas, employed elsewhere or not employed. This does not include nurses and midwives who are not registered at the time of the survey.

In 2011, an estimated 43,092 (13.2%) nurses and midwives were not actively employed as a nurse or midwife in Australia (Table 7.1). Of these, 26.2% were not looking for work in nursing or midwifery, with about half of these (54.6%) employed elsewhere. A further 34.8% were on extended leave and 23.6% were working overseas. The remaining 10.3% stated that they were looking for work in nursing or midwifery.

Nurses and midwives on extended leave, and not employed and not looking for work in nursing or midwifery, were less likely to be men (5.5% for registered nurses and 4.7% for enrolled nurses) compared with other nurses and midwives (9.9% of employed nurses). In comparison, nurses and midwives employed elsewhere and looking for work in nursing or midwifery, and those employed elsewhere and not looking for work in nursing or midwifery, were more likely to be men (13.1% and 13.2%, respectively). Nurses and midwives on extended leave and overseas were, on average, younger than other nurses and

midwives (40.9 years and 38.6 years, respectively), while those who were retired were, not surprisingly, the oldest group (60.6 years) (Table 7.1).

While almost all of the nurses and midwives working overseas were registered nurses (98.9%), about two-thirds (67.1%) of nurses and midwives looking for work in nursing or midwifery in Australia were registered nurses.

Table 7.1: Nurses and midwives not actively employed in nursing or midwifery in Australia: selected characteristics, 2011

Workforce status	Number	Men (per cent)	Average age (years)	Aged 50 and over (per cent)	Registered nurse ^(b) (per cent)	Metropolitan residence ^{(a)(c)} (per cent)
Nurses and midwives not actively employed in nursing or midwifery in Australia						
On extended leave of 3 months or more	15,006	5.5	40.9	27.1	83.2	90.3
<i>Looking for work in nursing or midwifery</i>	<i>4,427</i>	<i>10.2</i>	<i>41.6</i>	<i>30.4</i>	<i>67.1</i>	<i>91.1</i>
Employed elsewhere	1,856	13.1	40.6	28.0	60.3	90.2
Not employed	2,571	8.0	42.3	32.2	72.0	91.8
Overseas	10,166	12.7	38.6	15.8	98.9	91.9
<i>Not looking for work in nursing or midwifery</i>	<i>11,269</i>	<i>9.4</i>	<i>45.0</i>	<i>38.5</i>	<i>76.1</i>	<i>90.0</i>
Employed elsewhere	6,155	13.2	45.3	39.2	73.2	90.1
Not employed	5,113	4.7	44.7	37.8	79.5	90.0
Retired	2,225	6.8	60.6	92.4	85.0	89.5
Total	43,092	8.8	42.5	31.1	83.5	90.4
Total employed nurses and midwives						
	283,577	9.9	44.5	38.6	81.8	91.5

(a) Based on postcode of home residence concorded to ASGC regions. (See 'Glossary'.)

(b) Includes people registered as midwives only.

(c) Percentage calculations exclude 'Not stated' values for ASGC region of home residence. 'Metropolitan' includes *Major cities* and *Inner regional* areas.

Source: NHWDS: nurses and midwives 2011.

Appendix A: Explanatory notes on Nursing and Midwifery Workforce 2011 data sources

A.1 National Health Workforce Data Set: nurses and midwives

Background

Nurses and midwives are required by law to be registered with the Nursing and Midwifery Board of Australia to practise as nurses and midwives in Australia.

The National Health Workforce Data Set (NHWDS): nurses and midwives is a combination of data collected through the registration renewal process for nurses and midwives. Nurses and midwives can renew their registration either online via the AHPRA website or by using a paper form provided by the AHPRA. For initial registration, nurses and midwives must use a paper form and provide supplementary supporting documentation. Registration data collected include demographic information such as age, sex, country of birth, and details of health qualification(s) and registration status (see <<http://www.nursingmidwiferyboard.gov.au/Registration-and-Endorsement/Forms.aspx>>).

When nurses and midwives renew their registration online, they are also asked to complete an online version of the Nursing and Midwifery Workforce Survey 2011 questionnaire. The questionnaire collects information on the employment characteristics, work locations and work activity of nurses and midwives (see <<http://www.aihw.gov.au/workforce-publications/>>). The AHPRA stores both the online registration data and the survey information in separate databases, and then send these two data sets to the AIHW, where they are merged into a de-identified national data set.

When nurses and midwives renew their registration on a paper form, they are also asked to complete a paper version of the Nursing and Midwifery Workforce Survey 2011 questionnaire. The paper registration and survey forms are sent back to the AHPRA, where the paper registration forms are scanned and the data added to the registration data obtained from those who renew online. The AHPRA sends the paper survey forms to Health Workforce Australia (HWA) to be scanned into a data set. HWA then sends this data set to the AIHW for merging with the registration data for all registrants and the survey data for those who have completed it online.

The AIHW then undertakes cleansing and adjustment for non-response to form a nationally consistent data set. The final data set is then known as the National Health Workforce Data Set: nurses and midwives. The AIHW produces and releases reports and data tables based on the NHWDS: nurses and midwives. These reports and data tables are available from the AIHW website at <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and midwifery workforce 2011*).

A.2 National Registration and Accreditation Scheme registration data

The Council of Australian Governments (COAG) at its meeting of 26 March 2008 signed an Intergovernmental Agreement on the Australian health workforce, for the first time creating the National Registration and Accreditation Scheme (NRAS) (see <http://www.coag.gov.au/coag_meeting_outcomes/2008-03-26/docs/iga_health_workforce.rtf>). Ten (10) health professions were included in the initial national system implemented on 1 July 2010: chiropractors, dental practitioners, medical practitioners, nurses and midwives, optometrists, osteopaths, pharmacists, physiotherapists, podiatrists, and psychologists.

For these professions, practitioners need to be registered with their respective professional boards to practise in Australia. As part of the initial registration and registration renewal process, the AHPRA collects information on the registration details and demographic characteristics of practitioners. The information is collectively referred to as the 'registration data'.

In 2011, nurses and midwives were the second profession, after medical practitioners in 2010, to be included in the NRAS reporting cycle.

Scope and coverage

The AHPRA provides the AIHW with an extract of registration data at the end of the annual nursing and midwife registration renewal process in May. The extract contains details of nurses and midwives who, at the end of the renewal process, have a registration status of:

- cancelled
- failed to renew
- registered
- suppressed
- surrendered
- suspended
- void.

In 2011, a subset of this extract was created to include only nurses and midwives with a registration status of 'Registered'. Data for this subset of registered nurses and midwives was merged with the Nursing and Midwifery Workforce Survey 2011 data to create a national data set, the NHWDS: nurses and midwives 2011.

In the first year, registration of nurses and midwives in Queensland and Western Australia was extended after the official AHPRA closing date of 31 May 2011 to ensure registrations for these states were complete. Data for those nurses and midwives who failed to register by 30 June 2011 for Queensland and by 31 December 2011 for Western Australia were migrated from the respective state nursing board or council registration system. In addition, nurses and midwives in Western Australia had previously been able to register for up to a 3-year period; hence, those who re-registered for 3 years in 2010 are not required to re-register again until 2013. Therefore, registered nurse and midwife numbers for Queensland and Western Australia can be assumed to be complete. However, some differences exist between the migrated data and the historical record. Between 2009 and 2011, the number of nurses and

midwives registered in Queensland and Western Australia increased by 4,672 (8.2%) and 1,356 (4.4%), respectively (Table A1).

Table A1: Registered nurses and midwives: state and territory, 2007 to 2009^(a) and 2011^(b)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
2007 ^(a)	96,783	84,047	54,959	27,620	26,374	7,658	4,796	3,597	305,834
2008 ^(a)	97,863	83,230	54,747	30,738	28,487	7,916	5,040	4,808	312,828
2009 ^(a)	99,493	85,237	57,108	30,870	30,421	7,992	5,069	4,791	320,982
2011 ^(b)	90,512	86,933	61,780	32,226	29,634	8,037	5,351	3,913	326,669
Change between 2009 and 2011	-8,981	1,696	4,672	1,356	-787	45	282	-878	5,687
Percentage change between 2009 and 2011	-9.0	2.0	8.2	4.4	-2.6	0.6	5.6	-18.3	1.8

(a) Before 2011, the AIHW Nursing and Midwifery Labour Force Survey collected state and territory of registration and reported in this table. The survey was administered by individual state and territory health departments or authorities; therefore the estimates above include a factor to remove the effect of nurses and midwives who were registered in more than one jurisdiction.

(b) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007 to 2009; NHWDS: nurses and midwives 2011.

Data issues

The following data issues need to be considered when interpreting registration data from the NRAS in the NHWDS: nurses and midwives 2011 (see the Data Quality Statement at Appendix E, and online *User guide for the NHWDS: nurses and midwives 2011* available from the AIHW website at <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and midwifery workforce 2011*)).

- *Incomplete registration data* – (for example, due to migrated data from state and territory nursing and midwifery boards/councils). In particular, some records had some or all of date of birth, sex, and state and territory of principal practice missing. This is an issue because these data items are required for weighting and imputation purposes. Also, country of birth and country of initial nursing or midwifery qualification were incomplete for many records.
- *Issues with overseas residents* – many nurses and midwives who reside overseas could not be identified by the registration process. They have been included with those whose state or territory of principal practice could not be determined. Therefore, the missing values of state and territory of principal practice cannot be imputed, and thus affected the calculation of survey weights.
- *Inconsistency between citizenship and residency status responses* – data are not consistent in a number of records; that is, some nurses and midwives were reported as being both Australian citizens and permanent residents.
- *Issues with multiple divisions of registration* – nurses and midwives may be registered in multiple categories such as registered nurse and midwife, registered and enrolled nurse, enrolled nurse and midwife, or registered and enrolled nurse and midwife (see A.5: Comparison with previous AIHW Nursing and Midwifery Labour Force Survey data). Registered nurses include those registered as midwives but not as nurses. Midwives appear as a subset of the registered and enrolled nurses categories. Those registered as midwives only were included in persons registered as a midwife.

- *Invalid country formats* – for a number of records, the country of birth and country of initial qualification fields contained 3-character codes rather than the names of countries. Most of the codes were successfully mapped to a country, but there were some for which a country could not be determined.
- *Invalid postcode formats* – postcode of principal practice and residence contained text strings, such as invalid postcodes, suburb names and overseas postal codes. Therefore, after cleaning and recoding, many of these were still coded to the 'Not stated' category. As a result, the derivation of ASGC RA categories for these records was not possible.
- *Incomplete date of death* – date of death was not completed for any nurse or midwife, thus has not been used in this report.
- *Invalid year formats* – invalid values entered in data fields relating to years may have affected data items such as year of initial qualification and date of birth.

A.3 Nursing and Midwifery Workforce Survey

The Nursing and Midwifery Workforce Survey 2011 collected information on the employment characteristics, primary work location and work activity of nurses and midwives in Australia who renewed their registration with the Nursing and Midwifery Board of Australia via the NRAS. This survey data was then combined with the NRAS registration data to form the NHWDS: nurses and midwives 2011.

The estimates published in this report are not always directly comparable with estimates derived from the earlier AIHW Nursing and Midwifery Labour Force Survey data. This is due to a change in the data collection methodology; including the survey design and questionnaire (see A.5: Comparison with previous AIHW Nursing and Midwifery Labour Force Survey data). For further information, refer to the Data Quality Statement (Appendix E) and the online *User guide for the NHWDS: nurses and midwives 2011*, available from the AIHW website at <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and Midwifery workforce 2011*).

Scope and coverage

The survey is undertaken in association with the NRAS registration renewal process. As such, only nurses and midwives who are on the register at the time of the survey, and who are required to renew their registration, receive a questionnaire for completion. Typically, new registrants registering outside the registration renewal period will not receive a survey form. These nurses and midwives will receive a survey form when they first renew their registration.

Estimation procedures

The AIHW uses the NRAS registration data collected in tandem with that from the Nursing and Midwifery Workforce Survey 2011 to derive estimates of the total nursing and midwifery workforce. Not all nurses and midwives who receive a survey instrument respond, because it is not mandatory. In deriving the estimates, two sources of non-response to the survey are accounted for:

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

- *population non-response* – which occurs because not all registered nurses and midwives who receive a questionnaire respond.

A separate estimation procedure is used for each. Imputation is used to account for item non-response, and weighting for population non-response.

Both of these procedures are described below.

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. Imputation is usually applied only in cases where the proportion of missing values is less than 5% of the total.

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 and sex values within each state and territory of principal practice are first imputed to account for missing values. Other variables deemed suitable for this process, including total hours worked in nursing or midwifery the week before the survey and principal role of main job, were then imputed.

Weighting: estimation for population non-response

Each survey record (or respondent) is assigned a weight that is calibrated to align with independent data on the population of interest, referred to as 'benchmarks'. In principle, this weight is based on the population number (the benchmark) divided by the number in the responding sample. The resulting fraction becomes the expansion factor applied to the record, referred to as the 'weight', providing an estimate of the population when aggregate output is generated. Therefore, the weight for each record is based on particular characteristics that are known for the whole population.

The total number of registered nurses and midwives in Australia is used to benchmark the survey (see 'Data issues' section below).

The calculation of weights is usually part of the data processing for a sample survey in which the sample is selected before the survey is done. In the Nursing and Midwifery Workforce Survey 2011, all renewing registrants were sent a workforce survey questionnaire when registration renewal was due. Therefore, technically, it was a census of nurses and midwives. However, because not all renewing registrants in scope respond to the survey, there is a very large 'self-selecting sample' bias in the data. Since the group of respondents in the data set is not random, standard errors are not a suitable means of gauging variability.

The benchmark data used for the weighting are the number of registered practitioners in each state and territory (based on the location of principal practice), by division of registration, age group and sex within the NRAS registration data supplied by the AHPRA.

Producing estimates for the population by weighting the data from respondents does adjust for bias in the responding group of practitioners, but only for *known* population characteristics (such as age and sex, where provided, in the case of the Nursing and Midwifery Workforce Survey 2011). If information for a variable is not known for the whole population, the variable cannot be used in the calculation of weights and cannot be used in the adjustment process.

For variables not used in the calculation of weights (for the NHWDS: nurses and midwives 2011, that is all variables *other* than state and territory of principal practice, division of registration, 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. Therefore, there will be some unquantifiable level of bias in the estimates.

Response rate

The overall response rate to the Nursing and Midwifery Workforce Survey 2011 was 86.2%; that is, the number of responses to the survey represented 86.2% of registered nurses and midwives (Table A.2). Of these responses, 86.7% completed the survey online and 13.3% used the paper form.

Table A2: Survey response rate: state and territory of principal practice, 2007 to 2009^(a) and 2011^(b)

	NSW	Vic	Qld	WA	SA	Tas ^(c)	ACT ^(c)	NT ^(d)	Overseas/ Not stated	Australia
2007 ^(a)	65.5	39.9	33.9	36.7	65.4	59.3	60.0	28.7	..	49.6
2008 ^(a)	63.4	33.2	32.9	34.4	65.8	56.9	46.9	34.9	..	46.5
2009 ^(a)	64.0	31.6	28.2	35.4	61.4	33.2	45.1	32.8	..	44.4
2011 ^(b)	87.7	90.4	91.5	62.1	89.2	74.8	76.7	89.6	82.7	86.2

(a) Before 2011, the AIHW Nursing and Midwifery Labour Force Survey collected state and territory of registration and reported in this table. The survey was administered by individual state and territory boards and councils; therefore, some nurses and midwives were registered in more than one jurisdiction.

(b) 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 unavailable, state and territory of residence is used. For records with no information on all three locations, they are coded to 'Not stated'.

(c) Benchmark data for the Australian Capital Territory and Tasmania were not available for 2008 and were estimated from the average of 2007 and 2009 data for both jurisdictions.

(d) The response rate for the Northern Territory is affected by the transient nature of the nursing work force in that jurisdiction. According to the Nursing Board Annual Report 2009, approximately one-third of all nurses do not re-register each year, primarily because they no longer practise in the jurisdiction. There has been some variation across years in the degree to which nurses who are interstate have been removed from the renewal process and hence the survey. Benchmark data for the Northern Territory in 2009 was estimated by using the total from the Nursing Board quarterly bulletin report prorated to the 2008 age distribution.

Sources: AIHW Nursing and Midwifery Labour Force Survey, 2007, 2008 and 2009; NHWDS: nurses and midwives 2011.

As previously stated, the jurisdiction-based data collection used to collect information on the workforce characteristics of nurses and midwives was replaced with a single data collection as part of the national registration scheme introduced on 1 July 2010. As a result, the

response rates are not directly comparable due to differences in survey design and methodology.

Survey response rates rose substantially in 2011, by 41.8 percentage points from 44.4% in 2009 to 86.2% in 2011. This increase was seen in all states and territories, with some states and territories doubling or tripling their 2009 rates. Queensland showed the largest rate increase, with its response more than trebling, from 28.2% to 91.5% between 2009 and 2011.

Data issues

A number of data issues need to be considered when interpreting nursing and midwifery workforce survey data in the NHWDS: nurses and midwives 2011. These issues are outlined in this section.

Sample

The national deadline, set by the AHPRA, for nurses and midwives to renew their registration was extended from 31 May 2011 to 30 June for those whose principal state of practice was Queensland, and to 31 December 2011 for Western Australia. As stated above, nurses and midwives in these states who did not renew by the close of the extended period had their registration details migrated from the respective state boards/councils. Therefore, while registered numbers of nurses and midwives in Queensland and Western Australia can be assumed to be complete, those whose details were migrated did not receive the workforce survey form. The Queensland, Western Australia and national response rates (Table A.2) were high (91.5%, 62.1% and 86.2%, respectively) and, as a result, the data would support detailed analysis without a significant increase in the variability of survey estimates. The Western Australia rate of 62.1% was deemed to be acceptable as there are a number of nurses and midwives who did not complete the survey because they were not required to register in 2011 due to registration renewals lasting 3 years.

Survey design

The Nursing and Midwifery Workforce Survey 2011 used separate survey forms for nurses and midwives. The same questions were asked on both survey forms; however, questions relating to the principal area of main job and work setting of main job had different response categories.

In 2011, the online survey questionnaire did not include electronic sequencing of questions to automatically guide the respondent to the next appropriate question based on previous responses to questions.

The order of the response categories to the 'reason not working in nursing/midwifery in Australia' question appears to be an issue. The question has 'Retired from regular work' after 'Not working in paid employment at all', which may not be logical as nurses and midwives may be retired but may still work irregularly (for example, as an occasional locum). On this basis, the category 'Retired from regular work' should appear before 'Not working in paid employment at all'. The issue with the order in the 2011 survey questionnaire is that it may lead to an undercount of those retired from regular work and an over-representation of those not working in paid employment.

A number of survey questions have allowed invalid responses to be recorded. A number of these responses could not be recoded to a valid category – for example, text entered as responses to the 'hours worked' questions.

Variation between the online and paper surveys has resulted in additional data quality issues for a number of questions. For example, the state and territory of main job question included the category 'Other territories' on the paper form while the same response category in the online form was labelled 'Other'. The data showed a large number in the 'Other' category captured in the online method, which was not similarly found in the paper responses. In addition, both state and territory of principal practice and residence data items do not include the category 'Other territories' or 'Other'. Another issue is that the 'temporary resident status' question is explicitly asked only on the paper survey form (see A.5: Comparison with previous AIHW Nursing and Midwifery Labour Force Survey data).

It is expected that the online and paper versions of the survey questionnaire will be harmonised in future iterations.

Data structure

Due to unstructured data entry formats, a number of questions that required a numeric value contained text string responses. Where possible, these were recoded to the appropriate numeric value, but this was not possible in all instances. For example, for a number of records, the postcodes of main job information contained values other than valid postcodes, such as text strings and overseas postal identifiers. Conversely, suburb of main job information contained invalid suburb names, 4-digit codes resembling postcodes and even complete street addresses. These issues are complicated where people reported inconsistent combinations of working in particular Australian states, postcodes similar to Australian postcodes, and suburbs that were clearly not in Australia – for example, in Auckland, New Zealand.

Issues with the online survey such as sequencing and allowing invalid values will be corrected in future iterations of the data collection.

A.4 Data inconsistencies between survey and registration data

There were a number of inconsistencies between the data sourced from the NRAS registration data and the workforce survey data. It is not known if these are due to differences in the time of the survey compared with the time the registration data was extracted from former systems, or if they are due to other sources of error.

There were a number of records where the response to question 2 regarding temporary residency visa data was inconsistent with registration data for citizenship and residency status (which were themselves occasionally inconsistent (see the 'Data issues' section in A.2: National Registration and Accreditation Scheme registration data). For example, some citizens and permanent residents reported temporary visas, and vice versa.

State and territory, and location (postcode and suburb) of principal practice recorded in the registration data, were in some instances different from the corresponding details of the main job recorded in the survey. Although this is valid for states and territories with common borders, there were some records where the state or territory of the principal practice did not adjoin the state or territory of the main job. It was apparent from this that the principal practice address was not accurately reflecting the current location of people in some cases.

The registration data also contains residential addresses which have been migrated from state systems and may be a number of years out of date. As a result, the derivation of ASGC RA categories for place of residence may not be current.

Overall, in spite of the high number of not stated records in the state or territory of main job, the comparison of the number of people within states and territories aligns reasonably between main job and principal practice. The state or territory with the poorest alignment is the Northern Territory, where it appears that 10.7% more nurses and midwives have the Northern Territory as their state of main job in the week before the survey than have it as their principal practice location. This may reflect temporary assignments to nursing and midwifery posts in the Northern Territory.

The decision was therefore taken to use a derived location, based firstly on main job information and then on principal practice location (if the main job location was missing) and subsequently on residential address if the principal practice location was also missing. This derived state is used in all tables except where otherwise stated. As a consequence of this methodology, nurses and midwives who were working overseas but maintained an Australian contact address have been allocated in state tables to the state where that contact address was.

For generating weights, the principal state was derived using principal practice location, residential address and main job location in that order.

Table A3: Nurses and midwives: comparison of different location variables, state and territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT ^(a)	Other ^(a)	Australia
Employed in Australia										
Derived (used in tables unless specified otherwise)	79,351	78,159	55,128	28,431	26,920	7,365	4,701	3,470	52	283,577
Principal practice (derived for weighting)	79,824	78,438	55,066	28,281	26,969	7,366	4,505	3,075	52	283,577
Principal practice (original)	79,242	78,048	54,710	27,465	26,843	7,325	4,465	3,033	2,446	283,577
Main job	76,781	75,438	53,300	27,545	25,938	7,103	4,569	3,357	9,546	283,577
Residence	80,330	78,419	54,952	27,642	27,000	7,368	4,015	2,941	910	283,577
Registered										
Derived (used in tables unless specified otherwise)	90,512	86,933	61,780	32,227	29,635	8,037	5,352	3,913	8,282	326,669
Principal practice (derived for weighting)	91,011	87,212	61,717	32,095	29,679	8,046	5,135	3,492	8,282	326,669
Principal practice (original)	90,177	86,654	61,189	31,121	29,459	7,986	5,073	3,436	11,575	326,669
Main job	79,721	78,864	55,680	28,834	26,880	7,358	4,774	3,528	41,032	326,669
Residence	91,415	87,111	61,490	31,382	29,623	8,029	4,595	3,330	9,693	326,669

(a) Other includes 'Other territories', overseas, not stated, invalid and, for state or territory of main job, people without a main job.

Source: NHWDS: nurses and midwives 2011.

A.5 Comparison with previous AIHW Nursing and Midwifery Labour Force Survey data

Nursing and midwifery labour force data published by the AIHW before the NRAS was established were the result of collated jurisdiction-level occupation-specific surveys. The Nursing and Midwifery Workforce Survey 2011 collects similar data items, but the survey methodology has changed, as has the method of obtaining benchmark data on which the numbers of total registrations are based. With the establishment of the AHPRA, there is one source of benchmark data instead of eight, and there is less chance of inconsistency between jurisdictions and years in the scope of benchmark data.

In 2011, nurses and midwives renewing their registration could either complete the voluntary Nursing and Midwifery Workforce Survey 2011 online (at the end of the formal registration process) or complete the paper form sent to their postal address with their registration form. The use of online and/or paper surveys varied between jurisdictions and between years with the previous AIHW Nursing and Midwifery Labour Force Survey.

Some data items previously collected as part of the AIHW Nursing and Midwifery Labour Force Survey – such as date of birth, country of first qualification, specialty of practice, and sex – are now collected as part of the registration and renewal process. However, the data for some of these items are either incomplete, or the data migrated from previous jurisdictional registration systems are inaccurate.

The 2011 Nursing and Midwifery Workforce Survey questionnaire also collects a limited range of workforce information compared with that collected in previous years.

Due to the differences in data collection methods, it is recommended that comparisons between data from the NHWDS: nurses and midwives 2011 and previous AIHW Nursing and Midwifery Labour Force Survey data be made with caution.

Differences between the 2011 questionnaire and surveys in previous years

The following data items collected in the 2011 Nursing and Midwifery Workforce Survey questionnaire were either not collected previously in the AIHW Nursing and Midwifery Labour Force Survey or were collected using different questions or response categories.

Question 2—Temporary resident status and visa category number

This question was not collected on a national basis before 2011 in the AIHW Nursing and Midwifery Labour Force Survey. Some jurisdictions collected temporary resident status, but not visa category number.

The Nursing and Midwifery Workforce Survey 2011 collected temporary resident status and visa category number from nurses and midwives in both the online and paper form. However, the online question does not ask respondents to answer whether or not they are a temporary resident, but only to enter their visa category number if they self-identify as a temporary resident. The paper form, however, asks respondents to check 'Yes' or 'No' to the temporary resident question, and if 'No' to move on to question 3, or if 'Yes' to provide the visa category number. This may have created some variation in the data between the online and paper respondent groups.

Questions 3 to 5—Employment

The three employment-related questions in the Nursing and Midwifery Workforce Survey 2011 questionnaire are nationally consistent. This is an improvement on the previous AIHW Nursing and Midwifery Labour Force Survey where the questionnaire varied across jurisdictions, including the questions and definitions of data items collected.

The 2011 questions have been grouped/sequenced logically: the first question relates to the working status of the nurse or midwife, followed by the reason why they are not working in nursing or midwifery in Australia, and then whether or not they are looking for work.

The new questions in the Nursing and Midwifery Workforce Survey 2011 were designed based on a combination of the questions previously used by jurisdictions in the AIHW Nursing and Midwifery Labour Force Survey. The redesigned question on working status no longer includes in its explanation of 'Working in nursing' or 'Working in midwifery' a description of work activity/hours (that is 'worked for a total of 1 hour or more last week in a job or business (including own business) for pay, commission, payment in kind or profit; or hours usually worked but away from work on leave, or rostered off last week'). Inclusion of the additional explanation may have avoided confusion for nurses and midwives who worked in nursing and midwifery, respectively, during the survey reference week but in a voluntary capacity.

Question 10—Principal area of main job in nursing/midwifery

The question response options used before 2011 in the AIHW Nursing and Midwifery Labour Force Survey were different from those used in the 2011 Nursing and Midwifery Workforce Survey.

Question 11—Work setting of main job in nursing/midwifery

Work setting response categories in the 2011 survey are similar to those in previous years. The 2011 response categories are slightly more detailed and directed towards service provision; for example, the 2011 survey has three categories of private practice ('General practitioner (GP) practice', 'Locum private practice' and 'Other private practice') compared with two ('General practitioner's practice' and 'Specialists rooms/practice') in the AIHW Nursing and Midwifery Labour Force Survey. Another example of improvement is the option to collect three educational workplaces ('Tertiary', 'School' and 'Other') in the 2011 survey compared with two ('School' and 'Tertiary') in past surveys.

Question 12—Number of years worked in nursing/midwifery in Australia

Number of years worked in medicine in Australia was not previously collected by the AIHW Nursing and Midwifery Labour Force Survey on a national basis. A small number of jurisdictions collected this information previously as part of their survey questionnaire, but it is now included for all respondents.

Question 13—Number of years practitioner intends to remain in the nursing/midwifery workforce

Number of years nurse or midwife intends to remain in the Nursing and Midwifery Workforce was not previously collected by the AIHW Nursing and Midwifery Labour Force Survey on a national basis. A small number of jurisdictions collected this information previously as part of their survey questionnaire, but it is now included for all respondents.

Appendix B: 2010 nursing and midwifery registration numbers from state and territory boards/councils

Until the introduction of the NRAS on 1 July 2010, nursing (and midwifery in some jurisdictions) boards (or councils in some jurisdictions) were statutory authorities established in each jurisdiction to register nurses and midwives, investigate complaints about nurses and midwives and develop guidelines for the profession. They maintained a register of nurses and midwives who were licensed to practise in their jurisdiction. All nurses and midwives had to be registered to practise in each jurisdiction in which they worked, within Australia.

Before they were dissolved, nursing and midwifery boards/councils published data in their annual reports on the number of nurses and midwives. Data from the 2009–10 annual reports is contained in Table B.1 for comparison purposes.

Table B1: Nurses and midwives registrations reported by state and territory nursing and midwifery boards/councils, 2009–10

Registration type	NSW	Vic ^{(a)(b)}	Qld ^(c)	WA	SA ^(d)	Tas	ACT	NT ^(e)	Australia
Number									
Registered nurse	86,497	70,883	56,016	n.p.	25,489	7,690	4,026	4,341	254,942
Registered nurse and midwife	17,250	..	..	n.p.	..	..	732	735	18,717
Registered midwife	294	..	225	n.p.	..	9	31	18	577
Nurse practitioner	158	..	..	n.p.	..	..	22	11	191
Midwife practitioner	1	..	..	n.p.	..	..	..	..	1
Enrolled nurse	16,800	20,888	10,556	n.p.	7,069	1,304	809	548	57,974
Total registrations	121,000	92,376	66,887	33,854	32,558	9,003	5,620	5,653	366,861
Percentage of total registrations									
Registered nurse	71.5	76.7	83.9	n.p.	78.3	85.4	71.6	76.8	69.5
Registered nurse and midwife	14.3	..	..	n.p.	..	..	13.0	13.0	5.1
Registered midwife	0.2	..	0.3	n.p.	..	0.1	0.6	0.3	0.2
Nurse practitioner	0.1	..	..	n.p.	..	..	0.4	0.2	0.1
Midwife practitioner	—	..	..	n.p.	..	..	..	..	—
Enrolled nurse	13.9	22.6	15.8	n.p.	21.7	14.5	14.4	9.7	15.8
Total registrations	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) In Victoria, registered nurse figure is registered nurse divisions 1, 3 and 4. The enrolled nurse figure is registered nurse divisions 2 and 5.

(b) In Victoria, total registrations figure includes 585 nurses registered in 2 divisions and 20 nurses registered in 3 divisions.

(c) In Queensland, enrolled nurse figure include 4 enrolled nurses holding authority to practise as a midwife only.

(d) In South Australia, registered nurse figure includes registered midwives.

(e) In the Northern Territory, registered nurse and midwife figure is registered nurses with restricted practice area of midwifery. The nurse practitioner figure is 'Registered nurses with restricted practice area of nurse practitioner'.

Sources: ACTH 2010; NBT 2010; NBV 2010; NMBSA 2010; NMBWA 2010; NSWDoH 2010; QNC 2010. The Northern Territory provided information via direct correspondence.

Appendix C: Additional information available from the AIHW website

Tables

In addition to the tables in this report, more detailed tabulations from the Nursing and Midwifery Workforce Survey 2011 are published on the AIHW website <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and midwifery workforce 2011*).

Workforce Survey questionnaire

The questionnaire used in the Nursing and Midwifery Workforce Survey 2011 is available from the AIHW website <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and midwifery workforce 2011*).

Data Quality Statement: NHWDS: nurses and midwives 2011

A full description of the data quality of the data set is contained in Appendix E: Data Quality Statement: National Health Workforce Data Set: nurses and midwives 2011 or available from the AIHW's Meteor website at <<http://meteor.aihw.gov.au>>.

User guide for the NHWDS: nurses and midwives 2011

A user guide for the NHWDS: nurses and midwives 2011, which provides further information on the survey components and data specifications, is available from the AIHW website at <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and midwifery workforce 2011*).

Appendix D: Population estimates

This report presents time series information about nurses and midwives, using measures such as number per 100,000 population and full-time equivalent (FTE) rate. To derive these measures, the population estimates (often referred to as 'estimated resident population') are obtained from the ABS. The estimates are as at 30 June for each year and based on the 2006 Census of Population and Housing adjusted for population flows, including births, deaths, net migration, and short-term travellers to Australia and absences from Australia.

These figures are used to derive population and FTE rates in Tables 4.1–4.3, 5.1–5.7 and 6.2–6.4, and in Figure 5.1.

Table D1: Population estimates at 30 June: remoteness area and state and territory, 2007 to 2011

Remoteness area	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
2007									
Major cities	5,018,727	3,911,326	2,504,954	1,506,870	1,152,781	..	340,561	..	14,435,219
Inner regional	1,403,698	1,052,316	919,738	269,602	191,752	319,248	493	..	4,156,847
Outer regional	444,916	252,942	636,431	194,865	181,885	163,695	..	118,379	1,993,113
Remote	33,102	4,726	84,974	94,590	45,455	7,645	..	46,998	317,490
Very remote ^(b)	4,499	..	49,884	47,040	13,921	2,616	..	49,427	169,394
Total^(c)	6,904,942	5,221,310	4,195,981	2,112,967	1,585,794	493,204	341,054	214,804	21,072,452
2008									
Major cities	5,105,986	3,996,729	2,573,616	1,550,727	1,166,185	..	345,799	..	14,739,042
Inner regional	1,423,959	1,069,936	943,299	282,945	195,372	322,171	495	..	4,238,177
Outer regional	447,594	255,577	655,303	199,171	182,697	165,375	..	122,066	2,027,783
Remote	32,853	4,736	86,153	95,935	45,814	7,753	..	47,839	321,083
Very remote ^(b)	4,495	..	50,199	48,202	13,917	2,623	..	50,598	172,064
Total^(c)	7,014,887	5,326,978	4,308,570	2,176,980	1,603,985	497,922	346,294	220,503	21,498,540
2009									
Major cities	5,195,849	4,093,699	2,644,191	1,598,608	1,181,789	..	351,766	..	15,065,902
Inner regional	1,442,816	1,089,727	970,977	296,159	198,620	325,487	519	..	4,324,305
Outer regional	451,094	258,452	672,876	203,175	183,920	167,378	..	125,967	2,062,862
Remote	32,922	4,734	86,522	97,388	46,200	7,830	..	48,464	324,060
Very remote ^(b)	4,487	..	50,201	49,106	13,983	2,597	..	51,776	174,216
Total^(c)	7,127,168	5,446,612	4,424,767	2,244,436	1,624,512	503,292	352,285	226,207	21,951,736

(continued)

Table D1 (continued): Population estimates at 30 June: remoteness area by state and territory, 2007 to 2011

Remoteness area	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
2010									
Major cities	5,270,367	4,165,093	2,694,160	1,632,548	1,195,911	..	358,203	..	15,316,282
Inner regional	1,459,075	1,107,802	989,448	307,121	202,053	328,584	641	..	4,395,119
Outer regional	453,162	259,451	683,994	205,472	184,933	168,259	..	128,471	2,083,742
Remote	32,932	4,714	87,064	98,686	46,461	7,857	..	48,618	326,332
Very remote ^(b)	4,484	..	50,767	49,660	14,092	2,581	..	52,379	176,040
Total^(c)	7,221,536	5,539,940	4,505,876	2,290,572	1,644,152	507,322	358,644	229,271	22,299,775
2011									
Major cities ^(d)	5,336,485	4,230,795	2,740,712	1,671,569	1,206,534	..	364,982	..	15,551,077
Inner regional ^(d)	1,473,709	1,125,695	1,005,595	318,413	204,218	331,270	639	..	4,459,939
Outer regional ^(d)	454,655	260,042	694,895	208,413	184,970	168,907	..	129,154	2,101,036
Remote ^(d)	32,856	4,678	87,972	100,507	46,541	7,784	..	48,246	328,584
Very remote ^{(b)(d)}	4,469	..	51,108	50,423	14,036	2,558	..	52,969	177,658
Total^(d)	7,303,690	5,624,090	4,580,725	2,346,410	1,657,001	510,560	365,421	230,172	22,620,554

(a) Includes Other territories.

(b) Includes *Migratory* areas.

(c) Figures are final population estimates and may not equal the sum of the individual remoteness area estimates.

(d) Final population estimates were unavailable from the ABS when this report was prepared; therefore, estimates are preliminary.

Source: Unpublished ABS estimated resident population data.

Appendix E: Data Quality Statement: National Health Workforce Data Set: nurses and midwives 2011

Summary of key issues

The National Health Workforce Data Set (NHWDS): nurses and midwives 2011 contains information on the demographics, employment characteristics, primary work location, and work activity of all professionally registered nurses and midwives in Australia who renewed their registration with the Nursing and Midwifery Board of Australia via the National Registration and Accreditation Scheme (NRAS) introduced on 1 July 2010.

This is the second data release from the new national registration scheme and the first for the nursing and midwifery profession. The data set is comprised of registration (including demographic) information provided by the Australian Health Practitioner Health Agency (AHPRA) and workforce details obtained by the Nursing and Midwifery Workforce Survey. The survey instrument varies significantly in some areas from previous years; however, it is now nationally consistent (that is, one survey questionnaire administered nationally).

Description

The NHWDS: nurses and midwives 2011 is a combination of data collected through the nurse and midwife registration renewal process.

Nurses and midwives are required to renew their registration with the Nursing and Midwifery Board of Australia through the NRAS, either online via the AHPRA website or using a paper form provided by the AHPRA. For initial registration, nurses and midwives must use a paper form and provide supplementary supporting documentation. This information is referred to as 'registration data'. Data collected include demographic information such as age, sex, country of birth; and details of health qualification(s) and registration status (see <<http://www.nursingmidwiferyboard.gov.au>>, select link to registration and endorsement).

When nurses and midwives renew their registration online, they are asked also to complete an online version of the Nursing and Midwifery Workforce Survey 2011 questionnaire. The questionnaire collects information on the employment characteristics, work locations and work activity of nurses and midwives (see <<http://www.aihw.gov.au/workforce-publications/>>). The AHPRA stores both the online registration data and the survey information in separate databases. It then sends these two data sets to the AIHW, where they are merged into a de-identified national data set.

When nurses and midwives renew their registration on a paper form, they are asked also to complete a paper version of the Nursing and Midwifery Workforce Survey 2011 questionnaire. The paper registration and survey forms are sent back to the AHPRA, where the paper registration forms are scanned and the data added to the registration data obtained from those who renew online. The AHPRA sends the paper survey forms to Health Workforce Australia (HWA) to be scanned into a data set. HWA then sends this data set to the AIHW for merging with the registration data for all registrants and the survey data for those who have completed it online.

The AIHW then undertakes cleansing and adjustment for non-response to form a nationally consistent data set. The final data set is then known as the National Health Workforce Data Set: nurses and midwives, containing information sourced from registration data and workforce survey data.

Institutional environment

The Australian Institute of Health and Welfare (AIHW) is a major national agency set up by the Australian Government under the *Australian Institute of Health and Welfare Act 1987* (Cwlth) 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* (Cth), 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 <<http://www.aihw.gov.au>>.

The AIHW receives registration (including demographic) information on nurses and midwives via the mandatory national registration process administered by AHPRA and the voluntary Nursing and Midwifery Workforce Survey data collected at the time of registration renewal. The registration and workforce survey data are combined, cleansed and adjusted for non-response to form a national data set known as NHWDS: nurses and midwives 2011.

The AIHW is the data custodian of the NHWDS: nurses and midwives 2011.

Timeliness

The NHWDS: nurses and midwives will be produced annually during the national registration renewal process, conducted between 1 April and 31 May each year. 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. Despite the extension for Western Australia registrants, there were still a number of nurses and midwives with expiry dates after December. The number was not considered sufficiently large to affect the workforce survey estimates; however, the incompleteness of the data was noted in the *Nursing and*

Midwifery Workforce 2011 report. Future registration renewals in Queensland and Western Australia are expected to align with the official AHPRA closing date of 31 May.

The Nursing and Midwifery Workforce Survey is also collected between 1 April and 31 May, as it is administered as part of the registration renewal process. As noted above, the 2011 renewal process was extended until 30 June 2011 in Queensland and 31 December 2011 in Western Australia and therefore respondents were able to complete the survey up to the end of the respective periods.

Extraction of the data was delayed till September 2011 to allow for the delay to Queensland data, which is now considered essentially complete. This delay has also enabled a significant proportion of the Western Australian data to be collected. Due to the data set being the second release from the new national registration system and first for the nursing and midwifery profession, the timeliness of the release was later than originally scheduled. The AIHW expected to receive both the registration and workforce survey data simultaneously at the end of September 2011. Due to a number of factors, the AIHW received useable registration and workforce survey data from the AHPRA in late December 2011.

The bulk of paper form data (including some extra late-supplied forms and, in particular, further Western Australian data) was supplied in final form in January 2012. A further supply of a small amount of late Western Australian paper survey data was supplied in early April 2012. Investigation of response rates by the AIHW uncovered a shortfall of paper form data for the Australian Capital Territory.

Future data provision by the AHPRA and HWA is expected to be timelier – that is, 5 weeks from the close of registration on 31 May.

Delays in processing and reporting on the NHWDS: nurses and midwives 2011 also contributed to AIHW delays in reporting the 2011 data and releasing the *Nursing and Midwifery Workforce 2011* report.

Accessibility

Results from the NHWDS: nurses and midwives 2011 are published in the *Nursing and Midwifery Workforce 2011* report. The report, workforce survey questionnaire, user guide to the data set and additional detailed tables are available on the AIHW website <<http://www.aihw.gov.au/workforce-publications/>> (select link to *Nursing and Midwifery Workforce 2011*).

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 file may be requested through the AIHW Ethics Committee.

Interpretability

Information to aid in interpreting the NHWDS: nurses and midwives 2011 may be found in Appendix A of the *Nursing and midwifery workforce 2011* report. The report is based on this data set. (See 'Accessibility' for details.)

Relevance

Scope and coverage

The NHWDS: nurses and midwives 2011 contain registration details of all registered nurses and midwives in Australia as at 31 May 2011. It also has workforce data of respondents, obtained from the Nursing and Midwifery Workforce Survey 2011.

Nurses and midwives are required by law to be registered with the Nursing and Midwifery Board of Australia to practise in Australia. All nurses and midwives must complete the formal registration renewal form(s) to practise in Australia. This is the compulsory component of the renewal process. In 2011, Queensland and Western Australia nurses and midwives with registrations expiring after the official AHPRA closing date of 31 May (extended to 30 June for Queensland and to 31 December for Western Australia) had their registration details migrated from the respective state nursing and midwifery board/council. (See 'Accuracy' for quality of migrated data.)

The Nursing and Midwifery Workforce Survey is voluntary and only practitioners who are on the register at the time of the survey and required to renew their registration receive a questionnaire for completion. Typically, new registrants registering outside the registration renewal period will not receive a survey form. These practitioners will receive a survey form when they renew their registration the following year, during the registration renewal period.

Accuracy

Response rates and mode

The NHWDS: nurses and midwives 2011 contains registration details of all registered nurses and midwives in Australia as at 31 May 2011. Therefore, all registrants are notionally in the data set.

The data set also contains workforce information for registered nurses and midwives who completed the Nursing and Midwifery Workforce Survey. The overall response rate to the 2011 survey was 86.2%; that is, the number of responses to the survey represented 86.2% of registered nurses and midwives. Of these responses, 86.7% completed the survey online and 13.3% used the paper form.

The 2011 survey excluded some nurses and midwives whose principal state of practice was Western Australia because not all registrations in this state expired by the national registration deadline of 30 June 2011. Irrespective of this shortcoming, the apparent response rate for Western Australia of 62.1% was almost double the response rate of 35.4% achieved for Western Australia in the 2009 AIHW Nursing and Midwifery Labour Force Survey.

Survey response rates rose significantly in 2011, by 41.8 percentage points from 44.4% in 2009 to 86.2% in 2011, although response rates for 2011 are not directly comparable with those for prior years because the previous jurisdiction-based data collection used to collect information was replaced with a single data collection as part of the national registration scheme introduced on 1 July 2010.

Registration data from the NRAS

Some data items collected as part of the previous AIHW Nursing and Midwifery Labour Force Survey – such as date of birth, sex, and country of first qualification – are now data items collected as part of the registration and renewal process. However, either the data for

some of these items are incomplete or the data migrated from previous jurisdictional registration systems is incomplete.

There were a number of data items that had incomplete responses. In particular, some records had some or all of date of birth, sex and state and territory of principal practice missing. This is an issue because these data items are used in the survey estimation process. Missing values of date of birth and sex were imputed.

Many nurses and midwives who reside overseas could not be identified by the registration process. They have been included with those whose state or territory of principal practice could not be determined. Therefore, the missing values of state and territory of principal practice cannot be imputed, and thus affected the calculation of survey weights.

Citizenship and residency status data are not consistent for many nurses and midwives. For example, nurses and midwives reported being Australian citizens and permanent residents.

Nurses and midwives may be registered in multiple categories such as registered nurse and midwife, registered and enrolled nurse, enrolled nurse and midwife, or registered and enrolled nurse and midwife. Registered nurses include those registered as midwives but not as nurses. Midwives appear as a subset of the registered and enrolled nurses categories. Those registered as midwives only were included in people registered as a midwife.

For a large number of nurses and midwives, country of birth and country of initial qualification data contained 3-character codes rather than the names of countries. Most of the codes were successfully mapped to a country in the Standard Australian Classification of Countries (SACC), but there were some for which a country could not be determined. These records were coded to 'Not stated'.

Postcodes of principal practice and residence contained text strings, such as invalid postcodes, suburb names and overseas postal codes. Therefore, after cleaning and recoding, many of these were still coded to the 'Not stated' category. As a result, the derivation of ASGC RA categories for these records was not possible.

Invalid values and formats for date of birth and year of initial qualification appeared in the registration data collected by the NRAS. For example, system dates such as 1 January 1900, University of Sydney.

Workforce Survey 2011 sample

Not all registrations in Western Australia expired on 30 June 2011, the extended date set by the AHPRA as the official closing date for registration. The registration for these practitioners was transferred to the national scheme and there was no renewal required; surveys were not completed for these practitioners.

Those not required to renew their registration in 2011 will renew their registration in either 2012 or 2013.

Workforce Survey 2011 design

In 2011, the online survey questionnaire did 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. For instance, respondents not correctly following the sequencing instructions for the employment questions may be assigned to an incorrect labour force status or not assigned a status due to incomplete data.

The order of the response categories for the 'Reason not working in medicine in Australia' question appears to be an issue. The question has 'Retired from regular work' after 'Not working in paid employment at all' which may not be logical as practitioners may be retired but may still work irregularly (for example, as an occasional temporary nurse). On this basis, the category 'Retired from regular work' should appear before 'Not working in paid employment at all'. The issue with the order in the 2011 survey questionnaire is that it may lead to an undercount of those retired from regular work and over-representation of those not working in paid employment.

Variation between the online and paper surveys has provided additional data quality issues for a number of questions. For example, the state of main job included the category 'Other territories' on the paper form while the same response category in the online form was labelled 'Other'. The data showed a large number in the 'Other' category captured in the online method, which was not similarly found in the paper responses. In addition, state/territory of principal practice and residence data items does not include the category 'Other territories' or 'Other'. Adding to this confusion was the treatment of people who had overseas addresses, as many of them ticked the box 'Other territories' and reported non-Australian addresses.

In 2011, the online Nursing and Midwifery Workforce Survey did not ask practitioners to answer whether or not they are a temporary resident, but only to enter their visa category number if they self-identify as a temporary resident. However, the paper form asks practitioners to check 'Yes' or 'No' to the temporary resident question and, depending on the response, either answer or skip the visa category question. The temporary resident status data item is incomplete.

Inconsistencies between workforce survey and registration data

There were a number of inconsistencies between the data sourced from the NRAS and the workforce survey data.

There were many records where the response to the survey question regarding temporary residency visa was inconsistent with registration data for citizenship and residency status (which themselves were occasionally inconsistent). For example, some citizens and permanent residents reported temporary visas and vice versa.

Location of principal practice recorded in the registration data was different from the corresponding details of their main job self-reported by nurses and midwives in the survey. Although this is valid for states and territories with common borders, there were some records where the two locations did not adjoin each other. The state or territory with the worst alignment is the Northern Territory, where it appears that 9% more nurses and midwives have the Northern Territory as their state of main job in the week before the survey than have it as their principal practice location.

The decision was therefore taken to use a derived location based firstly on main job information and then on principal practice location if the main job location was missing, and subsequently on residential address if the principal practice location was also missing. This derived state is used in all tables except where otherwise stated.

Structure and format of data items

Due to unstructured data entry formats, a number of items in the NHWDS: nurses and midwives 2011 that required a numeric value contained text string responses. Where possible, these were recoded to the appropriate numeric value, but this was not possible in

all instances. For example, for a number of records, postcode of principal practice contained values other than valid postcodes, including text strings, overseas postal identifiers, and so forth. Conversely, suburb of main job contained invalid suburb names and 4-digit codes resembling postcodes. Processing these was complicated as some countries (including New Zealand) use 4-digit postal identifiers superficially identical to Australian postcodes.

Coherence

Workforce Survey 2011 – coherence with previous surveys

Nursing and midwifery labour force data published by the AIHW before the NRAS was established were the result of collated jurisdiction-level occupation-specific surveys. The current survey, Nursing and Midwifery Workforce Survey 2011, collects similar data items; however, the survey methodology has changed, as has the method of obtaining benchmark data on which the numbers of total registrations are based. With the establishment of the AHPRA, there is one source of benchmark data instead of eight and there is less chance of inconsistency between jurisdictions and years in the scope of benchmark data.

The scope and coverage of the Nursing and Midwifery Workforce Survey 2011 is also different from that of the previous surveys because in some jurisdictions not all types of registered nurses and midwives were sent a survey form.

Date of birth, country of initial qualification, specialty of practice and sex are some data items previously collected by the AIHW Nursing and Midwifery Labour Force Survey, but now collected by the NRAS. However, data for some of these items are either incomplete or inaccurate (see 'Accuracy').

Temporary resident status was not collected on a national basis before 2011 in the AIHW Nursing and Midwifery Labour Force Survey. Some jurisdictions collected temporary resident status. Visa category number was not collected in prior years.

The three employment-related questions in the Nursing and Midwifery Workforce Survey 2011 questionnaire are nationally consistent. This is an improvement on the previous AIHW Nursing and Midwifery Labour Force Survey where the questionnaire varied across jurisdictions, including the questions and definitions of data items collected. However, the redesigned question on working status no longer includes in its explanation of 'Working in nursing' or 'Working in midwifery' a description of work activity/hours (that is 'worked for a total of 1 hour or more last week in a job or business (including own business) for pay, commission, payment in kind or profit; or hours usually worked but away from work on leave, or rostered off last week'). Inclusion of the additional explanation may have avoided confusion for nurses and midwives who worked during the survey reference week but in a voluntary capacity.

A change in the response options in the questions covering principal role, area of nursing or midwifery and work setting of main job all contributed to differences in reporting.

Number of years intended to remain in the workforce was not previously collected by the AIHW Nursing and Midwifery Labour Force Survey on a national basis. A small number of jurisdictions collected this information previously as part of their survey questionnaire, but it is now included for all respondents.

Due to the differences in data collection methods, including survey design and questionnaire, it is recommended that comparisons between workforce data in the NHWDS:

nurses and midwives 2011 and previous AIHW Nursing and Midwifery Labour Force Survey data be made with caution.

Workforce Survey 2011 – coherence with other data sources

The ABS Census of Population and Housing, conducted every 5 years, is the other source of data on nursing numbers in Australia. The Census is self-enumerated by respondents and therefore the numbers of people who report their occupation as nurses or midwives will not be easily comparable with numbers from the NRAS or estimates from the Nursing and Midwifery Workforce Survey.

The last Census conducted was in 2006, and data are now too old for valid comparisons with the Nursing and Midwifery Workforce Survey 2011 data.

Data from the 2011 Census are expected to be available in early December 2013. They will be compared with the workforce survey figures for 2012 published in the *Nursing and Midwifery Workforce 2012* report.

Glossary

Aboriginal: A person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the community in which he or she lives.

Benchmark data: For the Nursing and Midwifery Workforce Survey 2011, responses were weighted to the number of registered nurses and midwives in each state and territory by sex and age group to take account of survey questionnaire non-response. These numbers are referred to as 'benchmarks' throughout this report.

Clinical area of nursing activity: The area where nurses in a clinical role were working the most hours in the week before the survey. The major categories include medical, surgical, mixed medical/surgical, peri-operative, midwifery, critical care/emergency, family and child health, community health, aged care, mental health and rehabilitation/disability.

Employed: An employed nurse is one who either:

- worked for a total of 1 hour or more in the week before the survey in a job or business for pay, commission, payment in kind or profit, mainly or only in a particular state or territory
- usually worked, but was away on leave (with some pay) for less than 3 months, on strike or locked out, or rostered off.

Enrolled nurse: A nurse who is registered on the NRAS roll, which is maintained by the AHPRA, with a division of 'enrolled nurse'. Before the NRAS was introduced, registration (or enrolment) was by the nursing and midwifery registration board in each state and territory. The minimum educational requirement for an enrolled nurse is a Certificate IV or Diploma from a VET provider, or equivalent from a recognised hospital-based program. To maintain enrolment, nurses must have practised for a specified minimum period in the previous 5 years (this is referred to as 'recency of practice', with the requirements depending on the registration board). Enrolled nurses include mothercraft and dental nurses where the educational course requirements are less than a 3-year degree course or equivalent. Enrolled nurses usually work with registered nurses to provide patients with basic nursing care, doing less complex procedures than registered nurses.

Full-time equivalent (FTE) number: FTE number measures the number of standard-hour workloads worked by employed nurses and midwives. This provides a useful measure of supply because it takes into account both the number of nurses and midwives who are working and the hours that they work.

FTE number is calculated by: the number of employed nurses and midwives in a particular category multiplied by the average hours worked by employed nurses and midwives 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.

Full-time equivalent (FTE) rate: The FTE rate (number of FTE nurses and midwives per 100,000 population) is a measure of supply. By defining supply in terms of the FTE rate, meaningful comparisons of supply can be made across geographic areas and over time. FTE rate is calculated as: the number of FTE nurses and midwives divided by the relevant population count multiplied by 100,000.

Hours worked: The total number of weekly hours worked is self-reported by nurses and relates to the number of hours worked in nursing jobs in the week before the survey. In

editing survey responses, maximum hours worked accepted were 125 hours per week. Reported hours of greater than 125 are considered unreliable and therefore not included in the analysis of total hours worked by nurses.

In this report, the ABS definition has been used for the cut-off for full-time and part-time work:

- full-time work: 35 hours or more per week
- part-time work: less than 35 hours per week.

For data prior to 2011 average weekly hours are calculated only where hours are greater than zero (0). That is, employed respondents with 'Not stated' hours worked are excluded from the calculation.

For 2011 data average weekly hours was imputed where missing or invalid.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander and is accepted as such by the community in which he or she lives.

Midwife: Midwives are recognised as a separate profession; to practise as a midwife, a person must have appropriate qualifications in midwifery. There are two paths to these qualifications. Traditionally (and still most commonly), midwives first qualify as registered nurses, and then do additional midwifery training to qualify and register as midwives. Also, midwives may now qualify through direct entry midwifery undergraduate programs – that is, they are not required to first qualify as a registered nurse. Direct entry midwives, as with other midwives, must be registered with the Nursing and Midwifery Board of Australia to practise. Direct entry midwives are restricted to practising midwifery only, whereas other midwives are also able to practise general nursing.

In this report, where a registered and enrolled nurse breakdown is provided, people with a midwife registration only are included in the category of 'registered nurses', irrespective of the training path they have followed. Although direct entry midwives are not registered to practise in general nursing, they are included as registered nurses in broad breakdowns of registered and enrolled nurses to ensure that all nurses are represented in these results. This is consistent with previous AIHW Nursing and Midwifery Labour Force reports.

Nursing and midwifery labour force: The nursing and midwifery labour force is defined for this report as:

- registered and enrolled nurses employed in nursing or midwifery in the week before the survey
- registered and enrolled nurses not employed in nursing or midwifery but looking for work in nursing in the week before the survey
- registered and enrolled nurses who, at the time of the survey, were on maternity or other extended leave.

That is, those working overseas and those not working in nursing but not looking for work in nursing in the week before the survey are excluded.

Nursing role: Unless otherwise stated in this report, the role of the nurse refers to the main role (that is, the core nursing role with the most number of hours worked in the week before the survey) in the nurse's main job (that is, the job with the most number of hours worked in the week before the survey). Core nursing roles are divided into two main groups, with several categories in each group, as follows:

- *Clinical role*: Prior to 2011 a registered or enrolled nurse who is mainly involved in the care and treatment of patients, as well as in the supervision and management of clinical nurses. Categories include clinical nurses (direct patient care) and clinical nurse managers and/ or administrators (managing clinical nurses and midwives). For 2011 data only clinical nurses are included
- *Non-clinical role*: a registered or enrolled nurse other than a clinician. For data prior to 2011 this includes:
 - lecturer, nurse/midwifery educator, supervisor of new nurses/midwives: a person who teaches or trains persons in nursing for their initial qualification or in advanced skills after initial qualification
 - researcher: a person engaged in nursing research
 - other: a job function in nursing which is not one of the above – for example, industrial relations or public health activities in nursing.

For 2011 data this includes

- administrators
- teacher/educator
- researcher
- other.

Remoteness area: The Remoteness Area Structure within the Australian Standard Geographical Classification (ASGC, produced by the Australian Bureau of Statistics, has been used in this report to present regional data for nurses and midwives.

The Remoteness Area Structure of the ASGC is based on the Accessibility/Remoteness Index of Australia, where the remoteness index value of a point is based on the physical road distance to the nearest town or service in each of six population size classes based on the 2006 Census of Population and Housing. These classes are:

- Major cities
- Inner regional
- Outer regional
- Remote
- Very remote
- Migratory.

Due to the small numbers in the *Migratory* class, they have been combined and reported as *Very remote* in this report.

Torres Strait Islander: A person of Torres Strait Islander descent who identifies as a Torres Strait Islander and is accepted as such by the community in which he or she lives.

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List of tables

Table 2.1:	Nurses and midwives: registration category, number of persons registered, 2011.....	8
Table 2.2:	Nurses and midwives: registered and enrolled, 2007 to 2009 and 2011.....	9
Table 2.3:	Nurses and midwives: workforce status, 2007 to 2009 and 2011	10
Table 2.4:	Nurses and midwives: workforce status and principal role of main job, state and territory, 2011	11
Table 2.5:	Registered and enrolled nurses authorised to practise as midwives in 2007 and people registered as nurses and midwives in 2011: state and territory	12
Table 3.1:	Employed nurses and midwives: division and midwifery status, age and sex, 2007 and 2011	14
Table 3.2:	Employed nurses and midwives: division and Indigenous status, state and territory, 2011	16
Table 3.3:	Employed nurses and midwives: principal role of main job, selected characteristics, 2007 and 2011.....	18
Table 3.4:	Employed nurses and midwives: principal area of main job, selected characteristics, 2011	19
Table 3.5:	Employed nurses and midwives: work setting of main job and clinician status, number and average weekly hours worked, 2011	21
Table 3.6:	Employed nurses and midwives: division and age group, number and weekly hours worked, 2011	22
Table 3.7:	Employed nurses and midwives: average total weekly hours worked, division, state and territory, 2007 and 2011	24
Table 3.8:	Employed nurses and midwives: average total weekly hours worked, division, remoteness area of main job, 2007 and 2011	24
Table 3.9:	Employed nurses and midwives: employment sector of main job, selected characteristics, 2007 to 2011	25
Table 4.1:	Employed nurses and midwives: number, average total weekly hours worked, FTE number and FTE rate, division, 2007 to 2009 and 2011	27
Table 4.2:	Employed nurses and midwives: FTE rate, division, state and territory, 2007 and 2011	28
Table 4.3:	Employed nurses and midwives: FTE rate, division, remoteness area, 2007 and 2011	29
Table 5.1:	Employed nurses and midwives: selected characteristics, remoteness area, 2007 and 2011	31
Table 5.2:	Employed nurses and midwives in <i>Major cities</i> : selected characteristics, principal area of main job, 2011	32
Table 5.3:	Employed nurses and midwives in <i>Inner regional</i> areas: selected characteristics, principal area of main job, 2011	34
Table 5.4:	Employed nurses and midwives in <i>Outer regional</i> areas: selected characteristics, principal area of main job, 2011	35

Table 5.5:	Employed nurses and midwives in <i>Remote</i> areas: selected characteristics, principal area of main job, 2011	37
Table 5.6:	Employed nurses and midwives in <i>Very remote</i> areas: selected characteristics, principal area of main job, 2011	38
Table 5.7:	Employed registered and enrolled nurses: selected characteristics, state and territory, 2007 and 2011	40
Table 6.1:	Employed nurses and midwives: midwifery as the principal area of main job, registration category, 2011	42
Table 6.2:	Employed registered midwives: selected characteristics, principal area of main job, 2011	43
Table 6.3:	Employed nurses and midwives registered as midwives and working in a midwifery area in principal area of main job: selected characteristics, remoteness area, 2011	44
Table 6.4:	Employed nurses and midwives registered as midwives and working in a midwifery area in principal area of main job: selected characteristics, states and territories, 2011	45
Table 7.1:	Nurses and midwives not actively employed in nursing or midwifery in Australia: selected characteristics, 2011	49
Table A1:	Registered nurses and midwives: state and territory, 2007 to 2009 and 2011	52
Table A2:	Survey response rate: state and territory of principal practice, 2007 to 2009 and 2011	55
Table A3:	Nurses and midwives: comparison of different location variables, state and territory, 2011	58
Table B1:	Nurses and midwives registrations reported by state and territory nursing and midwifery boards/councils, 2009–10	61
Table D1:	Population estimates at 30 June: remoteness area and state and territory, 2007 to 2011	63

List of figures

Figure 2.1:	Nurses and midwives: workforce status, 2011	9
Figure 3.1:	Employed nurses and midwives: division and age group, 2001, 2007 and 2011	15
Figure 3.2:	Employed nurses and midwives: division and age group, 2011.....	16
Figure 5.1:	Employed nurses and midwives: FTE rate, remoteness area and division, 2011	30
Figure 5.2:	Employed nurses and midwives, state and territory, 2011	40
Figure 7.1:	Domestic Australian students enrolled in and completing nursing courses, 2003 to 2010.....	48