



Australia's Health Workforce Series Dietitians in Focus

March 2014



An Australian Government Initiative

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Introduction

About HWA

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

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

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

This publication is divided into four main parts:

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

What is a dietitian?

In Australia, the profession of dietetics contributes to the promotion of health and the prevention and treatment of illness by optimising the nutrition of communities and individuals. It uses scientific principles and methods in the study of nutrition and applies these to influencing the wider environment affecting food intake and eating behaviours¹.

Roles and responsibilities of a dietitian include:

- Collecting, organising and assessing data relating to the health and nutritional status of individuals, groups and populations.
- Interpreting scientific information and communicating information, advice, education and professional opinion to individuals, groups and communities.
- Planning appropriate diets and educating people on their individual nutritional needs and ways of accessing and preparing their food.
- Planning, implementing and evaluating nutrition programs with groups, communities or populations as part of a team, in a community health, public health or food industry setting.
- Managing food service systems to provide safe and nutritious food by designing and implementing nutrition policies and menus.
- Undertaking food and nutrition research and evaluating practice².

Dietitians work across many different fields including patient care, private practice and community and public health, food industry, research and sports nutrition.

Distinction between dietitians and nutritionists

The key difference between a dietitian and a nutritionist is that in addition to, or as part of, their qualification in human nutrition, a dietitian has completed a course of study that included substantial theory and supervised and assessed professional practice in clinical nutrition, medical nutrition therapy and food service management.

Therefore, in Australia, all dietitians are considered to be nutritionists, however nutritionists without a dietetics qualification cannot take on the role of a dietitian³.

How are they trained?

To become a dietitian a person either completes a minimum four-year accredited undergraduate degree in nutrition and dietetics, or a relevant bachelor degree followed by an accredited postgraduate qualification in nutrition and dietetics.

Accredited Practising Dietitians

Accredited Practising Dietitians (APDs) have the qualifications and skills to modify diets and to treat diseases and conditions such as diabetes, obesity, cancer, heart disease, renal disease, gastro-intestinal diseases and food allergies. Timely intervention by a dietitian can reduce the risk of developing chronic disease⁴.

1 Dietitians Association of Australia website. <http://daa.asn.au/universities-recognition/dietetics-in-australia/>. Accessed 11 March 2013

2 Dietitians Association of Australia website. <http://daa.asn.au/universities-recognition/dietetics-in-australia/definition-of-a-dietitian-for-migration-purposes/>. Accessed 5 October 2012.

3 Dietitians Association of Australia website. <http://daa.asn.au/universities-recognition/dietetics-in-australia/distinction-between-dietitian-and-nutritionist/>. Accessed 26 February 2013.

4 Allied Health Professions Australia website <http://www.cdm.ahpa.com.au/HealthcareProfessionals/AlliedHealthProfessionals/Dietitians/tabid/152/Default.aspx>. Accessed 5 October 2012.

In Australia, dietitians who have graduated from a university course accredited by the Dietitians Association of Australia are eligible to apply for the APD credential. APDs are required to complete prescribed levels of professional development annually.

Eligibility for APD status or current APD status is a prerequisite of many dietetic positions in Australia. APD status is required to obtain a Medicare or Department of Veterans Affairs provider number, and for provider status with many private health insurers⁵.

Associations

Dietitians Association of Australia (DAA)

The DAA is the peak body of dietetic and nutrition professionals, providing strategic leadership in food and nutrition through advocacy, education and communication⁶. The DAA is responsible for the national accreditation system of university dietetic programs. The accreditation process includes examination of program structure and management, individual subjects or programs, staffing levels, qualifications of staff, quality of classroom and laboratory facilities, library and other support services, student assessment procedures, and organisation of practical placements⁷. The DAA also assesses the competence of eligible overseas-trained dietitians via written and oral examinations in nutrition and dietetics, permitting successful candidates to apply for the APD credential.

What is known about this workforce?

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

Data sources and limitations

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

The census is a descriptive count of everyone who is in Australia on one night, and of their dwellings. Its objective is to accurately measure the number and key characteristics of people who are in Australia on census night, and of the dwellings in which they live. Information in the census is self-reported, meaning information is dependent on individuals' understanding and interpretation of the questions asked. In particular for information on occupation, a person may self-report as working in a particular occupation, but not necessarily be appropriately qualified/meet registration standards (where a registrable profession). However, the census is able to provide a picture of the changing number and characteristics of the reported workforce, which is not currently available through other data sources.

DAA

The DAA collects data on its members and membership is open to all people who have successfully completed a DAA accredited course, or successfully passed the dietetics examination for overseas-trained dietitians. Membership is also open to students undergoing their entry-level dietetics qualifications in Australia. The DAA's data only reflect the number of dietitians who are members of the association, and do not reflect the total number of professionals with dietetic qualifications who may be living and working in Australia.

⁵ Department of Immigration and Border Protection website. <http://www.immi.gov.au/asri/occupations/d/dietitian.htm>. Accessed 5 October 2012.

⁶ Dietitians Association of Australia website. <http://daa.asn.au/for-the-public/about-daa/>. Accessed 14 November 2012.

⁷ Dietitians Association of Australia website. <http://daa.asn.au/universities-recognition/accreditation-of-dietetic-programs/>. Accessed 26 February 2013.

Department of Education (DE)

The DE conducts the Higher Education Statistics Collection, which provides a range of information on the provision of higher education in all Australian universities. Information on tertiary course enrolments and completions by field of education is presented in this publication.

Department of Immigration and Border Protection (DIBP)

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

ABS Census of Population and Housing

The census is the primary data source available providing detailed national information on the dietetic workforce. Occupation information in the census is classified using the Australian and New Zealand Standard Classification of Occupations (ANZSCO). Historically in ANZSCO, no distinction is made between dietitians and nutritionists – with ‘nutritionist’ used as an alternative term for dietitian. However as highlighted earlier, in practice there is a distinction between dietitians and nutritionists in Australia. As such, there are concerns in using census data that is based on self-reported occupation only – specifically that it includes people with qualifications in nutrition rather than dietetics.

To address this, census data in this report is presented using two views:

1. Based on an educational definition, where highest level of education is restricted to nutrition and dietetics (the most detailed field of study available for this topic), and level of education is restricted to bachelor degree or postgraduate qualification. This is the best estimate that can be made from the census of appropriately qualified dietitians.
2. Based on those who self-report as a dietitian (regardless of level of qualification). This approach can be useful for providing a picture of people reporting as providing dietetic services. It is reiterated if people self-report as a dietitian without an appropriate dietetics qualification, they:
 - Are not eligible for membership of the DAA.
 - Are not able to become APDs.
 - Cannot apply for a Medicare or Department of Veterans Affairs provider number.

A review of ANZSCO was recently completed, and in ANZSCO version 1.2 (released July 2013), ‘nutritionist’ was added as a new occupation, separate to dietitian. This means future census information will distinguish between dietitians and nutritionists.

Dietitians – based on educational definition

To qualify as a dietitian, a person must complete an accredited bachelor degree or postgraduate qualification in dietetics. Table 1 shows a detailed breakdown of people with a bachelor or postgraduate qualification in nutrition and dietetics by the occupation they reported being employed in at the time of the 2011 census.

Approximately 6,200 people reported having a bachelor or postgraduate degree as their highest level of qualification in nutrition and dietetics. However of these, less than half (2,832 or 45 per cent) reported dietitian as their occupation. A further 498 people (eight per cent) were employed in other health occupations, and another 378 people (six per cent) worked in other related occupations (that is, occupations where a nutrition and dietetics qualification can be applied).

A substantial number (2,527 or 41 per cent) reported working in unrelated occupations. This may be a result of people choosing to work in fields unrelated to their qualification, or people unable to find employment in their chosen field.

Approximately half of those with a bachelor or postgraduate qualification in nutrition and dietetics worked in the healthcare and social assistance industry (52 per cent or 3,217). Of these, approximately three-quarters (76 per cent or 2,429) reported working as a dietitian.

Table 1: number of employed persons – highest level of qualification of bachelor or postgraduate degree in nutrition and dietetics, by industry and detailed occupation, 2011

	Industry				
Occupation	Public administration and safety	Education and training	Healthcare and social assistance	Other industries	Total ^(a)
Dietitians	96	64	2,429	232	2,832
Other health occupations					
Other health diagnostic and promotion professionals	11	5	74	14	104
Health and welfare services managers	10	0	49	14	77
Medical laboratory scientists	0	11	7	20	38
Nursing support and personal care workers	0	0	35	0	35
Aged and disabled carers	3	0	31	0	34
Welfare support workers	9	0	18	3	30
Medical technicians	0	0	27	0	27
Occupational and environmental health professionals	9	0	7	9	25
Complementary health therapists	0	0	14	8	22
Dental assistants	0	0	15	0	15
Massage therapists	0	0	7	8	15
Other health occupations ^(b)	0	5	59	12	76
<i>Total other health occupations</i>	42	21	343	88	498
Other related occupations					
Bakers and pastrycooks	0	0	0	13	13
Butchers and smallgoods makers	0	0	0	0	0
Chefs	0	0	3	20	23
Cooks	0	0	13	18	31
Fitness instructors	4	14	4	31	53
Food trades workers nfd	0	0	0	0	0

	Industry				
Occupation	Public administration and safety	Education and training	Healthcare and social assistance	Other industries	Total ^(a)
Other personal service workers	0	0	49	3	52
Personal care consultants	0	0	3	16	19
Product quality controllers	0	0	0	12	12
Sports coaches, instructors and officials	0	6	0	7	13
Tertiary education teachers nfd	0	0	0	0	0
University lecturers and tutors	0	140	3	0	143
Vocational education teachers	0	19	0	0	19
<i>Total other related occupations</i>	4	179	75	120	378
Unrelated occupations					
Sales assistants (general)	0	0	5	190	191
General clerks	19	10	22	54	103
Professionals nfd	4	65	16	16	99
Contract, program and project administrators	24	14	19	17	78
Receptionists	0	5	53	23	78
Advertising, public relations and sales managers	4	0	7	54	68
Retail managers	0	5	0	68	68
Technical sales representatives	0	0	6	61	65
Waiters	0	0	0	58	57
Other unrelated occupations ^(c)	146	172	242	1,111	1,720
<i>Total unrelated occupations</i>	197	271	370	1,652	2,527
Total	339	535	3,217	2,092	6,235

nfd not further defined

(a) Includes industry not stated and inadequately described.

(b) Includes ambulance officers and paramedics, dental hygienists, technicians and therapists, enrolled and mothercraft nurses, Indigenous health workers, anaesthetists, chiropractors and osteopaths, dental practitioners, generalist medical practitioners, health diagnostic and promotion professionals nfd, health professionals nfd, medical imaging professionals, medical practitioners nfd, medical technicians, midwifery and nursing professionals nfd, midwives, nurse educators and researchers, occupational therapists, optometrists and orthoptists, other medical practitioners, personal carers and assistants nfd, pharmacists, physiotherapists, podiatrists, psychiatrists, registered nurses, special care workers, specialist physicians, speech pathologists and audiologists, surgeons, counsellors, nurse managers, diversional therapists, health therapy professionals nfd, health and welfare support workers nfd, psychologists and social workers.

(c) Includes all occupations in ANZSCO not already listed, and occupation not stated and inadequately described.

Source: ABS Census of Population and Housing, 2011

Characteristics of dietitians – based on educational definition

In this section, the characteristics of those people who reported their occupation as a dietitian, who also held a bachelor degree or postgraduate qualification in nutrition and dietetics is presented.

Information in this section is only presented from the 2006 and 2011 census, as the level of detail required was not readily accessible for the 1996 and 2001 census. Please note, the ABS randomly adjusts cells to avoid the release of confidential data, so there can be slight discrepancies in totals when comparing census tables.

Age and gender

From 2006 to 2011, the number of employed dietitians increased by almost 50 per cent. Most of this increase (897 out of 936) was in female dietitians.

Dietetics is a female dominated profession – almost all dietitians in both 2006 and 2011 were female (table 2).

Table 2: number of employed dietitians by gender, 2006 and 2011

	2006	2011	% increase 1996 to 2011
Males	115	154	33.9
Females	1780	2677	50.4
Persons	1895	2831	49.4
% female	93.9	94.6	..

Source: ABS Census of Population and Housing 2006 and 2011

The dietitian workforce has a young age profile. In 2011 the average age of all dietitians was approximately 35 years, with approximately six per cent aged 55 years and over.

Male dietitians had a slightly older age profile than females. In particular, almost double the percentage of males than females were aged 55 years and over. However this had little impact on the overall age profile due to the small number of employed male dietitians.

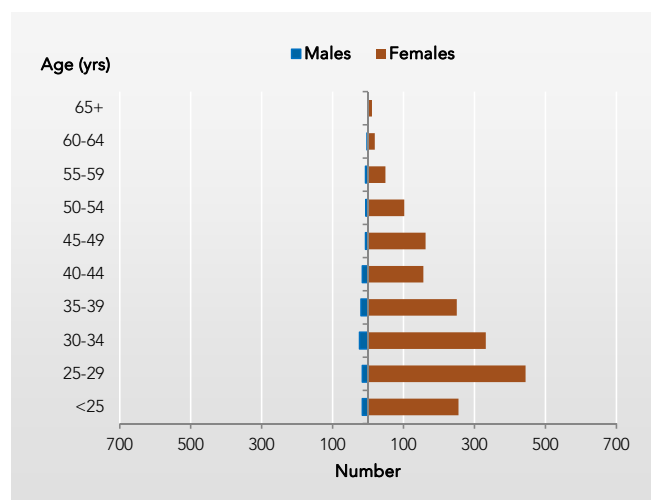
Table 3: employed dietitians, age profile by gender, 2011

	Average age	Per cent aged 55 and over
Males	37.3	9.7
Females	34.8	5.5
Persons	34.9	5.7

Source: ABS Census of Population and Housing 2011

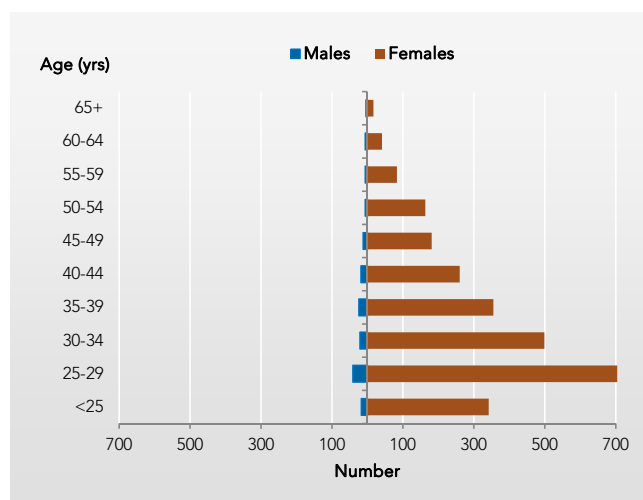
Figures 1 and 2 show a detailed age and gender breakdown of employed dietitians for the 2006 and 2011 census years. The overwhelming majority of females across all age groups can clearly be seen. Strong growth in the number of females entering the profession between 2006 and 2011 can also clearly be seen in figure 2. Despite being small compared with the number of female dietitians, there was a substantial increase in the percentage of male dietitians aged 25 to 29 years – more than doubling (up 156 per cent) from 16 in 2006 to 41 in 2011.

Figure 1: number of employed dietitians by age cohort and gender, 2006



Source: ABS Census of Population and Housing, 2006

Figure 2: number of employed dietitians by age cohort and gender, 2011

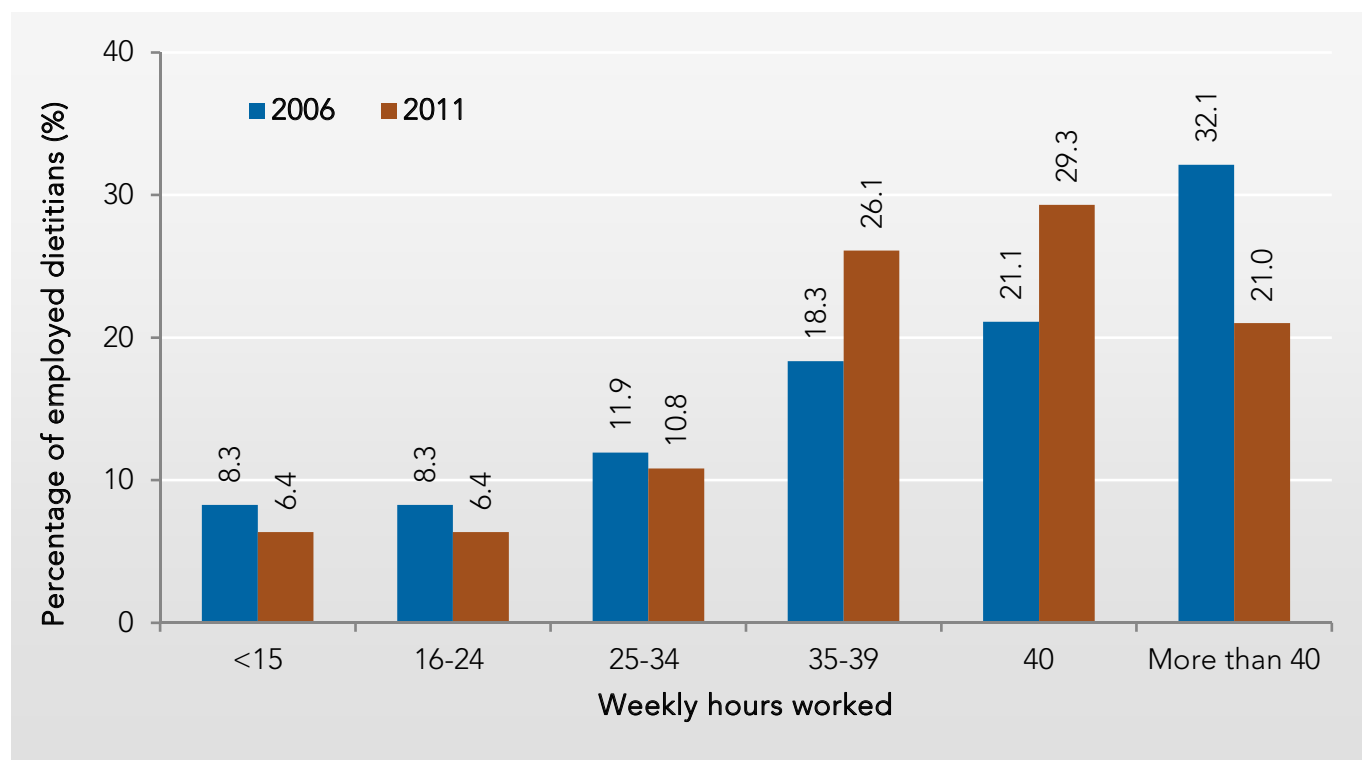


Source: ABS Census of Population and Housing, 2011

Hours worked

In 2006 and 2011, approximately three-quarters of male dietitians worked 35 hours or more (72 per cent or 78 male dietitians in 2006 and 76 per cent or 120 in 2011). The large increases in the percentage of male dietitians working 35 to 39 hours and 40 hours likely reflects the increased number of 25 to 29 year old male dietitians in 2011 (refer figure 3).

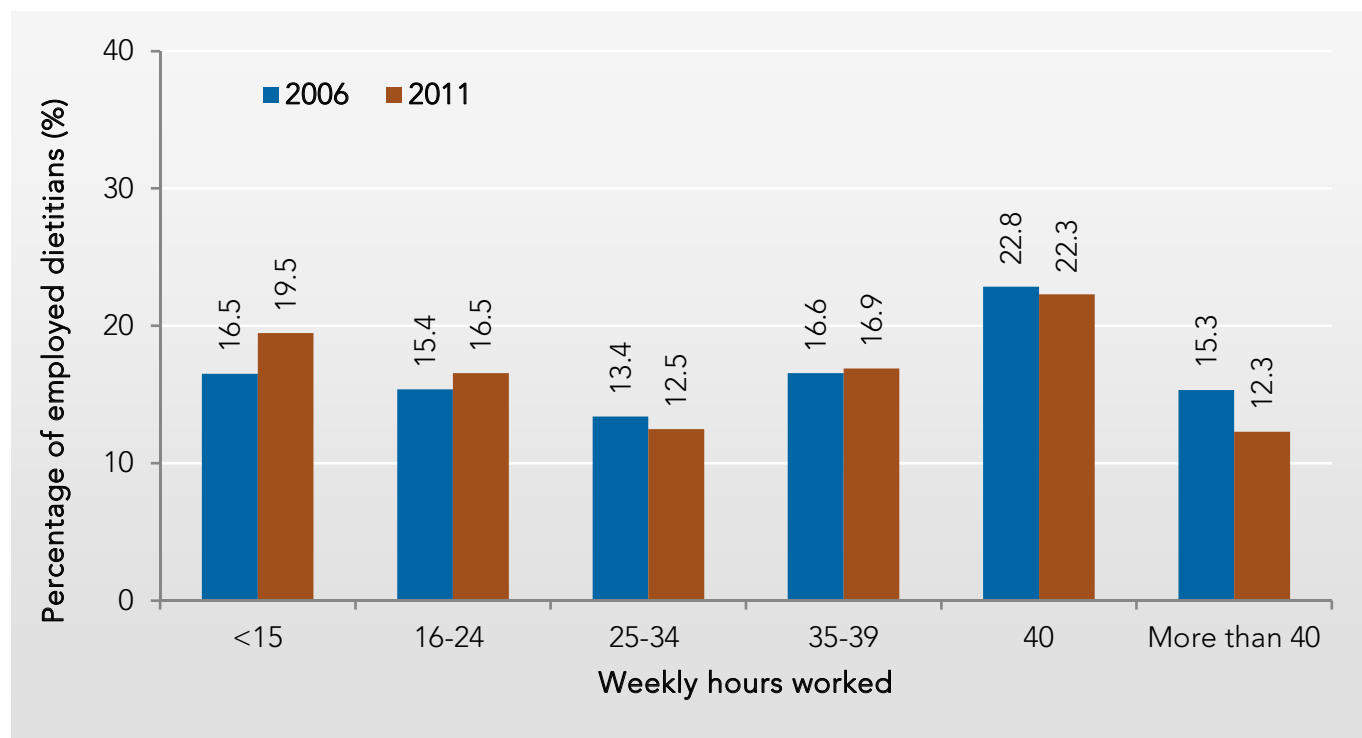
Figure 3: employed male dietitians by weekly hours worked, 2006 and 2011



Source: ABS Census of Population and Housing 2006 and 2011

Female weekly hours worked were more evenly distributed than males, with almost one-quarter of female dietitians working 40 hours per week in 2006 and 2011 (figure 4).

Figure 4: employed female dietitians by weekly hours worked, 2006 and 2011



Source: ABS Census of Population and Housing 2006 and 2011

In 2011, male dietitians' average weekly hours worked was almost ten hours more than female dietitians. This reflects the patterns shown in figures 3 and 4, where most males worked 35 hours or more, while female weekly hours worked were more dispersed.

However again, as there are so few employed male dietitians compared with females, this had little impact on overall average weekly hours worked (table 4).

Table 4: employed dietitians, average weekly hours worked by gender, 2011

	Average weekly hours worked
Males	39.1
Females	29.6
Persons	30.1

Source: ABS Census of Population and Housing 2011

Aboriginal and Torres Strait Islander Status

There were very few employed dietitians of Aboriginal and Torres Strait Islander status (table 5).

Table 5: number of employed dietitians by Aboriginal and Torres Strait Islander status, 2006 and 2011

	2006	2011
Aboriginal and Torres Strait Islander	0	8
Non Aboriginal and Torres Strait Islander	1,886	2,818
Total^(a)	1,895	2,831

(a) Includes not stated

Source: ABS Census of Population and Housing 2006 and 2011

Country/region of birth

Despite increases in the number and percentage of overseas-born dietitians from 2006 to 2011, most were Australian-born in both years (82 per cent in 2006 and 78 per cent in 2011) (table 6).

Table 6: employed dietitians – top five countries/regions of birth, 2006 and 2011

2006			2011		
Country/region of birth	Number	%	Country/region of birth	Number	%
Australia	1,552	81.9	Australia	2,210	78.1
United Kingdom	74	3.9	United Kingdom	128	4.5
Southern and East Africa	43	2.3	Southern and East Africa	71	2.5
Maritime South-East Asia	43	2.3	Maritime South-East Asia	66	2.3
Chinese Asia	30	1.6	Chinese Asia	66	2.3
Other countries ^(a)	153	8.1	Other countries ^(a)	290	10.2
Total	1,895	100.0	Total	2,831	100.0

(a) Includes inadequately described and not stated.

Source: ABS Census of Population and Housing 2006 and 2011.

Education

In 2006 and 2011 a bachelor degree was the most common qualification held by people who held a bachelor or postgraduate degree as their highest level of qualification in nutrition and dietetics (table 7).

The increase in those holding a bachelor degree was also the highest in both number (600) and percentage (75 per cent) from 2006 to 2011, indicating this is the most popular path to obtain a dietetics qualification.

Table 7: number of employed dietitians by highest level of educational attainment in nutrition and dietetics, 2006 and 2011

Highest level of educational attainment	2006	2011	% increase
Bachelor degree	804	1,404	74.6
Graduate diploma and graduate certificate	362	433	19.6
Postgraduate degree	729	994	36.4
Total	1,895	2,831	49.4

Source: ABS Census of Population and Housing 2006 and 2011.

Sector and industry of employment

In 2011, most (86 per cent or 2,431) dietitians worked in the healthcare and social assistance industry. Within this, over half (53 per cent or 1,291) worked in hospitals in the state and territory government sector.

Dietitians were almost evenly employed across the public (1,494 or 53 per cent) and private sectors (1,337 or 47 per cent). The industry class 'other allied health services', which includes dietitian services, accounted for the majority of dietitians working in the private sector (608) in 2011 (table 8).

Table 8: number of employed dietitians by sector and industry of employment, 2011

Industry	Commonwealth Government	State and Territory Government	Local Government	Private sector	Total
Healthcare and social assistance industries					
Healthcare and social assistance nfd	0	0	0	62	62
Hospitals (except psychiatric hospitals)	0	1,291	0	189	1,480
General practice medical services	0	0	0	72	72
Other allied health services	0	11	6	608	625
Other healthcare and social assistance industries	8	31	0	153	192
<i>Total healthcare and social assistance industries</i>	8	1,333	6	1,084	2,431
Other industries	70	74	3	253	400
Total	78	1,407	9	1,337	2,831

nfd not further defined

Source: ABS Census of Population and Housing 2011

Distribution

Information from the census on the state and territory and remoteness area distribution of the dietitian workforce is based on place of usual residence (not place of work).

Information on the distribution of dietitians by Medicare Local regions is based on place of work (not place of usual residence).

State and territory

In 2011, the highest number of employed dietitians was in New South Wales (918), followed by Victoria (743) and Queensland (582). The Northern Territory had the lowest number of employed dietitians (30).

On a number per 100,000 population basis, the Australian Capital Territory had the highest number of employed dietitians (19.3), followed by Victoria (13.4). Tasmania had the lowest number of employed dietitians per 100,000 population (9.6) (table 9).

In terms of other characteristics, state and territory experiences varied:

- Average age was less than 40 in all states and territories, ranging from a low of 26.2 in the Northern Territory, to 36.2 in New South Wales.
- Percentage aged 55 years and over ranged from nil in the Northern Territory and Tasmania, to nine per cent in New South Wales.
- Average hours worked were less than 35 across all states and territories, with the lowest in Western Australia (27.9).

Table 9: selected characteristics of employed dietitians by state and territory, 2006 and 2011

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
2011									
Number	918	743	582	207	231	49	30	71	2,831
No. per 100,000 population	12.7	13.4	13.0	12.6	9.8	9.6	13.0	19.3	12.7
Average age	36.2	34.1	34.1	35.3	34.9	32.3	26.2	35.4	34.9
% aged 55 and over	8.9	4.6	2.9	6.3	4.8	0.0	0.0	4.5	5.7
Average hours worked	29.5	30.3	30.9	30.2	27.9	30.8	36.9	32.5	30.1
% female	93.9	96.8	91.9	92.8	96.1	100.0	100.0	95.8	94.6
2006									
Number	641	511	340	146	158	24	17	58	1,895
No. per 100,000 population	9.5	10.1	8.5	9.4	7.7	4.9	8.1	17.3	9.3
% change in number 2006 to 2011	43.2	45.4	71.2	41.8	46.2	104.2	76.5	22.4	49.4

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

Remoteness area

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

In 2011, most dietitians were in major cities. The number of employed dietitians, and number employed per 100,000 population, increased across all remoteness areas from 2006 to 2011 (table 10).

Table 10: selected characteristics of employed dietitians by remoteness area, 2006 and 2011

	Major cities	Inner regional	Outer regional	Remote ^(a)	Very remote ^(a)	Australia ^(b)
2011						
Number	2,235	371	179	28	9	2,831
No. per 100,000 population	14.2	9.0	8.8	8.9	4.4	12.7
Average age	35.2	35.4	31.8	28.2	55.5	34.9
% aged 55 and over	5.8	6.7	1.6	0.0	50.0	5.7
Average hours worked	29.8	30.6	31.9	30.2	10.0	30.0
% female	95.0	91.9	94.4	100.0	66.7	94.6
2006						
Number	1,458	296	113	20	5	1,895
No. per 100,000 population	10.3	7.7	5.9	6.6	2.7	9.3
% change in number 2006 to 2011	53.3	25.3	58.4	40.0	80.0	49.4

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

(b) Includes migratory and no usual residence.

Source: ABS Census of Population and Housing, 2006 and 2011, ABS, Regional Population Growth, Australia, 2012, cat. no. 3218.0.

Medicare Local regions

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

Table 11 shows the Medicare Local regions with the highest and lowest rate of employed dietitians per 100,000 population, by primary place of work (a full list of Medicare Locals is included as appendix 1). Please note, data in this table shows the number of dietitians per 100,000 population working in the relevant Medicare Local region, and provides a useful reflection of the geographical distribution of dietitians – it does not reflect dietitians employed by Medicare Local organisations.

As can be expected, Medicare Locals with the highest rates of employed dietitians per 100,000 population were in metropolitan areas, while Medicare Locals with the lowest rates of employed dietitians were generally located in regional and remote areas.

Table 11: number of employed dietitians per 100,000 population by selected Medicare Local regions, 2011

Highest			Lowest		
State/ Territory	Medicare Local	Rate	State/ Territory	Medicare Local	Rate
VIC	Inner North West Melbourne	32.6	WA	Bentley Armadale	2.7
NSW	Eastern Sydney	31.3	NSW	Southern NSW	3.0
QLD	Metro North Brisbane	28.7	SA	Country South SA	3.8
WA	Perth Central and East Metro	21.7	QLD	West Moreton - Oxley	3.9
ACT	Australian Capital Territory	20.4	VIC	Gippsland	4.2

Source: ABS Census of Population and Housing 2011

Dietitians – based on self-reported occupation

Information in the section above related to people who held a bachelor or postgraduate degree in nutrition and dietetics, and reported their occupation as a dietitian in the census. In this section, information is presented on people who reported their occupation as a dietitian in the census, regardless of their level of qualification. While not all of these people will hold a qualification from an accredited dietetics program, this approach can be useful for providing a picture of people who are reporting as providing dietetic services.

Information using this approach is also available for the 1996 to 2011 census – providing a longer time-series picture of the changing number and characteristics of the self-reported dietetic workforce.

However as noted earlier in this report, people that self-report as a dietitian without an appropriate dietetics qualification are not:

- Eligible for membership of the DAA.
- Able to become APDs.
- Cannot apply for a Medicare or Department of Veterans Affairs provider number.

Age and gender

From 1996 to 2011, the number of employed self-reported dietitians more than doubled (up 119 per cent or 2,011 dietitians), with most of this increase in females (up 122 per cent or 1,897).

Despite almost doubling in number from 1996 to 2011, in each of the selected census years males accounted for less than ten per cent of employed self-reported dietitians (table 12).

Table 12: Number of employed self-reported dietitians by gender, 1996 to 2011

	1996	2001	2006	2011	% increase 1996 to 2011
Males	137	157	206	251	83.2
Females	1,559	1,838	2,381	3,456	121.7
Persons	1,696	1,995	2,587	3,707	118.6
% female	91.9	92.1	92.0	93.2	..

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

The self-reported dietitian workforce also has a relatively young age profile – with an average age of 36 years and nine per cent aged 55 years and over (table 13).

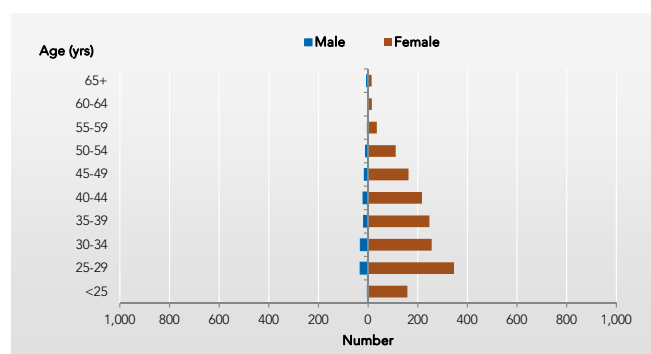
Table 13: employed self-reported dietitians, age profile by gender, 2011

	Average age	Per cent aged 55 and over
Males	37.7	11.6
Females	35.9	8.3
Persons	36.0	8.5

Source: ABS Census of Population and Housing 2011

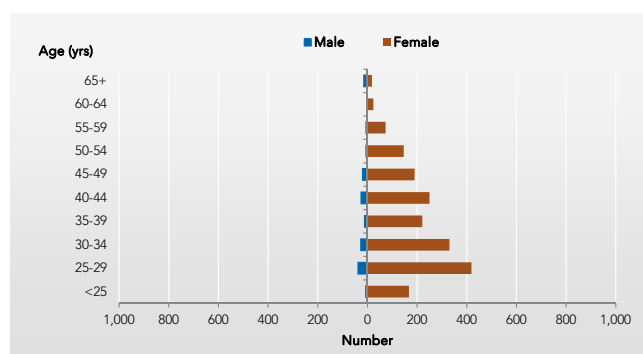
Figures 5 to 8 show a detailed age and gender breakdown of employed self-reported dietitians from 1996 to 2011. In each year, the highest numbers of employed self-reported dietitians were aged between 25 to 29 years. Strong growth in the number of females between 2006 and 2011 can clearly be seen in figure 8.

Figure 5: number of employed self-reported dietitians by age and gender, 1996



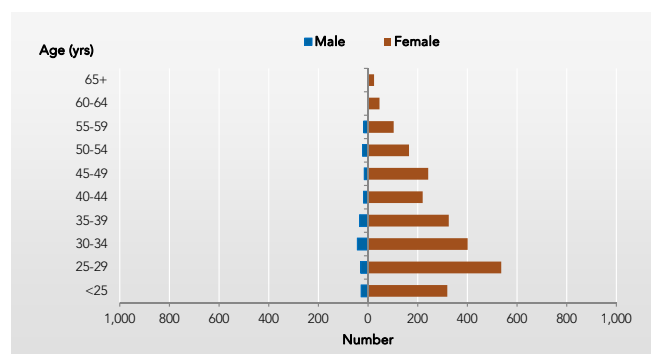
Source: ABS Census of Population and Housing 1996

Figure 6: number of employed self-reported dietitians by age and gender, 2001



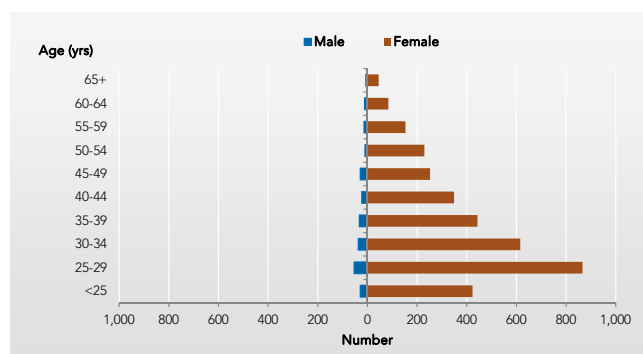
Source: ABS Census of Population and Housing 1996

Figure 7: number of employed self-reported dietitians by age and gender, 2006



Source: ABS Census of Population and Housing 2006

Figure 8: number of employed self-reported dietitians by age and gender, 2011

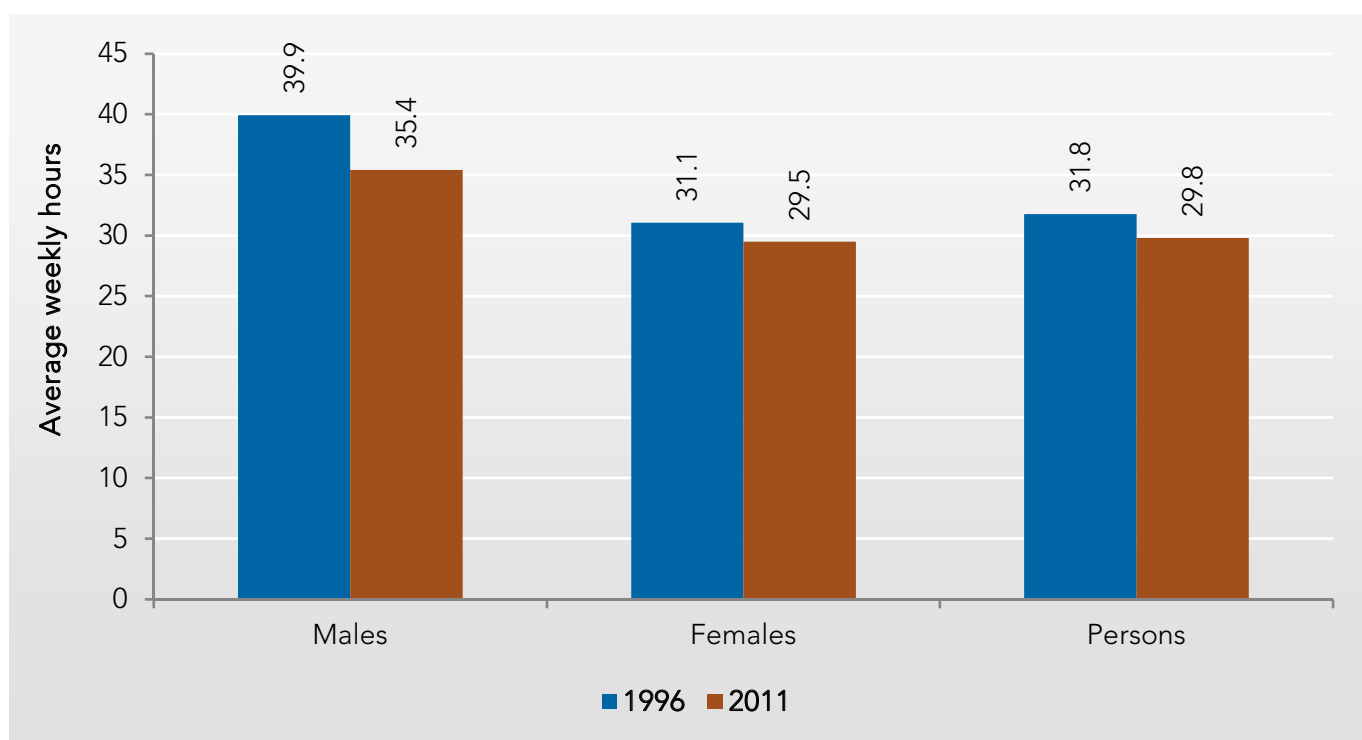


Source: ABS Census of Population and Housing 2011

Hours worked

Self-reported dietitians average weekly hours worked reduced by two hours from 1996 (32) to 2011 (30). Male average weekly hours fell five hours (from 40 to 35), with female average weekly hours falling two hours (31 to 29) over the same period. Due to their small number, the fall in male average weekly hours worked had little impact on overall average weekly hours worked of self-reported dietitians (figure 9).

Figure 9: employed self-reported dietitians, average weekly hours worked by gender, 1996 and 2011

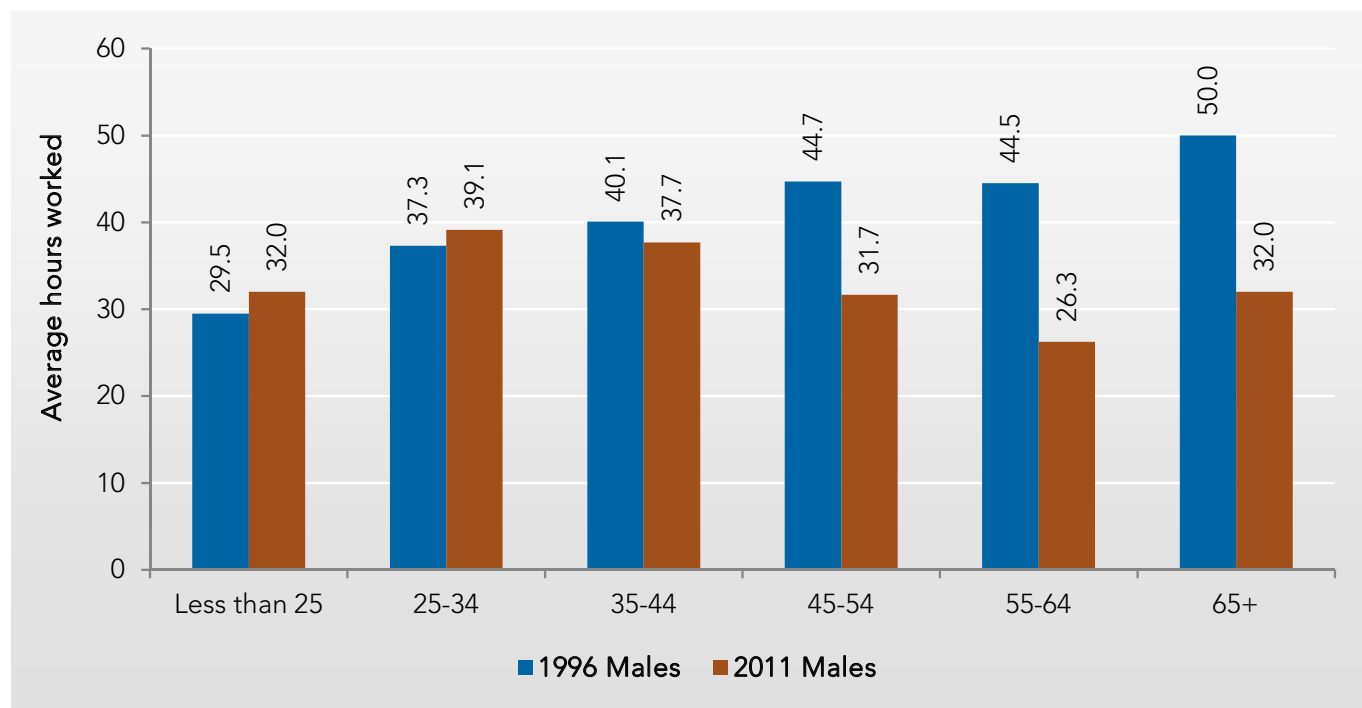


Source: ABS Census of Population and Housing 1996 and 2011

Reductions in average weekly hours worked of employed self-reported dietitians occurred across most age groups from 1996 to 2011 for both males and females. For females, the largest fall occurred in the 35 to 44 cohort (falling approximately four hours, from 27.5 to 23.6) (figures 10 and 11).

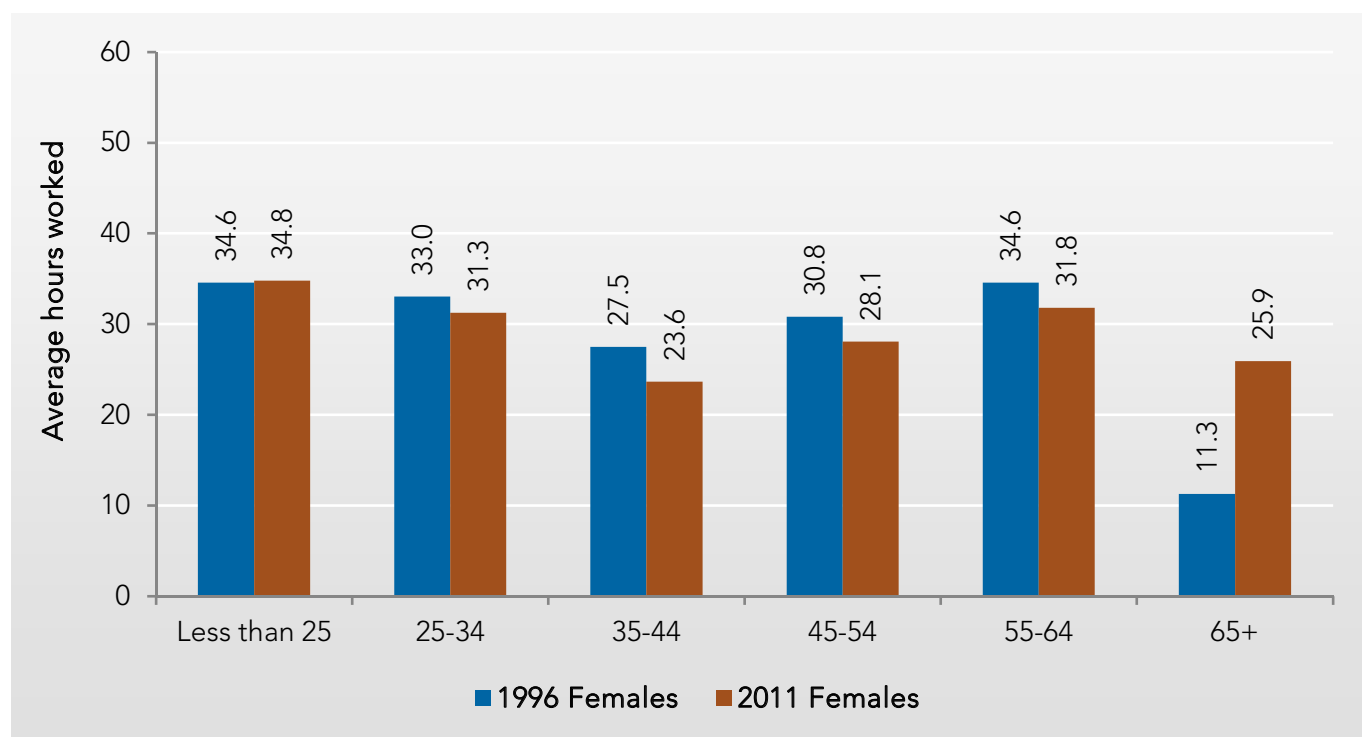
For both males and females, large fluctuations in average weekly hours worked occurred in the older age groups (55 years and over). Care should be taken when interpreting these changes due to the small numbers of employed self-reported dietitians in these age groups.

Figure 10: employed self-reported male dietitians by age and average hours worked, 1996 and 2011



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

Figure 11: employed self-reported female dietitians by age and average hours worked, 1996 and 2011



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

Aboriginal and Torres Strait Islander status

Over the four selected census years, there were few employed self-reported dietitians of Aboriginal and Torres Strait Islander status (table 14).

Table 14: number of employed self-reported dietitians by Aboriginal and Torres Strait Islander status, 1996 to 2011

	1996	2001	2006	2011
Aboriginal and Torres Strait Islander	6	19	9	26
Non Aboriginal and Torres Strait Islander	1,707	1,971	2,567	3,667
Total^(a)	1,725	1,999	2,591	3,704

(a) Includes not stated

Source: ABS Census of Population and Housing 1996 to 2011

Country/region of birth

Most employed self-reported dietitians were born in Australia (table 15).

Table 15: employed self-reported dietitians – top five countries/regions of birth, 1996 and 2011

1996			2011		
Country/region of birth	Number	%	Country/region of birth	Number	%
Australia	1,291	75.6	Australia	2,865	77.3
United Kingdom	113	6.6	United Kingdom	168	4.5
Maritime South-East Asia	44	2.6	Chinese Asia	90	2.4
New Zealand	35	2.0	Maritime South-East Asia	86	2.3
Northern America	32	1.9	Southern and East Africa	84	2.3
Other countries ^(a)	193	11.3	Other countries ^(a)	414	11.2
Total	1,708	100.0	Total	3,707	100.0

(a) Includes inadequately described and not stated.

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

Education

Table 16 shows employed self-reported dietitians by their highest level of educational attainment. Note, in this table:

- The highest level of educational attainment is not necessarily in the field of nutrition and dietetics.
- Those that reported as a dietitian with lower than a bachelor degree are not:
 - » Eligible for membership of the DAA.
 - » Able to become APDs.
 - » Cannot apply for a Medicare or Department of Veterans Affairs provider number.

In 2011, the highest level of educational attainment held by 45 per cent of employed self-reported dietitians was a bachelor degree. A further 32 per cent held a postgraduate degree as their highest level of educational attainment.

Table 16: number of employed self-reported dietitians by highest level of educational attainment, 1996 to 2011

Highest level of educational attainment	1996	2001	2006	2011
Postgraduate degree	382	654	885	1,198
Graduate diploma and graduate certificate	600	468	411	494
Bachelor degree	298	455	1,005	1,672
Advanced diploma and diploma	67	125	123	134
Certificate	52	51	24	35
Year 12 or below	196	182	90	129
Total^(a)	1,708	2,020	2,587	3,705

(a) Includes not stated, inadequately described and no educational attainment

Note: In 1996 non-school qualifications were classified using the ABS Classification of Qualifications. From 2001 onwards, the Australian Standard Classification of Education has been used.

Source: ABS Census of Population and Housing 1996 to 2011

Sector and industry of employment

In 2011, most (82 per cent or 3,042) self-reported dietitians worked in the healthcare and social assistance industry. Within this:

- Half (1,521) worked in hospitals in the state and territory government sector.
- 'Other allied health services', which includes dietitian services, accounted for the majority of self-reported dietitians working in the private sector (812).

Table 17: number of employed self-reported dietitians by sector and industry of employment, 2011

Industry	Commonwealth Government	State and territory government	Local government	Private sector	Total ^(a)
Healthcare and social assistance	9	1,569	5	1,459	3,042
Hospitals (except psychiatric hospitals)	0	1,521	0	238	1,759
Other allied health services	0	15	5	812	832
Other healthcare and social assistance industries	9	33	0	409	451
Other industries	87	98	7	462	664
Total^(a)	96	1,667	12	1,921	3,706

(a) includes sector not stated.

Source: ABS Census of Population and Housing 2011.

Distribution

State and territory

In 1996 and 2011, the highest percentages of employed dietitians were in New South Wales (37 per cent and 33 per cent respectively) and Victoria (25 per cent in both years). All states and territories experienced increases in the number of employed dietitians from 1996 to 2011 (table 18). The Australian Capital Territory experienced both the lowest number (29) and percentage (47 per cent) increase in employed dietitians from 1996 to 2011, while the Northern Territory, despite having one of the lowest absolute number increases (41) in employed dietitians, had the highest percentage increase (342 per cent) over the same period (table 18).

Table 18: selected characteristics of employed self-reported dietitians by state and territory, 1996 and 2011

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
2011									
Number	1,219	938	789	252	304	61	53	91	3,707
No. per 100,000 population	16.9	16.9	17.6	15.2	13.1	11.7	22.9	24.7	16.6
Average age	37.2	35.5	35.6	36.4	36.6	33.7	32.3	34.5	36.1
% aged 55 and over	10.4	9.5	7.1	8.4	7.9	0.0	9.8	4.4	8.8
Average hours worked	29.4	30.3	31.1	31.2	26.6	28.1	29.1	32.4	29.9
% female	92.7	95.8	90.5	91.2	94.8	93.3	94.3	96.7	93.2

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS
1996									
Number	635	420	287	141	133	22	12	62	1,712
No. per 100,000 population	9.4	8.3	7.2	9.1	6.5	4.5	5.7	18.5	8.4
% change in number 1996 to 2011	92.0	123.3	174.9	78.7	128.6	177.3	341.7	46.8	116.5

Source: ABS Census of Population and Housing 1996 and 2011, ABS, Australian Demographic Statistics, Dec 2012, cat. no. 3101.0

Remoteness area

In both 2006 and 2011, major cities had the highest rate of employed dietitians per 100,000 population (13.8 per 100,000 in 2006, and 18.6 per 100,000 in 2011).

From 2006 to 2011, the number of dietitians per 100,000 population increased across all remoteness areas, with the largest increases occurring in major cities and remote areas (up 4.8 and 4.1 employed dietitians per 100,000 population respectively, table 19).

Table 19: selected characteristics of employed self-reported dietitians by remoteness area, 2006 and 2011

	Major cities	Inner regional	Outer regional	Remote ^(a)	Very remote ^(a)	Australia ^(b)
2011						
Number	2,920	489	226	45	21	3,704
No. per 100,000 population	18.6	11.9	11.2	14.3	10.3	16.6
Average age	36.3	37.4	32.2	30.6	42.5	36.2
% aged 55 and over	8.9	11.0	4.5	0.0	11.5	8.8
Average hours worked	29.8	29.9	30.1	32.5	20.2	29.8
% female	93.7	91.2	92.5	100.0	73.9	93.3
2006						
Number	1,958	406	175	31	17	2,590
No. per 100,000 population	13.8	10.6	9.1	10.2	9.3	12.7
% change in number 2006 to 2011	49.1	20.4	29.1	45.2	23.5	43.0

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

(b) Includes migratory and no usual residence.

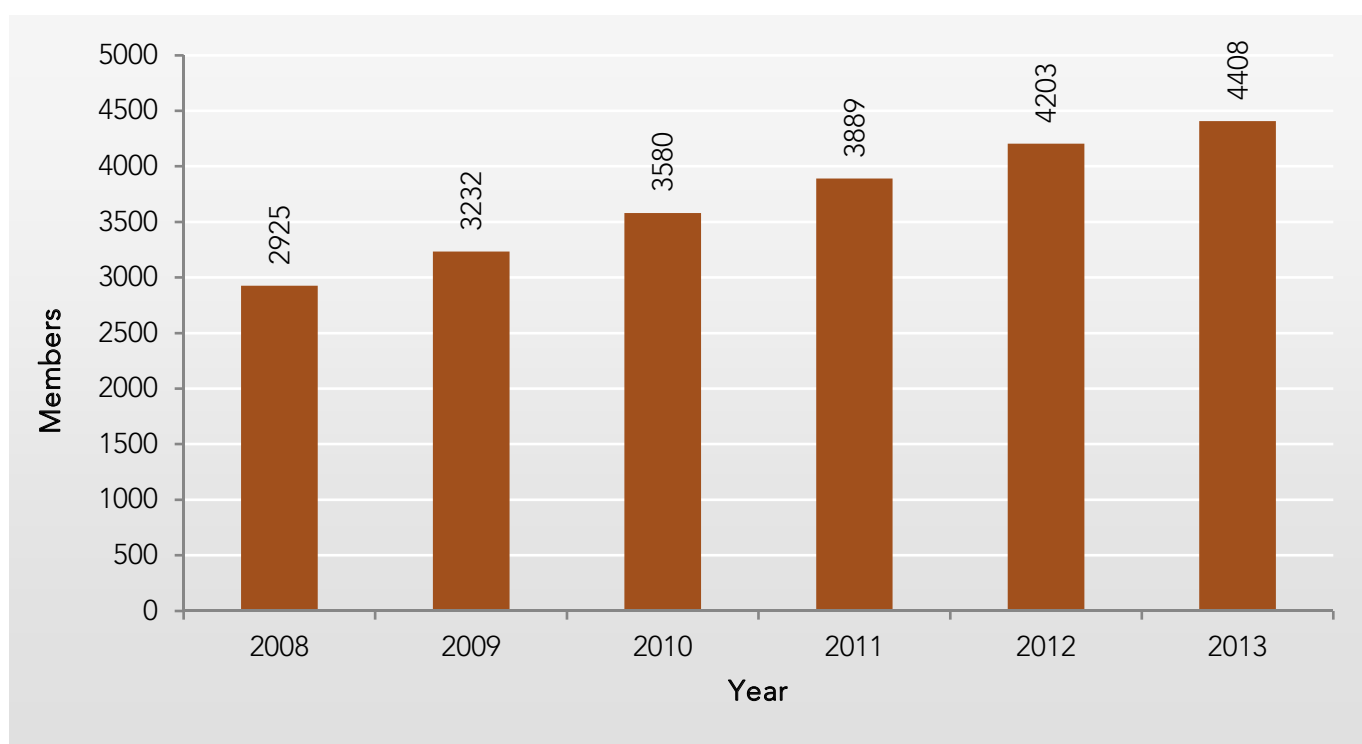
Source: ABS Census of Population and Housing 2006 and 2011, ABS, Regional Population Growth, Australia, 2012, cat. no. 3218.0.

Professional association

The DAA collects data on its members and membership is open to all people who have successfully completed a DAA accredited course, or successfully passed the dietetics examination for overseas-trained dietitians. Membership is also open to students undergoing their entry-level dietetics qualifications in Australia.

DAA data shows that as at June 2013, they had 4,408 APD members and 380 student dietitian members. DAA APD member numbers have approximately doubled from 2008 (2,925) to 2013 (4,408).

Figure 12: DAA APD membership numbers, 2008 to 2013



Source: DAA membership data

Differences between ABS census data and DAA membership data

The DAA and census data show different numbers of dietitians working in Australia. Reasons for this relate to the methodology and purpose of the collections. Census information provides a descriptive count of everyone who is in Australia on one night and information is self-reported by individuals completing the census form, while the DAA data is an administrative collection, with the primary purpose of maintaining an up-to-date a register of APDs. Census data captures everyone reporting their occupation as a dietitian – regardless of level and type of qualification (noting the first section of this report further refines that group to show only those who also held a bachelor degree or postgraduate qualification in nutrition and dietetics), while DAA data reflects the number of dietitians who are members of the association, and does not reflect the total number of professionals with dietetic qualifications who may be living and working in Australia. DAA data is based on a range of differing membership types primarily related to employment hours and/or employment status. Historical data is collected once a year, with interim data reflecting the current status of membership at any given time.

Differences between the two sources are therefore likely to occur. For example, people may choose to maintain their APD status through the DAA, but are either not working or do not consider 'dietitian' to be their primary role at the time of the census.

Workforce inflows

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

Students

The DE conducts the Higher Education Statistics Collection, which provides a range of information on the provision of higher education in all Australian universities.

The DAA is responsible for the national accreditation system of university dietetic programs. Currently 19 courses are accredited by DAA and another three courses have students enrolled and are seeking accreditation. Using the DE data, student and graduate information from these 22 dietetic courses is presented below.

Student commencements

Table 20 shows the number of commencing students in dietetic courses over the period 2007 to 2012. The highest number of student commencements occurred in 2012 (694). The majority of students commenced bachelor courses in each selected year, however the number commencing postgraduate courses increased year on year over the period. This is likely a reflection of a number of new Masters-level dietetic programs that commenced between 2007 and 2011, which subsequently applied to the DAA for accreditation.

Table 20: number of student commencements by course type and characteristics, 2007 to 2012

	2007	2008	2009	2010	2011	2012
Bachelor	303	333	377	391	368	405
Postgraduate	126	163	197	262	282	289
Total	429	496	574	653	650	694
% Female	91.6	90.3	90.9	92.5	90.2	87.5
% Overseas	18.2	13.9	12.2	12.6	10.8	10.4

Note: Students commencing University courses accredited or seeking accreditation by the DAA (as at 2 December 2013).

Source: Department of Education

Student completions

The number of student completions generally increased over the period 2007 to 2011, with the exceptions of 2010 and 2012 (table 21). Most student completions were female, indicating females will continue to dominate the dietetic workforce into the future.

Table 21: number of student completions by course type and characteristics, 2007 to 2011

	2007	2008	2009	2010	2011	2012
Bachelor	193	222	254	229	249	223
Postgraduate	112	133	151	143	262	233
Total	305	355	405	372	511	456
% Female	90.8	93.5	90.6	91.7	90.4	91.4
% Overseas	16.7	18.3	15.3	12.6	13.5	12.7

Note: Students completing University courses accredited or seeking accreditation by the DAA (as at 2 December 2013).

Source: Department of Education

Immigration

Dietitians appear on schedule two of the Consolidated Sponsored Occupation List. This means that overseas-trained dietitians are eligible for permanent migration through the state and territory, regional and employer sponsored pathways. They are also eligible for temporary migration through the 457 temporary work (skilled) visa.

Before migrating to Australia, an overseas-trained dietitian is required to demonstrate competency against the National Competency Standards for Entry Level Dietitians in Australia. This is a three-stage process conducted by the DAA:

- Stage 1: desktop review. This includes an assessment of recognition as a dietitian in country of training, tertiary dietetic qualifications, language proficiency and currency of practice.
- Stage 2: written examination.
- Stage 3: oral examination.

Successful completion of all stages means a candidate is eligible to apply to join the APD program.

Assessments of overseas-trained dietitians

Table 22 shows the number of overseas-trained dietitians who had their initial eligibility for assessment of equivalence confirmed, that is, they passed the stage 1 desktop review step outlined above. It also shows the number of overseas-trained dietitians who passed their stage 2 and stage 3 exams, making them eligible to join the APD program.

The number of overseas-trained dietitians who passed the stage 2 and 3 exams is substantially less than those who passed the initial desktop review. Reasons for this include people assessed as eligible to sit the exams choosing not to after the initial review; people sitting the exams who failed and chose not to re-sit; and people who never applied to sit the exams. Timing issues also exist in matching those who have their initial assessment confirmed against those who passed exams – with people having up to the three years to sit exams after the initial review. Candidates may also sit a maximum of three times within period of eligibility.

Table 22: Number of overseas-trained dietitians assessed for eligibility to sit the Professional Examinations in Dietetics and numbers who passed exams, 2008 to 2012

	2008	2009	2010	2011	2012
Overseas eligibility assessment confirmed	34	30	29	33	46
Numbers who passed exams	13	18	22	24	16

Source: DAA

Visas granted

Most permanent visas granted to dietitians were in the general skilled migration (GSM) stream, which includes the skilled independent, skilled regional and state/territory nominated categories.

While dietitians have not appeared on the Skilled Occupation List since 2010 (which is a requirement for the skilled independent visa), processing of visas can take some time and the GSM grants in 2011-12 and 2012-13 likely reflects the processing of visa applications received in, or before 2010 (table 23).

Table 23: Number of permanent visas^(a) granted to dietitians by visa type, 2005-06 to 2012-13

Visa category	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12	2012-13
Employer sponsored	0	0	0	0	5	8	8	8
General skilled migration ^(b)	21	28	12	25	3	3	31	38
Total	21	28	12	25	8	11	39	46

(a) Includes provisional visas

(b) Includes skilled independent, skilled regional and state/territory nominated categories.

Source: Department of Immigration and Border Protection administrative data

Few dietitians were granted temporary visas over the period 2005-06 to 2012-13 (table 24).

Table 24: number of temporary visas granted to dietitians by visa type, 2005-06 to 2012-13

Visa category	2005 -06	2006 -07	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12	2012-13
457 temporary work (skilled)	7	7	9	7	7	8	6	3

Source: Department of Immigration and Border Protection administrative data

How can workforce activity be measured?

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

For measuring and projecting workforce demand, HWA employs the utilisation method. This method measures expressed demand and is based on service utilisation patterns as they currently exist (making no assumptions about potential or unmet demand).

APDs are eligible for Medicare and Department of Veterans Affairs provider numbers, and for provider status with private health insurers. Therefore utilisation data from these sources is one measure of dietitian workforce activity.

National Hospital Morbidity Database information, which shows dietetics procedures in hospital settings, and also shows hospital separations for endocrine, nutritional and metabolic diseases and disorders is another source of utilisation data relevant to dietitians.

Obesity projections (such as those conducted by the Preventative Health Taskforce) could also be used to inform future demand for dietetic services.

What issues have stakeholders identified for the dietitian workforce?

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

What were the jurisdiction views?

Common comments across jurisdictions were that this is a younger workforce, with sufficient entry-level dietitians, however there is a shortage of experienced staff able to fill management roles, and a shortage of senior staff, specialising in areas such as diabetes, obesity and mental health.

It was noted maldistribution exists in some jurisdictions, with difficulty in attracting and retaining people to regional and remote locations.

Most commented that the increasing incidence of chronic disease – particularly obesity and diabetes – will see continued demand for this workforce into the future. Some jurisdictions noted the limited number of public positions limits capacity to meet increasing demand, as well as limiting up-skilling opportunities.

The lack of good information on this workforce was also highlighted as an issue.

What were the DAA's views?

Consultation with the DAA highlighted a number of issues relating to supply of the dietitian workforce. The DAA noted the number of dietetic graduates is expected to increase over the next five years – in their view exacerbating an existing oversupply of less experienced dietitians (those graduated in the last five years).

In contrast to the excess of less experienced dietitians, the DAA also highlighted existing shortages of experienced dietitians in areas such as higher-level academics.

Shortages in rural and remote areas were also noted.

Looking to the future, the DAA suggested expanded scopes of practice for APDs, into roles assisting with chronic disease management. Examples included diabetes education, adjustment of insulin (currently predominantly nurse-led), and swallowing assessments (currently speech-led).

HWA's assessment of this workforce

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

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

Existing workforce position assessment

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

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

Each of these measures is discussed below.

Assessment by key stakeholders

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

Waiting times

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

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

Vacancy rates

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

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

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

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

Existing workforce position assessment scale

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

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

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

From information obtained, the dietitian existing workforce position assessment ranged from green (no current perceived shortage) through to yellow and orange – both variations on perceived levels of maldistribution. The distinction between ‘yellow’ and ‘orange’ related to extended waiting lists, the ongoing nature of some vacancies and demand exceeding supply regardless of location.

The reasons behind these ratings are reflected in the workforce issues section of this report, and reflect:

- Difficulties in recruiting to rural and regional areas.
- Difficulties in recruiting more experienced dietitians, specialising in areas such as diabetes, obesity and mental health.

Workforce dynamics indicator

The workforce dynamics indicator (WDI) is used to highlight aspects of the current workforce that may be of concern into the future. The WDI was adapted from Health Workforce New Zealand’s (HWNZ) medical discipline vulnerability ranking method⁸, where a traffic light approach is used to score workforces against the selected indicators.

HWA selected the following indicators for scoring.

- **Average age** – workforces with a higher average age are more susceptible to higher exit rates (through retirement) with lower entry rates.
- **Percentage aged 55 and over** – this can be a useful indicator of those potentially retiring or reducing working hours within the next 10 years.
- **Change in average hours worked** – workforces with falling average weekly hours worked can be an indicator of sufficient workforce supply, or supply exceeding demand; while workforces with increasing hours of work can indicate supply pressures.
- **Replacement rate** – this item is designed to calculate the ratio of new workforce entrants to exits in a given year. This indicates whether the number currently completing training is sufficient or not (including if too many are being trained) to replace those presently leaving the workforce.
- **Dependence on internationally trained professionals** – workforces with high percentages of internationally trained professionals are of greater concern due to their dependence on a less reliable supply stream (for example, changes in immigration policy may impact on supply).
- **Duration of training program** – the greater the duration of training, the longer it takes to train a replacement workforce.

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

Workforce dynamics indicator assessment

The WDI was calculated using ABS census data. The education-based definition of a dietitian was generally used, that is, those people with a bachelor or postgraduate qualification in nutrition and dietetics who also reported being employed as a dietitian at the time of the census. The two exceptions to this were change in average hours worked (where all self-reported dietitians were used, due to data restrictions), and duration of training. The assessment scale for the workforce dynamics indicators is shown in table 25.

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

Average age

The average age of employed dietitians in 2011 was 34.9 years. This falls in the less than 40 bracket, the lowest range in the WDI score.

Percentage aged 55+

The percentage of employed dietitians aged 55 years and over was 5.7 per cent. This falls in the lowest range in the WDI score.

Change in average hours worked

For self-reported dietitians, average weekly hours worked fell two hours from 2006 (31.8 average weekly hours worked) to 2011 (29.8 average weekly hours worked). This equates to an annual change of 0.4 hours, which falls in the second bracket on the WDI score.

Replacement rate

This indicator was not assessed due to data limitations. However the low average age, in combination with the substantial growth in those in the 25 to 29 year cohort in 2011, suggests there are sufficient numbers being trained to replace workforce exits.

Dependence on ITPs

Data on those in the dietitian workforce that received their qualification overseas is not currently available. In lieu of this information, DIBP and census data has been used to calculate a proxy indicator. The proxy indicator examines the number of permanent visas granted to people nominating an occupation of dietitian, as a percentage of new workforce entrants.

The proxy indicator was developed using the following items:

- The number of permanent visas granted to dietitians over the period July 2006 to June 2011. This was 84 permanent visa grants.
- New workforce entrants, with net growth in employed dietitians between the 2006 and 2011 Census used as a proxy for new workforce entrants. This was 936.

Using the above information, the proxy indicator for dependence on ITPs is calculated to be 8.9 per cent, which falls into the first bracket on the workforce dynamics indicator rating scale.

Duration of training

This is assessed as the shortest accredited training pathway to become a dietitian. This is four years – successful completion of a four-year bachelor degree.

Table 25: dietitians – workforce dynamics indicators

Indicator	Rating
Average age	
Percentage aged 55+	
Change in average weekly hours	
Replacement rate	n.a.
Dependence on ITPs	
Duration of training	

n.a. not assessed.

Indicator range boundaries

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

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

The indicators used are basic measures only – ideally as data availability improves, more sophisticated measures can be developed. Table 26 summarises the indicators and their score ranges.

Table 26: workforce dynamics indicators

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

How do dietitians compare with other health occupations?

While recognising there are limitations with census data, particularly around how individuals may self-report their occupation, it is the only data source able to provide information collected on the same basis for all health occupations.

Table 27 shows key characteristics of those employed in selected health occupations using census data. Please note, for this comparison table, information is based on all people who reported as being employed in the relevant occupation in the census, regardless of their level of qualification and field of study (that is, the self-reported population).

Compared with the other health occupations, self-reported dietitians:

- Were in the lowest median age group.
- Had one of the lowest percentages of people aged 55 years and over.
- Had the second highest percentage of employed females (93 per cent, only behind speech pathologists with 97 per cent).

Table 27: selected health occupations, selected characteristics

Occupation	Median age group 2011	% aged 55+ 2011	% female 2011	Ave hrs worked 2006	Ave hrs worked 2011	Change in ave hrs worked 2006–11	Total employed 2011
Registered health occupations							
Aboriginal and Torres Strait Islander Health Worker ^(a)	40-44	14.5	72.3	35.1	36.8	1.7	1,369
Chiropractor	35-39	13.3	34.9	34.1	32.8	-1.3	3,186
Dental practitioners	40-44	22.0	36.7	36.8	35.3	-1.5	10,990
Medical practitioners	40-44	23.9	39.6	42.8	41.2	-1.5	70,242
Medical diagnostic radiographer	35-39	15.5	66.3	33.7	33.5	-0.2	7,289
Medical radiation therapist	30-34	6.7	73.0	32.2	33.4	1.2	1,634
Nuclear medicine technologist	30-34	5.3	68.9	34.2	34.5	0.3	604
Midwifery and nursing professionals	45-49	21.2	90.5	30.8	30.9	0.0	239,262
Occupational therapist	30-34	6.6	92.2	31.3	31.2	-0.2	9,250
Optometrist	40-44	13.5	47.9	36.6	34.8	-1.8	3,628
Osteopath	30-34	9.8	52.0	35.2	34.5	-0.8	1,132
Pharmacists	30-34	14.5	59.6	36.3	34.5	-1.8	19,929
Physiotherapist	35-39	10.9	69.3	32.9	32.7	-0.1	15,924
Podiatrist	35-39	7.8	61.1	34.6	35.0	0.4	2,803
Psychologists	40-44	24.3	77.9	32.5	31.1	-1.4	18,602
Traditional Chinese medicine practitioner	45-49	30.0	48.5	34.8	32.2	-2.5	680

Occupation	Median age group 2011	% aged 55+ 2011	% female 2011	Ave hrs worked 2006	Ave hrs worked 2011	Change in ave hrs worked 2006–11	Total employed 2011
Non-registered health occupations							
Health diagnostic and promotion professionals							
Dietitian	30-34	8.5	93.2	31.2	29.8	-1.4	3,705
Sonographer	35-39	9.1	76.5	31.9	31.4	-0.5	3,447
Orthoptist	30-34	8.6	88.6	31.1	29.1	-2.0	678
Orthotist or prosthetist	35-39	16.1	39.5	39.6	38.1	-1.5	403
Environmental health officer	40-44	18.6	48.5	37.5	35.2	-2.2	3,516
Occupational health and safety adviser	40-44	18.2	36.8	39.5	42.0	2.6	15,272
Health promotion officer	40-44	18.5	81.8	32.7	31.9	-0.8	4,861
Health diagnostic and promotion professionals nec	40-44	15.5	76.2	33.3	32.2	-1.1	290
Health Therapy Professionals							
Speech pathologist	30-34	6.8	97.5	30.3	30.3	0.0	5,295
Audiologist	35-39	12.0	77.6	32.9	31.5	-1.4	1,489
Complementary health therapists							
Acupuncturist	45-49	24.2	52.5	31.8	29.8	-2.0	1,259
Homoeopath	50-54	42.7	78.4	23.7	21.9	-1.8	227
Naturopath	45-49	24.3	81.3	27.7	25.6	-2.1	2,900
Complementary health therapists nec	45-49	27.6	79.8	21.8	22.3	0.5	746
Health and welfare support workers							
Ambulance officers and paramedics	40-44	10.7	32.0	40.7	40.3	-0.5	11,947
Diversional therapist	50-54	36.9	91.2	28.2	28.4	0.2	4,257
Personal carers and assistants							
Aged or disabled carer	45-49	26.7	82.3	26.7	27.2	0.5	108,210
Nursing support and personal care workers	45-49	22.2	79.5	28.9	28.7	-0.1	70,491

Occupation	Median age group 2011	% aged 55+ 2011	% female 2011	Ave hrs worked 2006	Ave hrs worked 2011	Change in ave hrs worked 2006–11	Total employed 2011
Social and welfare professionals							
Social worker	40-44	19.6	83.2	33.0	32.7	-0.3	16,916
Other health occupations							
Anatomist or physiologist	30-34	8.3	57.7	35.3	34.1	-1.1	168
Biomedical engineer	35-39	15.8	10.2	40.1	39.8	-0.2	726
Health and welfare services managers nec	45-49	27.1	72.6	40.9	40.3	-0.6	9,707
Medical laboratory scientist	35-39	13.0	69.5	35.9	35.2	-0.6	15,846
Massage therapist	40-44	15.5	74.6	22.4	22.2	-0.2	10,603
Medical technicians	35-39	14.8	78.4	31.7	31.0	-0.7	22,120
Optical dispenser	35-39	11.1	74.0	32.4	30.5	-1.9	4,488
Optical mechanic	40-44	15.8	32.7	37.2	36.8	-0.4	651
Primary health organisation manager	45-49	22.6	72.6	..	38.8	..	376
All health occupations^(b)	40-44	20.4	76.3	32.1	31.9	-0.2	789,975

.. nil or rounded to nil

nec not elsewhere classified

(a) Aboriginal and Torres Strait Islander Health Workers includes the registered health occupation of Aboriginal and Torres Strait Islander Health Practitioner.

(b) See Appendix two for the full list of health occupations and their corresponding ANZSCO code.

What does the analysis show?

In terms of workforce characteristics, ABS census information shows the dietetic workforce:

- Has experienced substantial growth over the last five years.
- Is predominately female.
- Has a young age-profile.
- Works part-time.

The WDI assessment suggests no real areas of concern for this workforce – all indicators (except replacement rate, which could not be assessed) were at the ‘minimal concern’ end of the WDI scale. However a key workforce issue highlighted by both the jurisdictions and the DAA is the number of less experienced dietitians currently in the workforce, and a shortage of more experienced and senior dietitians specialising in various areas of dietetics.

While this issue is not expressly captured in the WDI, the young age profile of the workforce reflects the high numbers of recently graduated dietitians, and the education information shows this can be expected to continue – student commencements in dietetic courses have increased almost every year over the last five years, and the number of commencements is substantial relative to the size of the existing workforce.

While information on workforce exits is not available, given the number of student commencements and completions compared with the size of the workforce, it could be expected more dietitians want to enter the workforce than are required to replace those leaving. To some extent, this is reflected in table 1, which highlights that of those with relevant qualifications in dietetics (6,235), less than half (2,832) reported as being employed as a dietitian.

For immigration, permanent visa options are the most commonly used, however the low numbers indicate immigration is not a significant supply source for the Australian dietitian profession.

In terms of being able to conduct workforce planning projections for the dietetic workforce, both jurisdictions and the DAA expressed concerns about adequacy of workforce data. While information from the ABS census is presented in this report, the fact it can be presented in multiple ways, and the inability to clearly distinguish this workforce (with the education-based definition the best approximation) is of concern for planning purposes. The 2016 census will provide information separately for dietitians and nutritionists for the first time, however this will still be based on self-reported occupation, and the fact the census is conducted five-yearly means information can be quickly out of date (particularly in rapidly expanding workforces) for workforce planning purposes.

Appendix one – Dietitians by Medicare Local regions

Table 28 shows the number of employed dietitians (based on educational definition) per 100,000 population across all Medicare Local regions. Data in this table shows the number of dietitians per 100,000 population working in the relevant Medicare Local region, and provides a useful reflection of the geographical distribution of dietitians – it does not reflect dietitians employed by Medicare Local organisations.

Table 28: number of employed dietitians per 100,000 population by Medicare Local regions, 2011

Medicare Local	State/territory	Rate	Area (km ²)
Inner North West Melbourne	VIC	32.6	149
Eastern Sydney	NSW	31.3	106
Metro North Brisbane	QLD	28.7	3,999
Perth Central and East Metro	WA	21.7	2,149
Australian Capital Territory	ACT	20.4	2,352
Central Adelaide and Hills	SA	20.3	1,657
Inner East Melbourne	VIC	18.3	319
Illawarra - Shoalhaven	NSW	16.6	5,687
Hunter	NSW	16.4	32,747
Bayside	VIC	15.9	215
Northern Sydney	NSW	14.5	592
Sydney North Shore and Beaches	NSW	13.9	307
Wide Bay	QLD	13.6	36,974
Goulburn Valley	VIC	13.5	16,519
Fremantle	WA	12.9	243
Great South Coast	VIC	12.8	22,885
New England	NSW	12.6	98,905
Frankston - Mornington Peninsula	VIC	12.5	854
Barwon	VIC	12.5	7,913
Central Coast NSW	NSW	12.4	1,680
Southern Adelaide - Fleurieu - Kangaroo Island	SA	12.3	8,027
Country North SA	SA	11.6	903,379
Far North Queensland	QLD	11.4	270,956

Medicare Local	State/territory	Rate	Area (km2)
Darling Downs - South West Queensland	QLD	11.2	407,815
Western Sydney	NSW	11.0	775
Sunshine Coast	QLD	11.0	9,968
Northern Territory	NT	10.8	1,348,190
Northern Melbourne	VIC	10.7	1,304
Far West NSW	VIC	10.4	275,512
North Coast NSW	NSW	10.3	32,767
Gold Coast	QLD	10.0	1,843
Eastern Melbourne	VIC	10.0	2,641
South Eastern Sydney	NSW	9.9	400
Western NSW	NSW	9.8	117,845
Loddon - Mallee - Murray	VIC	9.7	49,202
Townsville - Mackay	QLD	9.5	239,180
Central and North West Queensland	QLD	9.0	634,891
Inner West Sydney	NSW	8.4	126
South Eastern Melbourne	VIC	8.1	1,821
Tasmania	TAS	8.0	68,018
Hume	VIC	8.0	39,200
South Western Sydney	NSW	7.7	6,241
Macedon Ranges and North Western Melbourne	VIC	7.5	3,275
South West WA	WA	7.5	219,939
Lower Murray	VIC	7.5	75,172
Central Queensland	QLD	7.1	110,959
Nepean - Blue Mountains	NSW	6.9	9,122
Perth North Metro	WA	6.8	880
South Western Melbourne	VIC	6.7	606
Goldfields - Midwest	WA	6.3	1,373,296
Kimberley - Pilbara	WA	6.1	925,390
Murrumbidgee	NSW	5.9	89,471

Medicare Local	State/territory	Rate	Area (km2)
Northern Adelaide	SA	5.3	1,605
Grampians	VIC	4.8	47,885
Perth South Coastal	WA	4.7	3,093
Greater Metro South Brisbane	QLD	4.4	3,775
Gippsland	VIC	4.2	41,557
West Moreton - Oxley	QLD	3.9	9,596
Country South SA	SA	3.8	69,522
Southern NSW	NSW	3.0	4,534
Bentley - Armadale	WA	2.7	1,734

Source: ABS Census of Population and Housing 2011.

Appendix two – Australian and New Zealand Standard Classification of Occupations (ANZSCO) codes considered 'health' occupations

ANZSCO Code Occupation title

Health and welfare service managers

- 134200 Health and Welfare Services Managers, nfd
- 134211 Medical Administrator
- 134212 Nursing Clinical Director
- 134213 Primary Health Organisation Manager
- 134299 Health and Welfare Services Managers nec

Archivists, curators and records managers

- 224213 Health Information Manager

Other engineering professionals

- 233913 Biomedical Engineer

Life scientists

- 234512 Anatomist or Physiologist

Medical laboratory scientists

- 234611 Medical Laboratory Scientist

Medical Imaging Professionals

- 251200 Medical Imaging Professionals, nfd
- 251211 Medical Diagnostic Radiographer
- 251212 Medical Radiation Therapist
- 251213 Nuclear Medicine Technologist
- 251214 Sonographer

Occupational and Environmental Health Professionals

- 251300 Occupational and Environmental Health Professionals, nfd
- 251311 Environmental Health Officer
- 251312 Occupational Health and Safety Adviser

Optometrists and Orthoptists

- 251400 Optometrists and Orthoptists, nfd
- 251411 Optometrist

- 251412 Orthoptist

Pharmacists

- 251500 Pharmacists, nfd
- 251511 Hospital Pharmacist
- 251512 Industrial Pharmacist
- 251513 Retail Pharmacist

Other Health Diagnostic and Promotion Professionals

- 251900 Other Health Diagnostic and Promotion Professionals, nfd
- 251911 Health Promotion Officer
- 251912 Orthotist or Prosthetist
- 251999 Health Diagnostic and Promotion Professionals, nec

Chiropractors and Osteopaths

- 252100 Chiropractors and Osteopaths, nfd
- 252111 Chiropractor
- 252112 Osteopath

Complementary Health Therapists

- 252200 Complementary Health Therapists, nfd
- 252211 Acupuncturist
- 252212 Homoeopath
- 252213 Naturopath
- 252214 Traditional Chinese Medicine Practitioner
- 252299 Complementary Health Therapists, nec

Dental Practitioners

- 252300 Dental Practitioners, nfd
- 252311 Dental Specialist
- 252312 Dentist

Speech Professionals and Audiologists

- 252700 Speech Professionals and Audiologists, nfd

- 252711 Audiologist
- 252712 Speech Pathologist

Generalist Medical Practitioners

- 253100 Generalist Medical Practitioners, nfd
- 253111 General Medical Practitioner
- 253112 Resident Medical Officer

Specialist Physicians

- 253300 Internal Medicine Specialists, nfd
- 253311 Specialist Physician (General Medicine)
- 253312 Cardiologist
- 253313 Clinical Haematologist
- 253314 Clinical Oncologist
- 253315 Endocrinologist
- 253316 Gastroenterologist
- 253317 Intensive Care Specialist
- 253318 Neurologist
- 253321 Paediatrician
- 253322 Renal Medicine Specialist
- 253323 Rheumatologist
- 253324 Thoracic Medicine Specialist
- 253399 Internal Medicine Specialists, nec

Surgeons

- 253500 Surgeons, nfd
- 253511 Surgeon (General)
- 253512 Cardiothoracic Surgeon
- 253513 Neurosurgeon
- 253514 Orthopaedic Surgeon
- 253515 Otorhinolaryngologist
- 253516 Paediatric Surgeon
- 253517 Plastic and Reconstructive Surgeon
- 253518 Urologist
- 253521 Vascular Surgeon

Other Medical Practitioners

- 253900 Other Medical Practitioners, nfd
- 253911 Dermatologist

- 253912 Emergency Medicine Specialist
- 253913 Obstetrician and Gynaecologist
- 253914 Ophthalmologist
- 253915 Pathologist
- 253916 Radiologist [2006]
- 253917 Diagnostic and Interventional Radiologist [2011]
- 253918 Radiation Oncologist [2011]
- 253999 Medical Practitioners, nec
- 253211 Anaesthetist
- 253411 Psychiatrist
- 253000 Medical Practitioners, nfd

Nurse Educators and Researchers

- 254200 Nurse Educators and Researchers, nfd
- 254211 Nurse Educator
- 254212 Nurse Researcher

Registered Nurses

- 254400 Registered Nurses, nfd
- 254411 Nurse Practitioner
- 254412 Registered Nurse (Aged Care)
- 254413 Registered Nurse (Child and Family Health)
- 254414 Registered Nurse (Community Health)
- 254415 Registered Nurse (Critical Care and Emergency)
- 254416 Registered Nurse (Developmental Disability)
- 254417 Registered Nurse (Disability and Rehabilitation)
- 254418 Registered Nurse (Medical)
- 254421 Registered Nurse (Medical Practice)
- 254422 Registered Nurse (Mental Health)
- 254423 Registered Nurse (Perioperative)
- 254424 Registered Nurse (Surgical)
- 254499 Registered Nurses, nec

Other nursing and midwifery workers

- 254000 Midwifery and Nursing Professionals, nfd
- 254111 Midwife
- 254311 Nurse Manager

Psychologists

- 272300 Psychologists, nfd
- 272311 Clinical Psychologist
- 272312 Educational Psychologist
- 272313 Organisational Psychologist
- 272314 Psychotherapist
- 272399 Psychologists, nec

Counsellors

- 272112 Drug and Alcohol Counsellor
- 272199 Counsellors nec

Medical Technicians

- 311200 Medical Technicians, nfd
- 311211 Anaesthetic Technician
- 311212 Cardiac Technician
- 311213 Medical Laboratory Technician
- 311214 Operating Theatre Technician
- 311215 Pharmacy Technician
- 311216 Pathology Collector
- 311299 Medical Technicians, nec

Ambulance Officers and Paramedics

- 411100 Ambulance Officers and Paramedics, nfd
- 411111 Ambulance Officer
- 411112 Intensive Care Ambulance Paramedic

Dental Hygienists, Technicians and Therapists

- 411200 Dental Hygienists, Technicians and Therapists, nfd
- 411211 Dental Hygienist
- 411212 Dental Prosthetist
- 411213 Dental Technician
- 411214 Dental Therapist

Enrolled and Mothercraft Nurses

- 411400 Enrolled and Mothercraft Nurses, nfd
- 411411 Enrolled Nurse
- 411412 Mothercraft Nurse

Nursing Support and Personal Care Workers

- 423300 Nursing Support and Personal Care Workers, nfd
- 423311 Hospital Orderly
- 423312 Nursing Support Worker
- 423313 Personal Care Assistant
- 423314 Therapy Aide

Other health workers

- 251111 Dietitian
- 252411 Occupational Therapist
- 252511 Physiotherapist
- 252611 Podiatrist
- 272511 Social Worker
- 411311 Diversional Therapist
- 411511 Aboriginal and Torres Strait Islander Health Worker
- 399913 Optical Dispenser
- 399914 Optical Mechanic
- 411611 Massage Therapist
- 411715 Residential Care Officer
- 423111 Aged or Disabled Carer
- 423211 Dental Assistant
- 451511 Natural Remedy Consultant
- 599915 Clinical Coder
- 250000 Health Professionals, nfd
- 251000 Health Diagnostic and Promotion Professionals, nfd
- 252000 Health Therapy Professionals, nfd

nec not elsewhere classified

nfd not further defined



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