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The Australian and New Zealand dietetics graduate outcomes survey: A cross-sectional study

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Abstract

Aim: There is a paucity of comprehensive and current employment data for dietitians. It is unclear if, and where, dietetics graduates are being employed and if they are sufficiently prepared to meet workforce and community needs. The aim of this study was to identify employment outcomes for recent dietetics graduates from Australia and New Zealand at 4–6 months post degree completion.

Methods: A cross-sectional survey was distributed to graduates from accredited dietetics degrees across Australian and New Zealand. Those who completed their university study in 2020 were eligible to participate. Descriptive statistics and frequencies were analysed and open text answers underwent summative content analysis.

Results: A total of 294 usable survey responses were received from 631 eligible graduates (response rate 47%). Seventy-five percent of graduates were employed in any field and 60% were employed in a role that required their degree. The most common area of dietetics employment was private practice, followed by hospital practice. Most commonly, graduates who did not need their degree to get their job were employed in healthcare-related roles, or nutrition- and food-related roles.

Conclusions: These findings are important for curricula development to ensure that students are suitably prepared for available employment opportunities. Work-integrated learning experiences may need to shift focus to skill development, rather than a specific job role, to better prepare graduates for the jobs of the future. Further monitoring of employment outcomes is necessary to track changes over time.

KEYWORDS

dietitian, education, employability, graduate, workforce

1 | INTRODUCTION

A key purpose of university education is to create employable graduates who can be effective members of their chosen workforce.[1] Due to the recently implemented performance-based funding model, government funding to universities is now partially based on graduate employment outcomes.[1] A strong and effective workforce is one that provides the opportunity for a sustainable livelihood for its members, and ensures that society gains the greatest benefit from utilisation of that workforce.[2] Due to a paucity of data exploring employment outcomes for dietitians, it is uncertain if current university curricula reflect contemporary employment opportunities. It is also unknown if the graduating dietetics workforce is being optimally utilised to the benefit of the community.

Professional dietetics associations (Dietitians Australia, Dietitians New Zealand, Academy of Nutrition and Dietetics, British Dietetic Association, Dietitians of Canada) collect data about members, which likely includes employment outcomes. However, these data are not always publicly available, and would not include individuals who choose not to be members of these organisations. Anecdotally, dietetics graduates in Australia report difficulty in finding employment post-graduation and it is perceived that there is an oversupply of new graduates for available positions.[3] In the UK, little is known about dietitians who work outside of the publicly funded National Health Service[4] and in the USA some dietitians report leaving the profession due to an inability to find employment, or being attracted by increased wages in alternative fields.[5] Understanding employment post-graduation provides essential data to inform competency-based education and accreditation systems, and to understand health systems and workforce needs.

In Australia, employment outcomes for all university graduates are collected annually by Quality in Learning and Teaching (QILT).[8] However, data for dietitians are published within the broad "health services and support" category.[6] Further analysis is not readily available, and under a data-sharing agreement, the data lack the specificity of the field in which dietitians work. Available graduate outcome data from Australia from two accredited programs indicated that, 6 months post-degree completion, between 85% and 95% of graduates were employed as dietitians.[7,8] The numbers of dietitians employed in private practice appear to be increasing, while those employed in hospital positions appear to be decreasing.[7,9] Older data indicate that 41% of individuals with a dietetics degree worked in an unrelated field.[10] However, these data are limited. That is, there is an over-representation of dietitians employed in the public hospital sector,[11,12] outdated information from more than a decade ago,[9–11] and graduate outcomes reported from single universities.[7,8] Comprehensive and current workforce data are lacking, and these data are necessary for workforce planning and development.[3,7,9,10]

In Australia and New Zealand, the dietetics workforce is educated according to two key documents: the national accreditation standards[13,14] which inform universities of their responsibilities to students, and the competency standards, which outline the skills graduates must have in order to enter the profession.[15,16] These standards and associated university curricula should reflect contemporary workforce needs. Employment outcome data are necessary to understand the contemporary workforce and accurately inform accreditation and competency standards, and curricula.

The aim of this study was to identify employment outcomes for recent dietetics graduates from Australia and New Zealand at 4–6 months post degree completion. These data can help the profession to monitor the changing nature of dietetics employment and health system needs, and can be utilised to inform changes to accreditation and competency standards, and curricula. This will ensure that graduates are being prepared for the contemporary employment landscape and that the emerging workforce is being optimally utilised.

2 | METHODS

A cross-sectional survey study of dietetics graduates in Australia and New Zealand was undertaken using Qualtrics XM (Provo, UT), which included questions adapted from the national Graduate Outcomes Survey (administered by QILT)[6] and the Griffith Dietetics Graduate Outcomes Survey.[7] It was pilot-tested by three of the authors who are expert researchers in the field, with more than 50 years combined experience in dietetics education research and one author with previous experience conducting the Griffith Dietetics Graduate Outcomes Survey.[7] In addition, doctoral candidates from Griffith and Monash Universities, who were dietetics graduates from previous years, also pilot-tested the survey to test for face and content validity. A summary of the survey questions can be found in the Table S1, and the full survey is available from the authors upon request. In order to encompass a wider range of roles beyond the title of "dietitian", the question was asked "did you need your dietetics degree in order to get this position?" rather than if graduates were employed as a dietitian. In order to explore the utilisation of "employability skills",[17] graduates who were employed in positions where a dietetics degree was not needed, were also asked to nominate skills that they

acquired during their studies that they utilised in their work. After completing the survey, participants could enter a prize draw for one of five online professional development nutrition courses offered by Monash University and winners were randomly selected.

Ethical approval was received from Monash University Human Ethics Research committee (project ID 24556). Representatives from every university in Australia and New Zealand with an accredited dietetics program[18] were identified through one author's networks and invited to participate. Online meetings were conducted with each representative to explain the project and garner support, with 18 out of 19 universities agreeing to circulate the survey. Representatives were asked to present an information video to their graduating students explaining the project and to collect personal email addresses from them prior to degree completion, as student emails can expire. The number of dietetics graduates from each university for the relevant period was also provided by the representatives.

Recruitment occurred between September 2020 and July 2021. There were 631 graduates eligible to participate four months after becoming eligible for provisional accreditation with their national body, typically after completing their university studies. A total of three email invitations were sent to graduates (invitation, reminder, final reminder) through university representatives over a period of 3–5 weeks. Social media and e-newsletter advertising was also utilised, through the industry-specific platforms of Dietitians Australia, Dietitians NZ, Dietitian Connection and Education in Nutrition, in addition to one of the author's personal LinkedIn profile, which had been advertised in the explanatory video previously shown to graduates.

Data were imported into SPSS version 26 (IBM Corp. Released 2019. IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp) and descriptive statistics and frequencies were analysed. Responses were excluded if they did not progress through the survey far enough to answer the question "Are you currently employed?" Partial answers beyond this question were included, and some questions were not answered by all respondents. Responses to four open-text questions (Table S1) were extracted, combined and inductively analysed using summative content analysis[19] in NVivo software (QSR International). Text was assigned a code and codes were then grouped into categories by one researcher. The other researchers independently crosschecked one-third each of the qualitative data to assess for relevance and agreement of the codes and categories, which resulted in minor updates to coding. The number of times a code appeared was calculated, and those most commonly occurring were reported.

3 | RESULTS

A total of 294 usable responses to the survey were received (from 631 eligible graduates; response rate 47%). Of these, 280 responses were from Australia (587 eligible graduates, response rate 48%) and 14 were from New Zealand (45 eligible graduates, response rate 31%). The age of participants ranged from 21 years to over 45 years (mode 23 years). The majority were living in Australia (93%) and were Australian citizens (81%; Table 1). Seventy-five percent of respondents were employed (in any field) and 60% were employed in a role that required a dietetics degree. The most commonly reported income bracket was $50 000–69 000 (24%) and 17% of respondents had relocated to find work.

One-third of respondents held multiple employment positions and a total of 350 jobs were reported (Table 2). The most common field of dietetics employment was private practice (28% of jobs held by respondents) followed by hospital (16% of jobs held by respondents). Graduates employed in roles that they perceived did not require a dietetics degree were most commonly employed in healthcare-related positions (5% of all jobs, 15% of non-dietetics jobs) and nutrition- and food-related positions (5% of all jobs, 15% of non-dietetics jobs).

Less secure employment, including contracts less than 1 year (full time and part time), casual and contractor positions represented 72% of all jobs (Table 2). The most common employment condition was casual (36%) with higher rates in non-dietetics positions (56%) than dietetics positions (26%). Permanent positions or long-term contracts of greater than 1 year accounted for 23% of positions. Thirty-two percent of positions involved less than 10 h of work per week and 29% of positions were 30 h or more, although this was higher in the dietetics positions (34%) than the non-dietetics positions (18%). Unemployed participants were mostly seeking only nutrition- and dietetics-related employment (79%; $n = 42/53$) and most commonly spent between 5 and 8 h each week on job-seeking activities (55%; $n = 29/53$; data not shown).

For graduates employed in positions that required their dietetics degree, the most frequent ways they found out about the job were through job advertisements (29% of all jobs; 44% of dietetics jobs) and networks related to university studies (19% of all jobs; 28% of dietetics jobs; Table 2). Graduates employed in positions that did not require their degree most commonly had the job prior to finishing their studies (17% of all jobs; 49% of non-dietetics jobs). The three most commonly reported tools that contributed to successful employment were (1) skills from previous work experience, (2) psychological factors, such as resilience, persistence and self-confidence

TABLE 1 Demographic and employment information of Australian and New Zealand dietetics graduates who completed their degree in 2020, and responded to the dietetics graduate outcomes survey at 4–6 months post degree completion ($N = 294$)

	n	(%)
Age		
21–25 years	211	71.8
26–30 years	47	16.0
31–35 years	15	5.1
36 years and over	21	7.1
Gender		
Female	266	90.5
Male	27	9.2
Prefer not to say	1	0.3
Country of study		
Australia	280	95.2
New Zealand	14	4.8
Member of Dietitians Australia or Dietitians New Zealand		
Yes	281	95.6
No	13	4.4
Country of residence		
Australia	272	92.5
New Zealand	13	4.4
Hong Kong (S.A.R.)	4	1.4
Malaysia	2	0.7
Singapore	2	0.7
Other[a]	1	0.3
Country of citizenship		
Australia	239	81.3
Hong Kong (S.A.R.)	16	5.4
New Zealand	15	5.1
Malaysia	12	4.1
China	4	1.4
Singapore	2	0.7
Other[a]	6	2.0
Employment status		
Employed (in any field)	220	74.8
Unemployed, actively looking	53	18.0
Studying, and employed	7	2.4
Employed after completing degree, but not currently	7	2.4
Studying, not employed	5	1.7
Not seeking employment at this time	2	0.7
Number of jobs[b]		
One	132	44.9
Two	74	25.2
Three or more	28	9.5
No employment	60	20.4
Employed as a dietitian[b,c]		
Yes	175	59.5
No	51	17.3
No employment	60	20.4
Specific fields of dietetics employment[b,d]		
Private practice	82	27.9
Clinical (hospital)	55	18.7
Community	23	7.8
Public health	13	4.4
Research	10	3.4
Sports nutrition	6	2.0
Aged care	3	1.0
Food industry	2	0.7
Food service	1	0.3
Other[e]	11	3.7
Relocated to find work[b]		
No	183	62.2
Yes	51	17.3
No employment	60	20.4
Annual gross income		
$1–$9999	30	10.2
$10 000–$19 999	25	8.5
$20 000–$29 999	29	9.9
$30 000–$39 999	33	11.2
$40 000–$49 999	17	5.8
$50 000–$59 999	35	11.9
$60 000–$69 999	36	12.2
$70 000–$79 999	23	7.8
$80 000–$89 999	2	0.7
$90 000–$99 999	2	0.7
I do not know	43	14.6
Prefer not to say	19	6.5

[a]Countries with only one response
[b]Includes respondents who were previously employed
[c]Eight data points missing
[d]Respondent has at least one job in this field and may work in multiple fields
[e]Nutrition counselling ($n = 4$), health related ($n = 3$), research related ($n = 2$), media ($n = 2$)

TABLE 2 Information relating to the positions currently and previously held by Australian and New Zealand dietetics graduates who completed their degree in 2020, and responded to the dietetics graduate outcomes survey at 4–6 months post degree completion ($N = 350$)

		Dietetics jobs ($N = 233$)		Non-dietetics jobs ($N = 117$)		Total[a] ($N = 350$)	
		n	%	n	%	n	%
Employment conditions	Casual	60	25.8	66	56.4	126	36.0
	Contractor	54	23.2	4	3.4	58	16.6
	Part time (>1 year)	26	11.2	19	16.2	45	12.9
	Full time (>1 year)	25	10.7	11	9.4	36	10.3
	Part time (contract ≤1 year)	30	12.9	7	6.0	37	10.6
	Full time (contract ≤1 year)	26	11.2	3	2.6	29	8.3
	Own business	11	4.7	5	4.6	16	4.6
	Other	1	0.4	2	1.7	3	0.9
Hours worked per week at each job	Less than 10 hr	77	33.0	36	30.8	113	32.3
	10–20 hr	45	19.3	43	36.8	88	25.1
	20–30 hr	32	13.7	17	14.5	49	14.0
	30–40 hr	68	29.2	19	16.2	87	24.9
	More than 40 hr	11	4.7	2	1.7	13	3.7
Field of employment							
Jobs that required a dietetics degree (N = 233)[b]	Private practice	99	42.5			99	28.3
	Clinical (hospital)	57	24.5			57	16.3
	Community	25	10.7			25	7.1
	Public health	15	6.4			15	4.3
	Research	10	4.3			10	2.9
	Sports nutrition	7	3.0			7	2.0
	Aged care	3	1.3			3	0.9
	Food industry	2	0.9			2	0.6
	Food service	1	0.4			1	0.3
	Other[c]	11	4.7			11	3.1
Jobs that did not require a dietetics degree (N = 117)[d]	Healthcare related			17	14.5	17	4.9
	Nutrition or food related			17	14.5	17	4.9
	Education sector			12	10.3	12	3.4
	Research			10	8.5	10	2.9
	Fitness industry			9	7.7	9	2.6
	Retail (not food related)			9	7.7	9	2.6
	Administration in healthcare			7	6.0	7	2.0
	Food retail			6	5.1	6	1.7
	Hospitality			6	5.1	6	1.7
	Other[e]			13	11.1	13	3.7
First heard about position							
Jobs that required a dietetics degree (N = 233)[f]	Advertised position	102	43.8			102	29.1
	Networks related to university studies	65	27.9			65	18.6
	Extra-curricular networking	30	12.9			30	8.6
	Through previous employment	7	3.0			7	2.0
	Approached employer directly	6	2.6			6	1.7

(Continues)

TABLE 2 (Continued)

		Dietetics jobs ($N = 233$)		Non-dietetics jobs ($N = 117$)		Total[a] ($N = 350$)	
		n	%	n	%	n	%
	Created own business	6	2.6			6	1.7
	Networks related to family and friends	3	1.3			3	0.9
	By putting name on a casual register	3	1.3			3	0.9
	Other	9	3.9			9	2.6
Jobs that did not require a dietetics degree (N = 117)[g]	Had job prior to finishing degree			57	48.7	57	16.3
	Advertised position			17	14.5	17	4.9
	Networks related to family and friends			12	10.3	12	3.4
	Utilising employment services			6	5.1	6	1.7
	Approached employer directly			5	4.3	5	1.4
	Networks related to university studies			4	3.4	4	1.1
	Approached by an employer			3	2.6	3	0.9
	Volunteering			2	1.7	2	0.6
	Other			1	0.9	1	0.3

[a]Should be $N = 364$ ((132 × 1 job) + (74 × 2 jobs) + (28 × 3 jobs) = 364); 14 data points missing from total.
[b]Three additional data points missing.
[c]Nutrition counselling ($n = 4$), health related ($n = 3$), research related ($n = 2$), media ($n = 2$).
[d]Eleven additional data points missing.
[e]Administration (not healthcare; $n = 5$), sports related ($n = 3$), media ($n = 2$), other ($n = 3$).
[f]Two additional data point missing.
[g]Nine additional data points missing.

and (3) networks related to university, such as other students, lecturers and placement contacts (Figure 1). These were also utilised by those who were yet to find employment. The most common employability skills utilised by respondents in jobs that did not require a dietetics degree were communication, teamwork, and planning and organisation (Figure 1).

Twenty five percent of respondents had some form of professional work experience prior to studying dietetics, and the most common fields were administration/clerical (32% of those with professional experience; $n = 24/74$), hospitality (26%; $n = 19/74$) and sales/customer service (26%; $n = 19/74$; Table 3). Eighty percent of respondents were employed during their studies, most commonly in a casual position (75% of those who had employment; $n = 176/235$), working 5–15 hr per week (51%; $n = 120/235$). Hospitality (31%; $n = 73/235$) and retail (29%; $n = 67/235$) were the most common fields. Sixty-four percent of respondents volunteered during their degree and this was most commonly nutrition related (89% of those who volunteered; $n = 168/189$) and included more than 50 total hours (33%; $n = 63/189$). After completing the degree, 32% of respondents volunteered and this was most often nutrition-related (85% of those who volunteered; $n = 80/94$) and was most commonly 20 h or less of total volunteering time (49%; $n = 46/94$). Forty eight percent of respondents had completed between one and 10 job applications and 67% attended between one and four interviews for nutrition- and dietetics-related positions. The majority of respondents (63%) did not apply for jobs not related to nutrition and dietetics, nor attended interviews (78%).

Content analysis identified that the most commonly preferred job in 5 years was hospital work (48%), followed by private practice (33%; Table 3). Some graduates indicated that they had several alternative preferences (20%) or stated that they would prefer to work in multiple sectors at once (17%). Some graduates highlighted specialty areas they would like to work in with the most popular being paediatrics (4.4%) followed by sports nutrition (3.6%) and eating disorders (2.8%). When comparing their current work locations and their 5-year goal, 55% ($n = 137/250$) were not working in their desired sector, while 44% ($n = 110/250$) of respondents had at least one current role in the sector they wished to work (not shown). Four percent ($n = 11/268$) of respondents indicated that they had worked in an overseas position, and 71% ($n = 189/268$) expressed an interest in possibly working overseas in the future (data not shown).

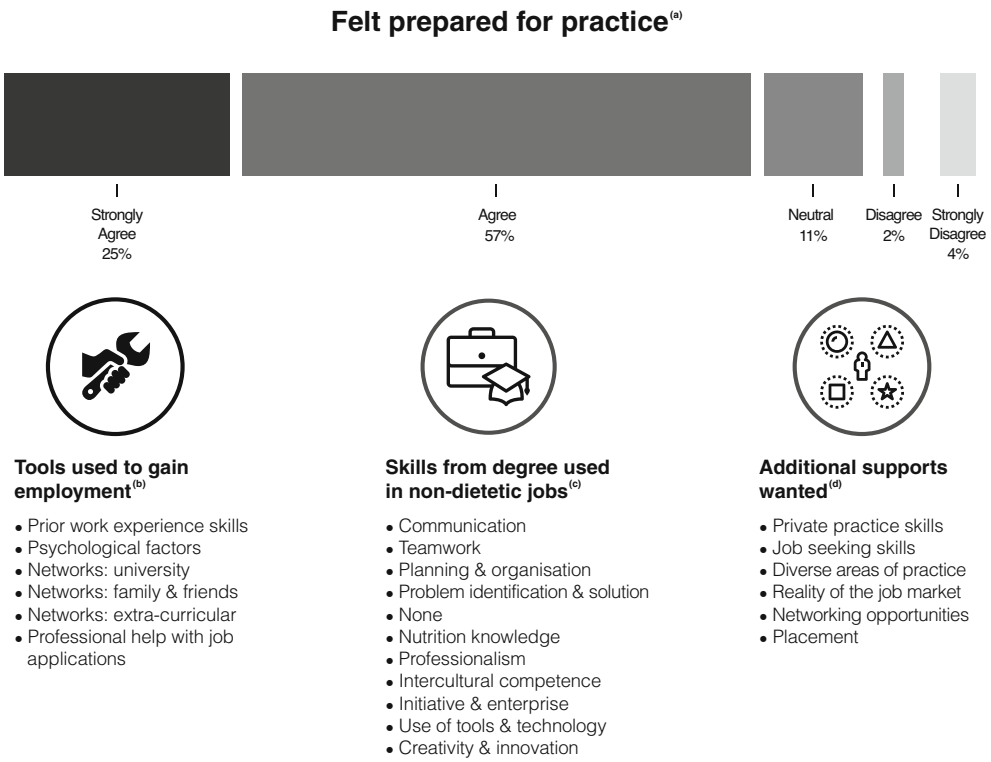

FIGURE 1 Perspectives on employability and preparedness for practice of Australian and New Zealand dietetics graduates who completed their degree in 2020, and responded to the dietetics graduate outcomes survey at 4–6 months post degree completion [a]Percentages do not total 100, due to rounding. [b]Respondents could select multiple options and some categories are synthesised from multiple categories: Prior work experience skills ($n = 354$), Psychological factors ($n = 295$), Networks: university ($n = 200$), Networks: family and friends ($n = 105$), Networks: extra-curricular ($n = 73$), Professional help with job applications ($n = 49$). [c]Respondents could select multiple options for each job reported ($n = 117$ jobs): Communication ($n = 62$), Teamwork ($n = 48$), Planning and organisation ($n = 43$), Problem identification and solution ($n = 38$), None ($n = 32$), Nutrition knowledge ($n = 31$), Professionalism ($n = 29$), Intercultural competence ($n = 24$), Initiative and enterprise ($n = 20$), Use of tools and technology ($n = 20$), Creativity and innovation ($n = 19$). [d]Private practice skills ($n = 47$), Job seeking skills ($n = 44$), Diverse areas of practice ($n = 32$), Reality of the job market ($n = 19$), Networking opportunities ($n = 14$), and Placement ($n = 10$)

The majority of respondents (83%) either "agreed" or "strongly agreed" with the statement "[my university degree] provided me with knowledge and skill preparation for entry level nutrition and dietetics practice" (Figure 1). Content analysis of all open text responses identified additional support that respondents would have liked from their universities to assist with entry-level practice and employability. The three most common were private practice skills, job-seeking skills (e.g., resume writing, practising for interviews and addressing key selection criteria) and knowledge of, and preparation for, diverse areas of practice (Figure 1).

4 | DISCUSSION

The aim of this study was to provide current data on employment outcomes for dietetics graduates from Australia and New Zealand at 4–6 months post degree completion. This research provides valuable information which can assist the dietetics profession to monitor the changing nature of dietetics employment. The results demonstrated that more than half of graduates are employed in a role that required their degree 4–6 months after completing their studies, and private practice was the most common field of dietetics employment. This study is important for providing data to ensure that students are suitably prepared for available employment opportunities and to identify workforce trends and gaps.

Employment rates for graduates in Australia and New Zealand are lower in dietetics than the Australian national average. Overall employment rates (in any field) for dietetics graduates were 75% which is lower than the QILT rates of 85% for all university undergraduates and 92% for postgraduates.[6] Although care must be taken with this comparison, in the current survey, unemployed graduates may be less inclined to participate, and therefore unemployment rates could potentially be higher than reported. Employment rates in all occupations vary

TABLE 3 Employment and volunteering experience of Australian and New Zealand dietetics graduates who completed their degree in 2020, and responded to the dietetics graduate outcomes survey at 4-6 months post degree completion ($N = 294$)

		n	%
Work prior to study			
Professional work experience prior to studying[a]	No	220	74.8
	Yes	74	25.2
Field of professional experience prior to studying[b]	Administration or clerical	24	8.2
	Hospitality	19	6.5
	Sales/Customer service	19	6.5
	Reception	15	5.1
	Retail	12	4.1
	Nutrition related	11	3.7
	Business	9	3.1
	Hospital	8	2.7
	Food preparation	7	2.4
	Marketing	7	2.4
	Education	6	2.0
	Aged care	4	1.4
	Other[c]	30	10.2
Employment during study			
Employed while studying	Yes	235	79.9
	No	59	20.1
Employment conditions	Casual	176	59.9
	Part time	51	17.3
	Full time	2	0.7
	Contract	4	1.4
	Other	2	0.7
Hours worked while studying	Less than 5 h per week	18	6.1
	5–10 h	63	21.4
	11–15 h	57	19.4
	16–20 h	47	16.0
	21–25 h	33	11.2
	26–30 h	14	4.8
	31–35 h	0	0
	36–40 h	2	0.7
	More than 40 h	1	0.3
Field of employment while studying[b]	Hospitality	73	24.8
	Retail	67	22.8
	Administration or clerical	37	12.6
	Sales/Customer service	37	12.6
	Reception	26	8.8
	Education	23	7.8
	Nutrition related	22	7.5
	Food preparation	19	6.5
	Hospital	19	6.5

(Continues)

TABLE 3 (Continued)

				n	%
	Fitness or sports industry			14	4.8
	Healthcare related			11	3.7
	Marketing			10	3.4
	Business			5	1.7
	Aged care			5	1.7
	Other[d]			17	5.8
Volunteering					
		While studying		After degree	
Volunteered	Yes	189	64.3	94	32.0
	No	105	35.7	200	68.0
Nutrition related	Yes	168	57.1	80	27.2
	No	21	7.1	11	3.7
Total hours spent[e]	10 h or less	23	7.8	28	9.5
	11–20 h	31	10.5	18	6.1
	21–30 h	33	11.2	12	4.1
	31–40 h	20	6.8	6	2.0
	41–50 h	16	5.4	4	1.4
	More than 50 h	63	21.4	22	7.5
	Prefer not to say	3	1.0	1	0.3
Job seeking experiences					
		Jobs related to nutrition and dietetics		Jobs NOT related to nutrition and dietetics	
Applications completed	None	7	2.4	184	62.6
	1–5	88	29.9	75	25.5
	6–10	53	18.0	24	8.2
	11–15	49	16.7	6	2.0
	16–20	32	10.9	4	1.4
	21–25	16	5.4	0	0.0
	26–30	13	4.4	0	0.0
	More than 30	36	12.2	1	0.3
Interviews attended	None	59	20.1	46	15.6
	1–4	196	66.7	63	21.4
	5–8	24	8.2	1	0.3
	9–12	7	2.4	0	0.0
	13–16	1	0.3	0	0.0
	Not applicable	7	2.4	184	62.6
Preferred job in 5 years ($n = 250$)[b]					
Preferred field	Clinical (hospital)			121	48.4[f]
	Private practice			83	33.2
	Multiple different options			49	19.6
	Multiple sectors at once			42	16.8
	Community			28	11.2
	Public health			19	7.6

(Continues)

TABLE 3 (Continued)

		n	%
	Research	17	6.8
	Own business	16	6.4
	As a dietitian	14	5.6
	Food industry	11	4.4
	Aged care	7	2.8
	Academia	5	2.0
	Alternative healthcare field	5	2.0
	Unsure	5	2.0
	Further study	4	1.6
	Other[g]	6	2.4
Preferred specialty	Paediatrics	11	4.4
	Sports nutrition	9	3.6
	Eating disorders	7	2.8
	Gastroenterology	7	2.8
	Media	4	1.6
	Chronic disease	4	1.6
	Non-diet/HAES[h]	4	1.6
	Other[i]	9	3.6
Additional preferences	Full time employment	22	8.8
	Rural or remote location	5	2.0
	Metropolitan location	1	0.4

[a]Full time employment.
[b]Respondents could nominate multiple fields.
[c]Food industry ($n = 3$), fitness industry ($n = 3$), research ($n = 3$), management ($n = 3$), healthcare related ($n = 2$), finance related ($n = 2$), arts ($n = 2$), other ($n = 12$).
[d]Childcare ($n = 5$), research ($n = 3$), beauty therapy ($n = 2$), other ($n = 7$).
[e]Three data points missing.
[f]Percentages in this column are based on $n = 250$.
[g]Food service ($n = 3$), dietetics combined with another field ($n = 2$), business ($n = 1$).
[h]Health at Every Size.
[i]Mental health ($n = 3$), disability ($n = 2$), women's health ($n = 2$), oncology ($n = 1$), sustainability ($n = 1$)

by state relative to population size[20] and state funding allocations can affect dietetics employment opportunities.[21] Dietetics graduates are also faced with insecure (perceived to be temporary[22]), or precarious (time limited[23]) employment, as almost three quarters of all positions held by graduates were short term, casual or contractor roles. The Australian workforce in general is experiencing an increase in job insecurity.[22] This is concerning given that insecure and precarious employment negatively impacts health and wellbeing[24] and the ability to plan for the future.[25] However, the flexibility offered by short-term and casual employment may be appreciated by some individuals, with work–life balance reported to be better for women working in casual positions.[26] In addition, the staff turnover created by individuals taking maternity leave[27] creates temporary back-fill positions that may be valued by job seekers as a means of acquiring experience. It is concerning, however, that older data show that 41% of Australians with a dietetics degree do not work in the field,[10] which has financial implications given the investment in education made by both students and taxpayers. Long-term data will be required in order to assess if the prevalence of insecure or precarious employment continues long term, or results in individuals choosing to leave the dietetics profession.

The previously available data on fields of dietetics employment in Australia is 17 years old.[9] These data reported that, across the profession, rates of private practice employment increased from 15% in 1991 to 21% in 2004.[9] The current study shows that this rate is higher among current new graduate dietitians, with 28% of respondents having at least one job in private practice. This is reflective of broader health system changes which demonstrate a move towards ambulatory care.[28]

Concurrently, the literature demonstrates a reduction in the number of dietitians working in hospitals or nursing homes from 54% in 1991 to 43% in 2004.[9] Graduates have previously reported that dietetics university degrees focus heavily on preparing graduates for hospital roles, leaving them feeling unprepared for alternative fields, such as private practice and other emerging areas of practice.[3] The current study also demonstrated this, with private practice skills noted to be a key area that respondents felt was lacking in their preparation for the workforce. In addition, respondents identified knowledge of, and preparation for, diverse areas of practice as something they would have liked from their university study. This is challenging given that many jobs of the future are yet to be identified.[29] Graduates need to think broadly about potential work options; hence, more diverse placement settings may be beneficial. Placements that develop skills in areas such as entrepreneurship, business and communications (to name a few), rather than just matching placements with jobs, may help graduates to be more prepared for the future work environment. Accreditation standards should consider being more adaptable to changing workforce needs to encourage and support university programs to create a modern and flexible workforce.[30] Ongoing employment data will be essential to continue to identify emerging work settings.

Information about the reality of the job market was also highlighted as lacking in current university degrees. Graduates have previously reported that the challenging nature of finding employment was not made apparent to them until too late in their degree.[3] Comprehensive workforce data were previously lacking, so the reality of the job market was not known. The current study provides valuable information that can better inform prospective and current students about the reality of the jobs that are available. Key messages that should be conveyed to students and prospective students are that employment rates for this profession may be lower than the national average, and that hospital work is not the predominant employment setting. In addition, the profession is seeing a move away from preparing graduates for "jobs" and envisaging a skilled workforce equipped to work across a broad range of settings.[31] Recently published futures research details six emerging roles for nutrition professionals, and as an example, includes such roles as food aficionado, diet optimiser and knowledge translator.[31] This is very different from the previous dietetics silos of hospital, public health and food service. Students need to be forewarned that work opportunities for dietitians are evolving, and a level of tolerance for uncertainty will be essential for navigating this career successfully.[32]

A strength of this study was that distribution through university representatives enabled a wider range of graduates to participate rather than only those connected to professional networks, such as Dietitians Australia and Dietitians NZ. This potentially captured individuals in diverse roles, and those yet to find employment. Students were informed about the survey prior to finishing their degree and the invitation came from someone known to the graduate, with the goal of enhancing response rates. The response rate to this survey was higher than others.[6] The experience of graduates who did not complete the survey and the reasons for going into private practice remain largely unknown. The extraordinary circumstances created by the COVID-19 pandemic are likely to have affected the employment experiences of graduates. Long-term data will be needed to understand whether this resulted in reduced employment due to widespread job losses[33] or increased employment due to expansion and diversifying of the COVID-19 health workforce.[34] The use of validated survey questions is also a strength and the instrument should be considered for use in future studies.

Employment rates for dietetics graduates are lower than the national graduate average, and work locations are changing, with almost a third of graduates employed in private practice. Work-integrated learning experiences may need to shift focus to skill development, rather than a specific job or work context, to better prepare graduates for the jobs of the future. Continuous monitoring of employment outcomes is necessary in order to track changes over time and meet the evolving needs of graduates and the communities they are trained to serve.

CONFLICT OF INTEREST

Claire Palermo is an Editorial Board Member of Nutrition & Dietetics. They were excluded from the peer-review process and all decision-making regarding this article. This manuscript has been managed throughout the review process by the Journal's Editor-in-Chief. The Journal operates a blinded peer-review process and the peer reviewers for this manuscript were unaware of the authors of the manuscript. This process prevents authors who also hold an editorial role to influence the editorial decisions made. The authors declare no other conflicts of interest.

AUTHOR CONTRIBUTION

All authors contributed to conceiving the study. MB analysed the data and drafted the manuscript. CP, LM and SG crosschecked qualitative data analysis and provided critical revisions to the manuscript. The authors wish to acknowledge the Griffith University Dietetics Graduate Outcomes Survey developed by Dr Lana Mitchell and Prof Lauren Williams which helped form the basis for this project.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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