Final Report
NSW Health Nutrition and Dietetics Workforce Horizons Scanning and Scenario Generation

NSW Ministry of Health

October 2020

The purpose of this document is to outline the themes raised in the literature and by nutrition and dietetic stakeholders to inform the Workforce Modelling phase of the NSW Ministry of Health's Workforce Planning Methodology. It should be noted that the views expressed in the report are not necessarily those of the NSW Ministry of Health.

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Executive Summary

The NSW Health Nutrition and Dietetics Workforce works throughout the NSW Health system to provide advice and management on nutritional health, working collaboratively across multiple professional and clinical settings.

A typical NSW Health dietitian or nutritionist is female, likely to work in a hospital setting, has between 10-20 years' experience and is a member of Dietitians Australia.

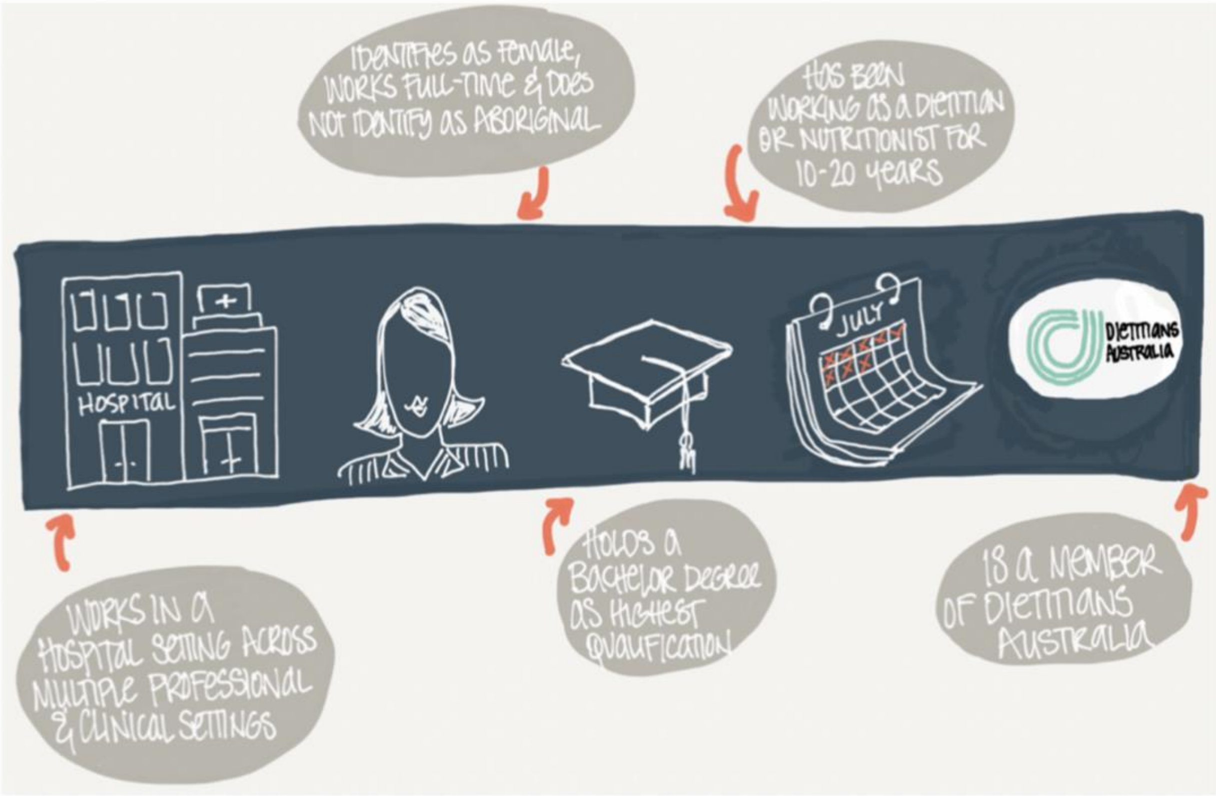


Figure 1. Profile of the NSW Health Nutrition and Dietetics Workforce

Demand and Supply Drivers

Through a process of consultation, literature review, a series of facilitated workshops, and a state-wide survey, several demand and supply drivers relating to the NSW Health Nutrition and Dietetics workforce have been identified and prioritised. The most significant perceived demand drivers are:

- Malnutrition and the NSW Nutrition Care policy
- Incidence of chronic and complex disease
- Activity-based funding
- Increasing acuity of patients.

The broader workforce supply drivers are:

- Gender and life stage
- Local resourcing arrangements
- Availability of employment
- University places

Underpinning these broader supply drivers are aspects of the workforce perceived to be either oversupplied (such as early career/new graduates) or undersupplied (such as expertise in Aboriginal Health and Mental Health).

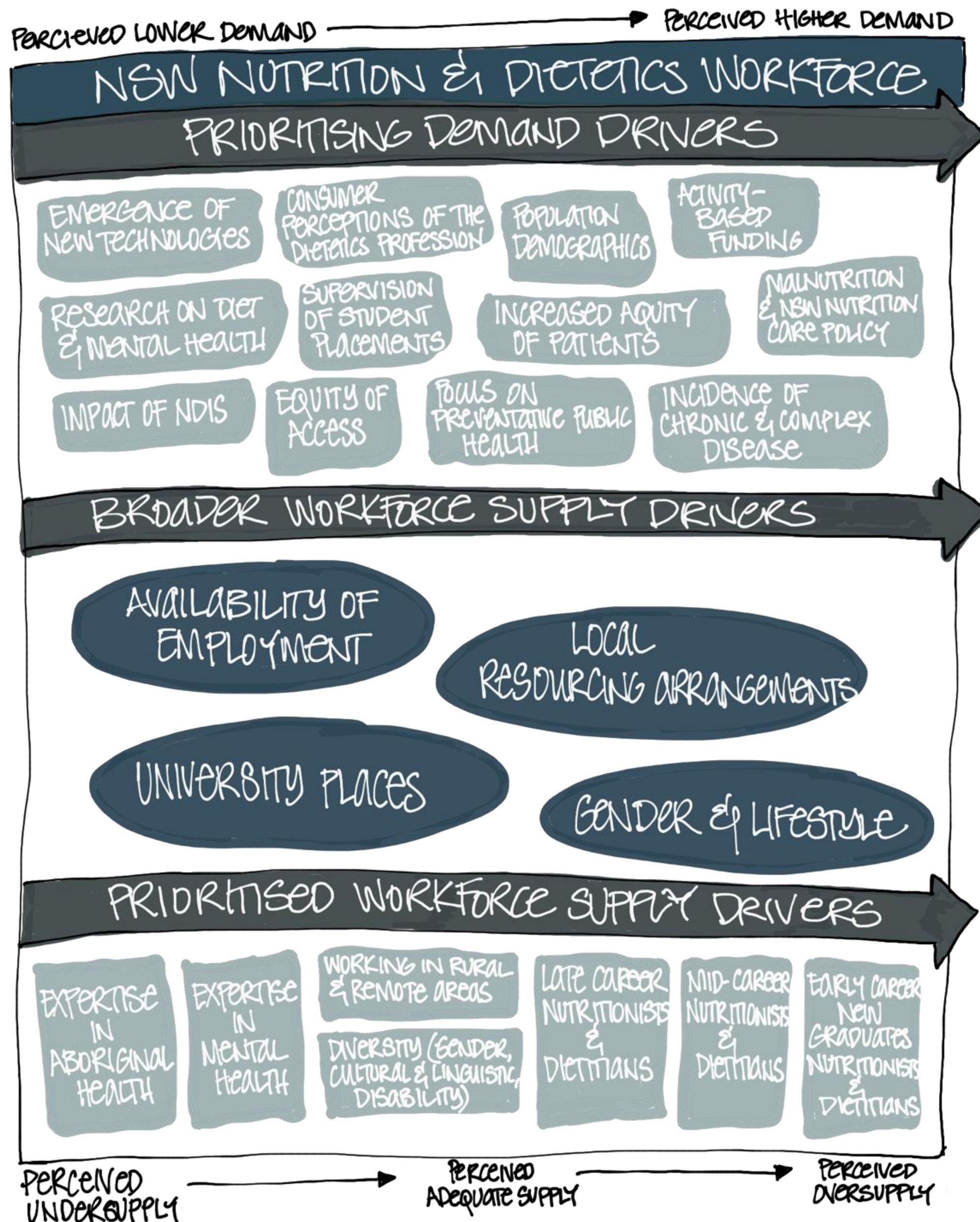


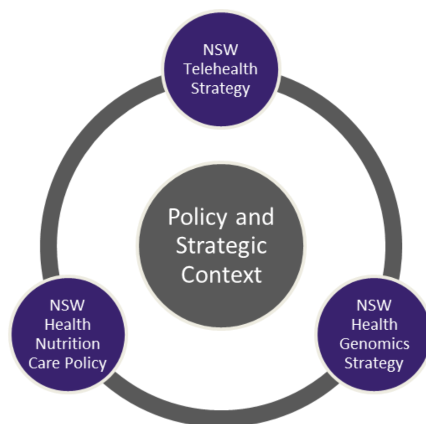
Figure 2. Summary of prioritised supply and demand drivers

Opportunities for Change

This report identifies eight strategic opportunities for change, from increasing the profile of the profession, through to increasing the proportion of the community-based dietetics workforce, developing a gender and diversity strategy, and continuing university sector collaboration. A suite of potential tactical measures to address workforce supply gaps and opportunities has also been developed by stakeholders as part of their involvement in the project.

Figure 3. Opportunities for change

There are a range of strategic initiatives which present opportunities for the NSW Health Nutrition and Dietetics workforce to drive and potentially take an active leadership role. These areas include involvement in genomics and telehealth, and over the coming decade, it is likely there will be other strategic innovation areas where the NSW Health Nutrition and Dietetics workforce will have the skills and expertise to make significant contributions.



About the hand-drawn illustrations in this report

Throughout this report are a number of hand-drawn illustrations produced by Simone Finch. Simone is a graphic facilitator, which means she uses a visual technique and style to document the concepts and ideas which were explored in partnership with stakeholders during the Horizons Scanning and Scenario Generation workshops.

Figure 4. Policy and strategic context

Background

In 2015, NSW Health published the revised Health Professionals Workforce Plan 2012-22 (Revised Plan), the document which sets out the strategies NSW will undertake to support appropriate planning and policy development for the NSW Health workforce. The Revised Plan acknowledges significant workforce challenges such as population trends (including chronic illness and ageing), the impact of a population physically distributed across the state, and for many professions, a workforce which may not necessarily increase in proportion to the demand for health services.

Within the NSW Ministry of Health, the Workforce Planning and Talent Development Branch has carriage of a number of strategic initiatives set out in the Revised Plan, including projects which support the foundation Right People, Right Skills, Right Place. This includes Initiative 7.8, which is to grow the allied health workforce in line with forecast health service demand and delivery requirements. These forecasting activities are underpinned by workforce modelling projections.

In order to complete these projections, as well as to engage meaningfully with the workforce in a discussion about their anticipated roles in the future, a process of Horizon Scanning, Scenario Generation and subsequently Workforce Modelling is periodically undertaken for identified NSW Health's allied health professions.

In 2019-20, the NSW Health Nutrition and Dietetics workforce was identified for this workforce planning process. This report marks the culmination of this project to undertake a Horizons Scanning and Scenario Generation process for and with this workforce.

NSW Health Workforce Planning Methodology

In this section, the methodology which underpins this report and the work leading to its development are reviewed.

Figure 5 illustrates the NSW workforce planning methodology, which underpins all NSW Health allied health workforce planning processes. The methodology starts with Horizons Scanning, progresses to Scenario Generation and leads into subsequent workforce modelling informed by the previously completed phases of work.

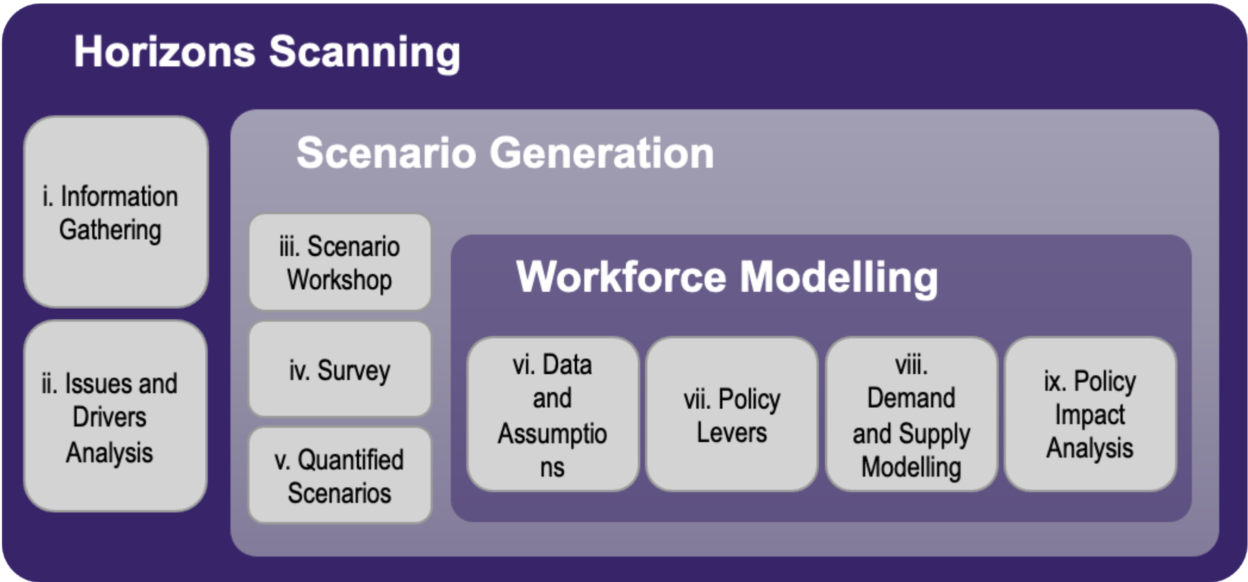


Figure 5. NSW Health workforce planning methodology

Expert Informational Interviews

This project commenced with 11 individual interviews with academics, peak bodies including Dietitians Australia and Indigenous Allied Health Australia and a sample of NSW Health dietetic stakeholders representing clinical and food service dietetics, and specialisations such as mental health dietetics. The purpose of these interviews was to gauge individual perceptions on the workforce topics of significance to the project and ensure that the themes and issues identified during the Horizons Scanning phase were valid and aligned with expert opinion.

Literature Review

A literature review was conducted to review and collect available published information on the broader nutrition and dietetics workforce. The literature review included published academic journals, as well as grey literature sourced from reputable professional association and government websites. The review described available information on the nutrition and dietetics workforce scope of practice, educational requirements and pathways, and identified potential opportunities for innovation for the profession. The literature review forms a significant part of this final report and a summary is included in Appendix A – Literature Review Summary.

Horizons Scanning Workshop

A Horizons Scanning process was facilitated as part of a full-day workshop held in Sydney in November 2019. The objectives of this workshop were to further explore and validate the themes identified in the informational interviews and literature review process and test these findings with stakeholders directly. Forty-nine stakeholders attended the workshop, primarily representing the NSW Health Nutrition and Dietetics workforce nominated from Local Health Districts and Speciality Networks, as well as academia and peak body representatives. A mixture of the NSW Health Nutrition and Dietetics workforce – from late career through to early career nutritionists and dietitians were represented, with varying clinical and managerial experience. This included participants from various work settings including inpatient, adult, paediatric, community, mental health, health promotion and food services.

Survey

An online survey comprising 35 questions was developed to collect additional data to support the workforce planning process and further prioritise and refine the supply and demand drivers identified at the Horizons Scanning workshop. A total of 382 individual responses to the survey were received during January and February 2020. Of these 382 respondents, 364 were currently employed by NSW Health, and the remaining respondents indicated they worked in other settings such as HealthShare NSW and Not-for-profits. The analysis in this report exclusively reflects responses from the NSW Health Nutrition and Dietetics workforce. Given there are currently just under 600 FTE NSW Health staff, it is estimated that an approximate 50% response rate has been achieved through the survey process.

Scenario Generation Workshop

In this phase of work, a full-day workshop was held in February 2020, attended by 38 stakeholders (from the same list of individuals invited to participate in the Horizons Scanning workshop). Interim survey results were presented, and significant work took place during this event based on these top-level results. Key focus areas for the day were

to explore and address some of the key workforce supply challenges and opportunities for innovation identified through the earlier phases of the project using a ‘future lens’.

Project Report

This report is the culmination of the stages of work described above. The content of this report will be utilised by NSW Health workforce planning teams to conduct workforce modelling, and may also be used as a resource by universities and individuals in the workforce, or considering entry to the workforce, to better understand where opportunities and gaps exist for NSW Health Nutrition and Dietetics careers in the NSW public sector. This report may also be used to inform policy and decision making on future NSW Health initiatives and programs.

Demand and Supply Drivers

In this section, we review the key demand and supply drivers as identified by the NSW Health Nutrition and Dietetics workforce. Overall, there is a necessary tension between the demand for dietitians and dietetic services and the supply of this workforce and associated services.

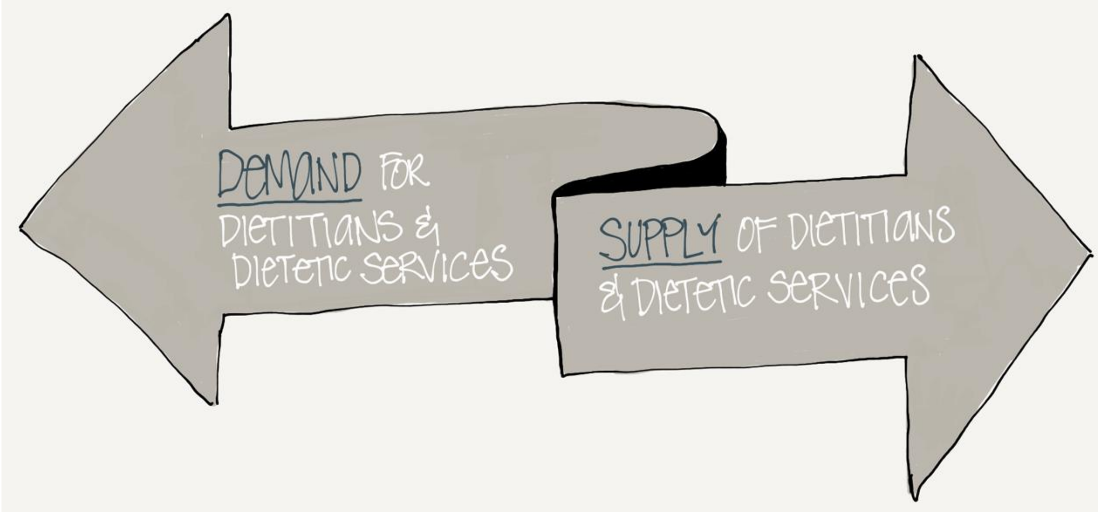


Figure 6. Illustrating the demand and supply tension for dietitians and dietetic services.

Summary of Prioritised Demand and Supply Drivers

Figure 7 illustrates the identified demand and supply drivers, prioritised from perceived lower demand through to perceived higher demand, as well as areas of perceived workforce undersupply, through to perceived oversupply. The highest workforce demand driver is the requirement to respond to inpatients diagnosed with or at risk of malnutrition, and the greatest areas of undersupply are framed in terms of workforce expertise in Aboriginal health and mental health. All demand drivers, and most supply drivers listed below have been ranked by the NSW Health Nutrition and Dietetic workforce.

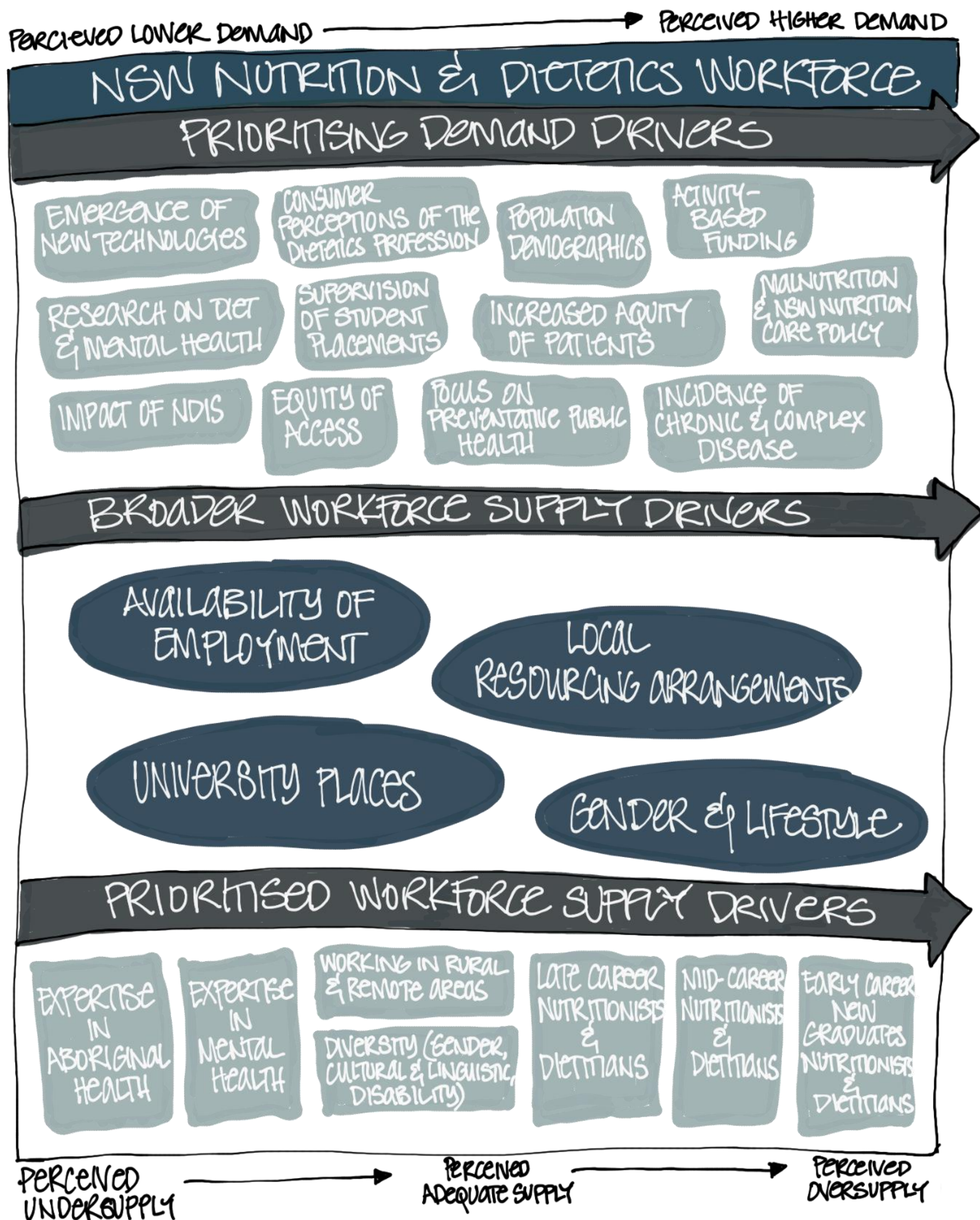


Figure 7. Summary of prioritised supply and demand drivers

Demand Drivers

Demand drivers are defined as the factors that shape and influence demand for the Nutrition and Dietetics Workforce. Demand drivers discussed in this section have been identified by stakeholders as the most significant factors influencing the demand for the workforce. These commence with the most significant driver based on the views of the workforce.

1. Malnutrition and NSW Nutrition Care policy

The NSW Health Nutrition Care Policy is detailed later in this report. The impact of this policy is seen in the increased demand for NSW Health Nutrition and Dietetics services, particularly in the acute care setting within a health service. Stakeholders considered that current resourcing of dietitians may not necessarily be enough to meet the volume requirements arising from the NSW Nutrition Care policy.

2. Incidence of chronic and complex disease

The potential demand for dietetics services are impacted by the increasing incidence of chronic and complex diseases that may be impacted by dietary measures including obesity, metabolic conditions, gastrointestinal disease and food intolerances, cardiovascular disease, type 2 diabetes, mental health, wound care/amputations, some cancers, ageing and palliative care.

3. Activity-based funding

Activity-based funding (ABF) has influenced the focus of the NSW Health Nutrition and Dietetics workforce, particularly in terms of accurate clinical documentation of patient complexity. It is understood that more complex patients may correlate with increased funding because of the corresponding increased costs associated with their care and resource intensity, but nutrition and dietetics departments do not tend to be directly funded on an ABF basis at the local level. Despite this, the workforce is directed to focus on the provision of legitimate non-admitted activity and in the case of inpatient activity, though the identification and recording of nutrition-related diagnoses, which may increase a patient's complexity and therefore positively influence funding.

4. Increasing acuity of patients

The increasing number of patients with comorbidities and chronic and complex diseases, the impact of socioeconomic determinants of health, including poverty, regionality and accessibility to health services are contributing to the higher acuity of patients. Difficulties in accessing primary healthcare may also adversely influence the acuity of patients, through the downstream impact of delays in managing chronic and complex conditions in primary care.

5. Population demographics

The ageing population and changing population demographics are creating an increased demand for health services, and in particular the ageing population are a significant dietetics patient type, frequently requiring increased dietetics support from both an acute and non-acute perspective.

6. Focus on preventative public health

There is an increasing focus on prevention as a strategy to improve the sustainability of the health system through the reduction in longer term chronic and complex disease. Dietitians can play a key role in the prevention of chronic disease, but the current staffing allocation is not perceived by stakeholders as sufficiently supporting the level of preventative intervention necessary to create the impact required at a state level.

7. Equity of access

Equity of access is a significant demand driver for nutrition and dietetics services, as patient cohorts (including people who are Aboriginal, people living with a mental illness, rural and remote patients) may often require dietetic interventions.

Service design may not be fit for purpose and needs to consider the experience and requirements of the particular cohort, including cultural appropriateness, ways to access services, contraindications with medications and health literacy.

8. Consumer perceptions of the dietetics profession

The role and skills of dietitians are not well understood in the broader community. Accessibility to food-related programs in media (e.g. celebrity chefs, wellness bloggers) and the concept of the 'quick fix' is further influencing consumer perceptions. Dietetic interventions are generally long-term lifestyle modifications. In addition, the cost and access to dietetic services in the community may also contribute to the consumer perception of dietitians. Some stakeholders felt that even other health professions may not fully understand the skills and capabilities within the NSW Health Nutrition and Dietetics workforce.

9. Supervision of student placements

Dietitians and nutritionists are facing significant pressures to respond to acute services, this can impact capacity for non-direct patient work, particularly supervision of students, which can be time consuming and may create tensions with service delivery obligations.

10. Emergence of new technologies

New technologies (such as food services technology, digital health initiatives, genomics, personalised medicine/nutrition) require attention and the input and expertise of dietitians. However, ongoing skills development in these new segments and appropriate support from leadership to expand into these areas is required.

11. Research on diet and mental health

There is a significant body of research illustrating the connection between diet and good mental health, and also noting the impacts of medication used in the management of mental health conditions and side effects such as weight gain (Jacka FN, 2017). However, there is a resourcing demand to implement this evidence at scale, and often mental health patients access to dietetic services in acute hospital settings can be limited or unavailable. It is noted a range of complex factors contributes to this scenario.

12. Impact of NDIS

Following the introduction of the NDIS, there is a perception among stakeholders of inconsistency in the level of dietetic supports and services that are included in plans. People living with a disability who do not have dietetics services approved as part of their plans, but who require this dietetic assistance, are likely to be directed to the public health system for support which increases demand on the workforce.

Supply Drivers

In this section, we discuss the broader factors influencing the supply of NSW Health Nutritionists and Dietitians, and then explore areas of perceived workforce undersupply.

Supply drivers encompass the factors likely to influence the supply of Nutritionists and Dietitians to the workforce. Supply drivers discussed in this section have been identified and prioritised by stakeholders as the most significant throughout engagement activities.

1. University places

The largest impact on the supply of nutritionists is the availability of university places. Between 2010 and 2017, the Australian Government introduced a demand-based system for university places, where every domestic student who wished to enrol in a course was partially supported by the Commonwealth. In turn, this resulted in a significant growth in the number of students and graduate across all degrees – to such an extent that in 2017, a proposal was made to replace the cap (Doyle, 2017). In response, a user-pays and market-driven model has been introduced (Dow, 2015).

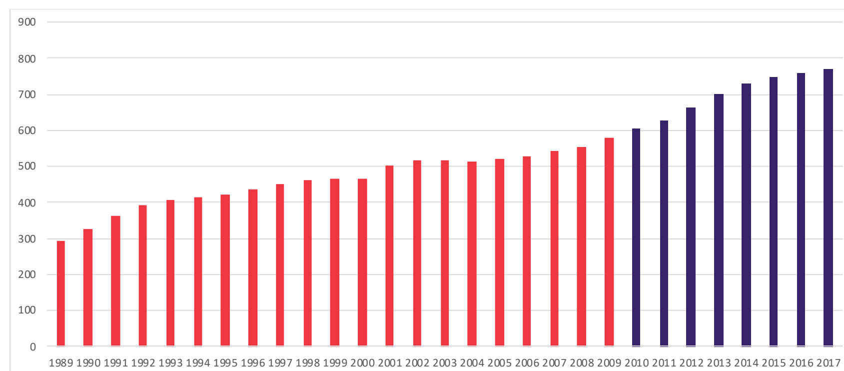


Figure 8. Impact of demand-driven system on university enrolments ('000s). Note demand-driven system commenced in 2010 (Productivity Commission, 2019).

2. Availability of employment

In the last available national review of the dietetics workforce, *Dietitians in Focus*, Health Workforce Australia (2011) identified that of 6,200 Australians reporting a dietetics qualification, only 45% reported their occupation as 'dietitian'. It was concluded that people with dietetics qualifications may be choosing "*to work in fields unrelated to their qualification or […] unable to find employment in their chosen field*".

Individuals commenting on a job recruitment website describe their broader satisfaction with their career, but frequently comment on how challenging it is to secure employment as a university graduate in a hospital setting. (Seek, n.d.)

3. Gender and life stage

The Grattan Institute (Daley, 2012) note that there is a strong correlation between having children and stopping or reducing work to part-time hours in Australia. Before having children, young women are as likely as young men to be working, but once they have children, they become much less likely to do paid work. As the dietetics workforce is predominantly female, it should be anticipated that child-care responsibilities will have a significant impact on workforce supply and participation over time, and potentially increase transience and temporary roles within the workforce.

4. Local resourcing arrangements

Districts and Networks determine local resourcing which is influenced by the Service Agreement between the District or Network and the Secretary NSW Health. These Service Agreements set out the Services, Strategy Budgets, and purchased 'Volumes of Activity'. At a local level, Districts and Networks then determine their budgets, and this influences the resourcing arrangements for all clinical, community and public health staff, including for NSW Health Nutrition and Dietetics staff.

5. Debate on perceived oversupply and undersupply

Amongst stakeholders, there are varying opinions as to whether there is an oversupply of dietitians and nutritionists or not. Many NSW Health dietitians may refer to the significant and competitive applications process for new dietitians as demonstrating an oversupply within the workforce.

Many academic sector representatives and peak bodies however may point out that because of the demand drivers impacting on the workforce (described in the previous section), there is significant, health-system wide demand for the nutrition and dietetics workforce (but that perhaps the proportion of roles may shift further from the public health system to the private sector). This debate is compounded by the limited access to data on the workforce.

While there was general acceptance that there is a sector-wide oversupply of nutrition and dietetic graduates for NSW Health entry-level positions, there are aspects of the NSW Health Nutrition and Dietetics workforce which are undersupplied.

Figure 9 shows the responses of stakeholders to a question in the workforce survey on supply factors. They were asked to rate on a scale of 0-100, where 0 reflects undersupply and 100 reflects oversupply, their perceptions of several factors. Respondents to the survey ranked expertise in aboriginal health, expertise in mental health, diversity, rural and remote as being relatively undersupplied. Workforce members in the earlier years of their career were ranked as being relatively oversupplied.

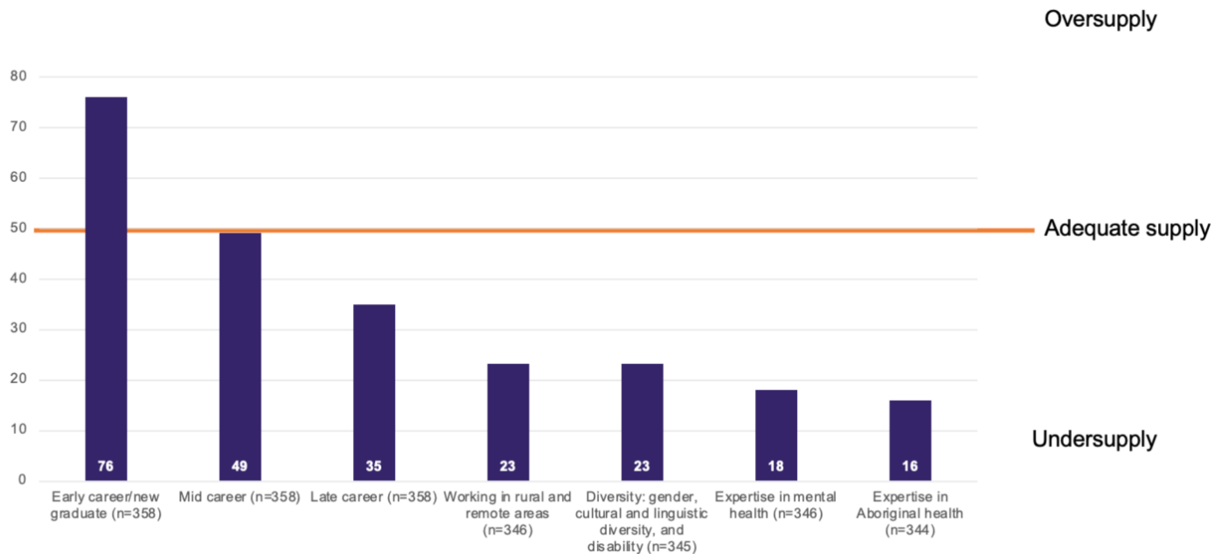


Figure 9. Perceived supply aspects of the Nutrition and Dietetic workforce

6. Expertise in Aboriginal health

There was widespread agreement amongst stakeholders of limited expertise in Aboriginal health, both from a clinical perspective as well as reflected in the small proportion of NSW Health Nutrition and Dietetics staff identifying as Aboriginal. On a scale of 0-100, where 0 reflects perceived undersupply and 100 reflects perceived oversupply, expertise in Aboriginal Health was ranked 16, the lowest of all supply gaps identified. It is noted that there are not many specialised roles in this area, and this is an opportunity for clinical development amongst the broader NSW Health Nutrition and Dietetics workforce.

7. Expertise in mental health

Another area where there was perceived low levels of supply was in terms of nutritionists and dietitians with experience in mental health. This was ranked an average of 18 out of 100 amongst 346 respondents. This gap is significant given there is considerable evidence to support dietetic interventions to support improved mental health outcomes (Jacka FN, 2017). It is acknowledged that while there are limited specialist mental health dietetics roles, this is again an opportunity for clinical development amongst the broader NSW Health Nutrition and Dietetics workforce.

8. Diversity (gender, cultural and linguistic diversity, and disability)

The limited diversity of the NSW Health Nutrition and Dietetics workforce was also identified as an area that might be better balanced, with an average score of 23 out of 100 to indicate this as another area with relatively low perceived supply. Stakeholders have described potential initiatives to increase diversity. These are included later in this report.

9. Working in rural and remote areas

A recurring theme amongst stakeholders was that there was a perceived undersupply of nutritionists and dietitians working in rural and remote areas. Discussion focussed on what might be achievable to support rural and remote area workforce. Redeployment of the workforce to service rural and remote communities from a metropolitan location was not seen as a systemic solution to this challenge.

10. Career stage

Stakeholders also raised a view that rather than a simplistic 'oversupply' or 'undersupply' of the Nutrition and Dietetic workforce, that variations in supply could be identified using the lens of a career stage.

a. Late career

This group of the workforce was perceived to be undersupplied (rated 35 on the scale of 0 to 100). There may be many reasons for this perception, however the intent to make a significant career change (Figure 13), together with the career stage of the NSW Health workforce may provide some insights. Given that 20% of the workforce have more than 20 years' experience (and 50% of the workforce have more than 10 years' experience), as well as noting that one-third of the workforce report their plans to make a significant career change in the next decade – it is likely that many late career dietitians may be contemplating what their next career plans might be.

b. Mid-career

Most survey respondents indicated that there was adequate supply of mid-career dietitians, which is also significant considering the significant proportion of female dietitians and the number which may be planning future career breaks in the form of maternity leave.

c. Early career

Early career nutritionists and dietitians were the one area where respondents perceived there to be between adequate and oversupply. This group were ranked an average of 76 (from 358 respondents).

Profile of the NSW Health Nutrition and Dietetics Workforce

In this section, we discuss the self-regulation arrangements for dietitians and nutritionists, relevant professional associations, and profile the specific features of the NSW Health Nutrition and Dietetics workforce. Additional aspects of the NSW Health Nutrition and Dietetics workforce are included in Appendix B – Additional Workforce Profile.

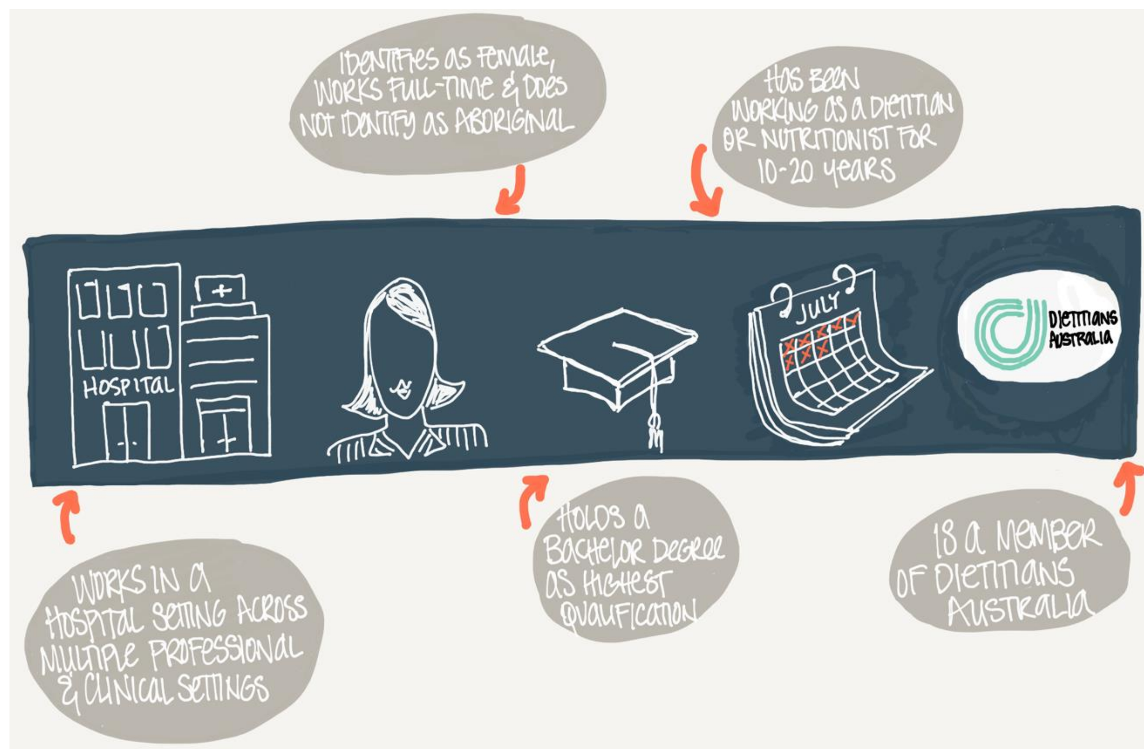


Figure 10. Snapshot of a NSW Health dietitian based on project survey results

Self-regulation and professional association membership

The Australian Health Professional Registration Agency (AHPRA) routinely collects workforce data from re-registering health practitioners, however there is no national, central register of dietitians or nutritionists. Dietetics is a self-regulated profession in Australia (Health Professions Accreditation Councils' Forum, 2016), which means that it is challenging to quantify the number of dietitians and nutritionists in NSW.

The terms 'dietitian' and 'nutritionist' are not protected titles in Australia, which means an individual may call themselves a dietitian or nutritionist without needing to substantiate their specialist expertise (Nutrition Australia, n.d.). These factors contribute to the case for self-regulation by professional association membership, which is explained below.

Dietitians Australia

Dietitians Australia[1] (DA) is the peak body representing dietitians in Australia. To be a member of DA, an individual must enrol in and complete a dietetics course accredited by DA (Dietitians Australia, 2020; Dietitians Australia, 2020). Educational Pathways for nutrition and dietetics are explored in detail in the following section.

It is not compulsory to be a member of DA in order to practice as a dietitian.

Accredited Practicing Dietitian credential

DA self-regulates through a credentialing scheme where participants are referred to as an Accredited Practicing Dietitian (APD) (Dietitians Australia, 2020). APDs are recognised by the Australian Government, Medicare, the Department of Veterans Affairs and most private health funds as meeting the quality standard for nutrition and dietetics services in Australia. For example, only APDs recognised by DA are eligible to deliver services under the Medicare-funded Chronic Disease Management program.

Public vs Private Sector Employment

Given the absence of a national source of data, it is difficult to quantify the proportion of nutritionists and dietitians in private practice. Mitchell, Capra and MacDonald-Wicks (2012) found that between 2000 and 2007, the proportion of dietitians employed in private practice increased from 13.4% to nearly 33%. A 2013 study of DA members in private practice found that 29% of the total DA membership base worked in private practice (Ball, Larsson, Gerathy, Hood, & Lowe, 2013).

While more recent data on the split between public and private sector employment is not available, it is probable that as the number of dietetics graduates increase, that these individuals will increasingly move into non-public hospital roles such as working in private practice and food industry fields.

NSW Health Workforce Profile

NSW Health employs 595.5 FTE dietitians as of June 2019 (NSW Health, 2019), primarily employed under the NSW Health Service Health Professionals (State) Award (NSW Health, 2019). The qualification requirements of dietitians as specified in the Award are:

> “Must hold a bachelor or post graduate degree in nutrition and dietetics that provides eligibility for full membership of [Dietitians Australia], or other qualification deemed equivalent by the employer.”

Individuals who have not completed a DA-accredited dietetics course are unlikely to be meet the qualification criteria in order to be appointed to a NSW Health dietitian role under the Health Professionals (State) Award. Those healthcare professionals with other

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[1] In May 2020, Dietitians Association of Australia rebranded to Dietitians Australia.

dietetics and nutrition qualifications are eligible to work in public health nutrition roles within NSW Health.

The following information about the workforce profile is based on stakeholder feedback from both workshops and the workforce survey.

Principal work setting

The majority of NSW Health respondents indicated that they primarily worked in a hospital setting, with a further 29% of the workforce spread across outpatient and other community health services. 3.9% of respondents indicated "other" when asked to indicate their principal work setting and this group frequently described roles including renal services across both inpatient and outpatient settings; population health roles, district-wide dietetics/ food services settings, the Agency for Clinical Innovation, HealthShare NSW and Aboriginal Health Services.

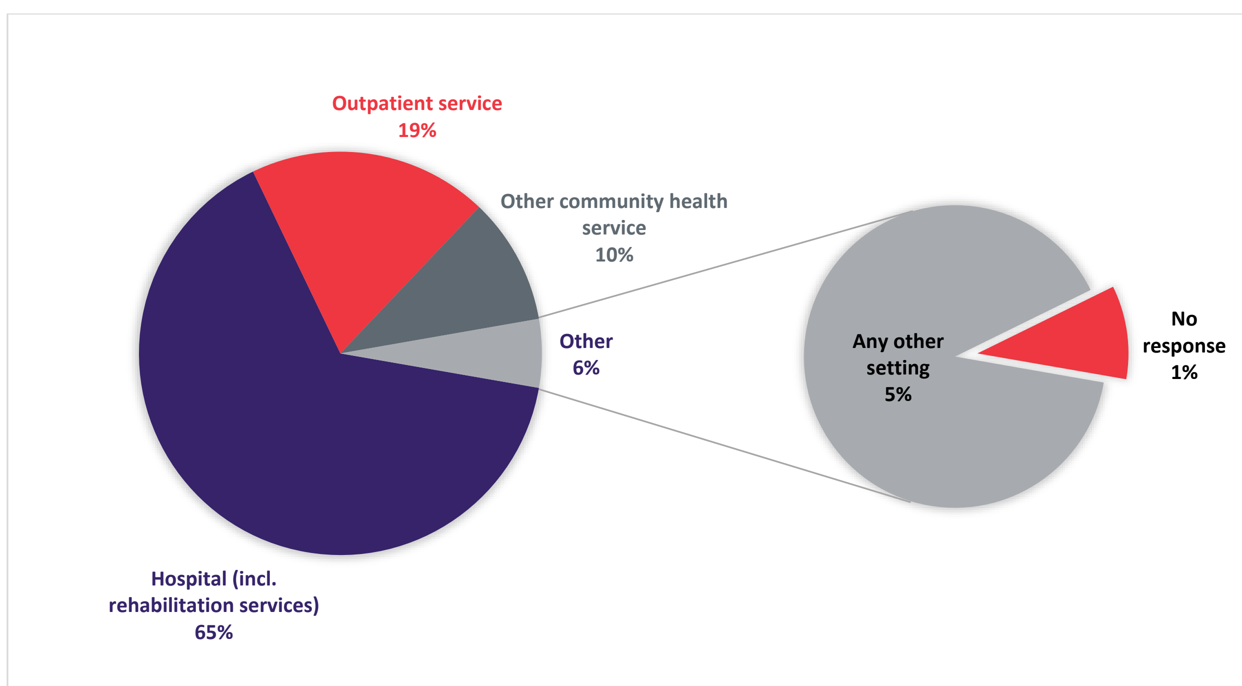

Figure 11. Principal work setting of NSW Health respondents

A recurring theme that emerged during the project was that the workforce – which is currently primarily based in hospital services – may need to re-shape in the future to deliver more services in public health, community health and other non-admitted settings.

Professional and clinical areas of work

Table 1 lists the most frequently nominated professional or clinical areas that respondents worked in. The significant spread across a wide range of clinical and professional areas

demonstrates how the dietetics workforce provides services to patients throughout the public hospital system.

Professional/Clinical Area	Percentage of all NSW Health respondents (n=362)
General medical/surgical	30.94%
Aged care	29.28%
Diabetes	25.69%
Oncology	25.41%
Paediatrics	24.03%
Gastroenterology	22.93%
Renal	20.17%
Community health	19.61%
Obesity and metabolic disease	18.51%
Palliative care	18.23%
Rehabilitation	17.13%
Mental health	16.30%
Geriatric Medicine	13.81%
Critical care	13.54%
Coronary/Cardiac Care	12.71%
Intensive Care	12.71%
Management	11.88%
Neurology	11.88%
Orthopaedics	11.05%

Table 1. Professional and clinical areas of work of NSW Health respondents. 1,526 different areas identified by 362 respondents.

Sex

Figure 12. NSW Health Nutrition and Dietetics workforce, by sex (n=362)

A very significant aspect of the NSW Health Nutrition and Dietetics workforce is that it is predominantly female – figure 12 represents 100 NSW Health dietitians, where 93 are female (purple), five are male (red), and two indicate they are non-binary or prefer not to say (grey).

A female-dominated workforce brings both opportunities and challenges to workforce planning. Women perform a greater proportion of unpaid caring duties including care of children, family members with disabilities, or aged relatives, and doing so typically requires women to work in part-time or flexible roles (Australian Human Rights Commission, 2005). They are also more likely to take a career break for maternity leave. The ABS notes 29% of women who had a job during their pregnancy permanently left that job either just before or immediately after the birth of their child, and of those women who do return to work (after an average of 32 weeks' leave), 84% of mothers returned part-time (Australian Bureau of Statistics, 2014). Whilst planning for these career breaks and part-time labour force are significant, these trends also signal an opportunity for succession planning and providing opportunities for individuals to potentially act in maternity leave roles to expand their skill set and experience.

This gender imbalance has a range of workforce implications, and in the context of this project it is reflected in the plans for individuals within the workforce to have career breaks in the near term (e.g. maternity leave). It also impacts on the structure of the workforce in terms of those holding full-time positions but seeking less than full-time hours of work as women return to work following maternity leave.

Intent to retire, change careers, or have an extended career break

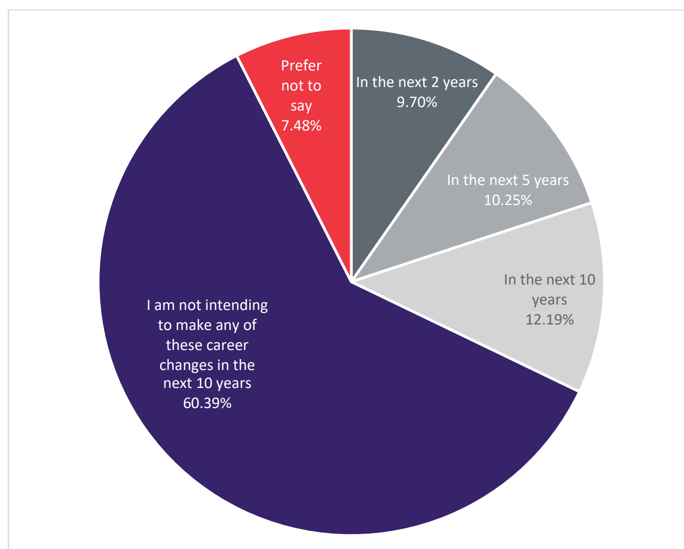

Figure 13. Proportion of NSW Health respondents' intentions to retire, change careers, or have an extended career break. (n=361)

Respondents were asked as part of the survey if they were planning to retire, change careers, or have an extended career break, and in what timeframe they were anticipating having this break.

Over the next ten years, nearly one-third of the workforce report their plans to make a significant career change such as retirement, a change of career, or having an extended career break. The bulk of this workforce transition is expected in the coming five years, as nearly 20% of the NSW Health workforce intends to have a significant career change during that period. A further 12% of NSW Health respondents intended to have a career break or transition of some kind within ten years.

This level of transition has very significant implications for succession planning, as well as considering how corporate knowledge and dietetic expertise may be retained, planning for career development for the existing dietetic workforce and recruitment of new dietitians.

Aboriginal-identified workforce

Figure 14. Proportion of NSW Health respondents identifying as of Aboriginal or Torres Strait Islander heritage (n=361)

Most NSW Health respondents to this question did not identify as either Aboriginal or Torres Strait Islander heritage. Less than 1% of respondents indicated they were Aboriginal (purple). Less than 1% of respondents also indicated they would prefer not to say (red).

Educational Pathways

This section will focus on the educational pathways to work as a nutritionist or dietitian in NSW Health.

Australian Universities offering Nutrition and Dietetics Programs[2]

As mentioned in the previous section, the education pathway to gaining employment as a dietitian in NSW Health is achieved through completion of a DA-accredited nutrition and dietetics program. Generally, this a four-year bachelor's degree or a postgraduate masters' program.

A table of accredited courses leading to eligibility for membership in the DA is included in Appendix C – DA Accredited Nutrition and Dietetics Courses.

Attendance Patterns

Qualifications delivered by NSW and surrounding universities that enable membership in DA are delivered by the University of Newcastle, the University of Sydney, the University of Wollongong and the University of Canberra. Of this list, all are delivered face-to-face/on-campus, and range in duration of between two to four years. The University of Wollongong indicates that the attendance pattern may be attended in a part-time equivalent basis, and in the case of the Master of Nutrition and Dietetics the part-time attendance pattern is by negotiation.

At present there are no NSW-based dietetics courses that meet the criteria for membership of the DA (and subsequently eligibility for employment by NSW Health) delivered in block, flexible or online modes, or in universities outside Sydney and the hubs of Newcastle and Wollongong.

During consultation activity, the attendance patterns and location of courses was identified as a factor potentially limiting the Aboriginal dietetics workforce – particularly in rural and remote areas – as completing a DA-accredited nutrition and dietetics qualification would require an extended move from country.

Supply of University Graduates

While the exact number of NSW and Australian annual university dietetics graduates are not known, it is generally well accepted by stakeholders that the supply of new graduates significantly exceeds the number of public sector job opportunities in NSW Health.

[2] Only Dietitians Australia accredited programs as at June 2020 are included in this report.

Despite no individual supply challenge in this domain, there are some features of the NSW Health Nutrition and Dietetics workforce which create risks and challenges within the system, particularly around sex, cultural and linguistic diversity, and small number of Aboriginal-identified nutritionists and dietitians. Potential initiatives to improve the demographic balance within the NSW Health Nutrition and Dietetics workforce are explored in

Appendix E – Measures to Address Workforce Supply Gaps and Opportunities.

Clinical Placements

To comply with the DA Accreditation Standards, students must complete 100 equivalent working days of compulsory clinical placement as part of their studies. This is done in various settings, including NSW Health services. Professional environments anticipated to be included in these placements include:

1. Acute and ambulatory settings where students are exposed to the use of Medical Nutrition Therapy (MNT) working with patients affected by a variety of co-morbidities
2. The operational delivery of food service systems to nutritionally dependent and/or vulnerable populations where MNT underpins their care
3. Public health nutrition experience in a setting that allows students to apply understanding of the interrelationship and socio-ecological issues between food, nutrition, and health at the population level in order to assess priorities and plan and evaluate interventions.

It should be noted that whilst stakeholders consistently indicated an expectation that dietetic students be exposed to the breadth of experiences available in a public hospital environment, this is not explicitly specified in the accreditation standards.

Stakeholders also indicated during the consultation phase that public hospital clinical dietetics exposure would be almost essential for a graduate seeking an entry-level role in NSW Health. While there is no cap on the number of students a university may train in nutrition and dietetics, there are finite opportunities for public hospital placements, and subsequently new public dietetics roles. NSW Health staff report a competitive field and significant number of applications for entry-level dietetics positions.

Canadian Model

During the workshop, one group suggested a method to improve workforce capability in mental health might be to offer a placement model like the internship approach in Canada.

An example of this model is the program at the London Health Sciences Centre (2018), which is a 44-week program. It includes:

- 7 weeks in food services,
- 4 weeks in clinical nutrition (diabetes),
- 4-week rotations across four of the following clinical areas: cancer care, children's care, clinical neurosciences, critical care, eating disorders, family health care, long term care, medicine, mental health, renal care, surgical care and women's care,
- 6 weeks in health promotion/community nutrition; and
- Time for research, orientation, class days and holidays.

Scope of Practice

Overall Scope of Practice

The scope of practice for a dietitian is not defined by a single policy document. Gathering information from different inputs to help describe the scope of practice can best outlined the role of a dietitian in NSW Health. Information can be supplemented and verified by survey results from NSW Health Dietitians indicating where they may work to the top scope of practice.

The key message arising is that dietetics is a broad profession, working collaboratively across a wide range of health system services and disciplines. There is scope for dietitians working in NSW Health to potentially consider opportunities where it may be clinically appropriate and locally supported to expand their scope of practice as there is demonstrated variation in terms of where dietitians work to the top scope of practice in NSW Health.

High Level Scope of Practice

In 2017, DA published their *Scope of Practice for Support Staff in Nutrition and Dietetic Services* (DAA, 2017) which distinguishes the scope of practice between dietitians and nutrition and dietetic support staff. This document also set out an illustrative comparison the scope of practice for a dietitian. This includes:

- Making clinical decisions at policy, system and individual level
- Communicating nutrition diagnosis and nutrition treatment plans with the patient or carers
- Conducting assessments - including needs assessment, clinical assessment, nutritional assessment, etc.
- Interpreting data and referrals
- Formulating or modifying goals and plans for the [patient]
- Explaining the rationale, risks and options of nutrition and dietetic care or services
- Follow up, discharge planning and/or evaluation of nutrition and dietetic services.

National Competency Standards

DA's National Competency Standards (NCS) (Dietitians Australia, 2020) describe at a more detailed level the expected knowledge, skills and behaviours of dietitians. The NCS was indicated during consultation as the stakeholders preferred tool to describe the dietetic scope of practice.

The NCS includes four domains, underpinned by key tasks/elements, which are further supported by observable and/or measurable actions. The granularity of the NCS provide

a clearer indication of the level of expertise that may be provided by a dietitian. The domains are:

Domain 1. Practices professionally

Domain 2. Positively influences the health of individuals, groups and/or populations to achieve nutrition outcomes

Domain 3. Applies critical thinking and integrates evidence into practice

Domain 4. Collaborates with clients and stakeholders

The clinical, technical and scientific expertise of dietitians is broadly encompassed within Domain 2, and details of this domain is included in Appendix D – DA National Competency Standards (Domain 2) to add greater depth and detail to the described scope of practice for a dietitian.

Classification of Health Professional Positions

A further way to consider the NSW Health Nutrition and Dietetics scope of practice is from the perspective of the NSW Health Service Health Professionals (State) Award 2019 (NSW Health, 2019). The Award describes various Levels which reflect the scope of a particular position. This starts at Level 1 - typically an entry level position for a new graduate and progresses through to Level 2. Levels 3 and 4 reflect positions which may have a senior clinical, education or management focus. Level 8 – the highest level – includes senior leadership functions as a Discipline Specific Director/ Advisor.

Areas of Practice

A dietitian may have expertise in multiple areas of practice. Areas of practice are subject-matter specific areas of specialisation within the broader field of dietetics. DA has set out a number of role statements (listed below) which provide a scope of 'activities' which may typically be undertaken in these various areas of practice. The role statements also frequently distinguish between entry level and more experienced levels of capability.

Areas of Practice based on patient or client characteristics (as produced by DA) include:

- Adverse Food Reactions
- Bariatric Surgery
- Cystic Fibrosis
- Diabetes
- Disability
- Eating Disorders
- Gastroenterology
- Human Immunodeficiency Virus
- Indigenous Nutrition
- Mental Health
- Oncology
- Vegetarian Nutrition

Areas of Practice based on work location or type include:

- Corporate Nutrition
- Food Service
- Food Systems and Environmental Sustainability
- Primary Care (Private Practice)
- Public Health and Community Nutrition

These areas of practice were discussed with stakeholders and it was generally agreed that these represented a selection of areas of dietetic practice; however, they were not definitive.

The project survey described the professional and clinical areas where individuals worked within NSW Health (Table 1). These responses illustrate clearly that dietitians work throughout the health system, and often in collaboration with a broad range of specialty areas. It can help explain why there may be such a wide range of scope for a nutritionist or dietitian within NSW Health. Examples of these specialised areas of practice include renal, critical care, overweight/obesity, gastro-surgery, aged care and genetic metabolic.

Figure 15. NSW Health respondents work throughout the NSW Health system

Working to Top Scope of Practice

Illustrated in Figure 16 is the relationship between the system, responsible for the policy settings, and individual, who requires the knowledge, training, experience and competency to work to their top scope of practice as prescribed by their relevant policy environment. The relationship is symbiotic and if an individual is to work to the top scope of practice, all factors must be aligned and in place (Services for Australian Rural and Remote Allied Health, n.d.).

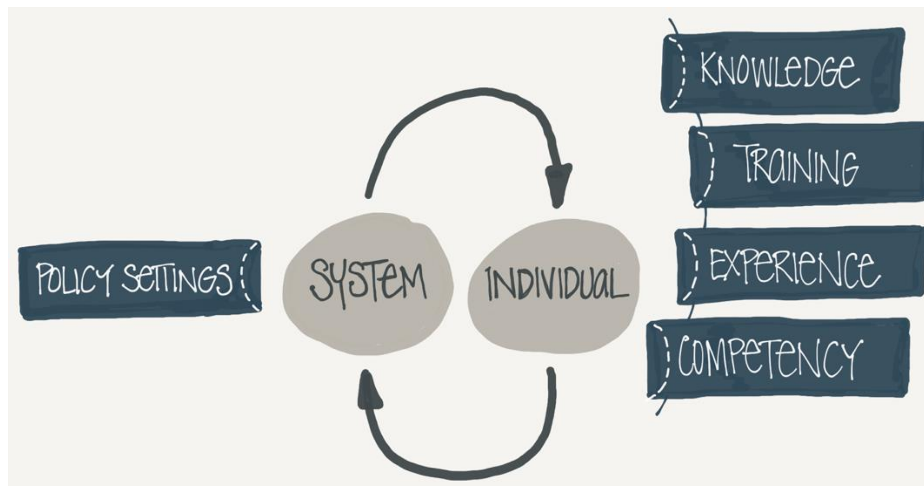

Figure 16. System and individual relationship when working to Top Scope of Practice

Table 2 shows a range of areas described by dietetic stakeholders as reflecting 'top scope of practice' or the professional boundaries that they as a dietitian work within. NSW Health survey respondents were asked to indicate which of these functions they performed in their current role.

Some respondents considered that areas such as diabetes education, patient assessment and prescribing supplements were clearly undertaken by all dietitians; it is likely more accurate to say these tasks often form part of the scope of practice of a dietitian, but not always.

Other feedback indicated that individual dietitians were unclear about the process for ensuring local clinical and management support for working to the top scope of practice and providing clarity to the workforce on best practice approaches to expanding scope of practice may be helpful to the system.

Example of top scope of practice	Percentage of all NSW Health respondents (n=362)
Prescribing supplements[3]	78.61%
Diabetes management: Education	64.89%
Diabetes management: Patient assessment	60.50%
Diabetes management: Dietitian-led clinics	14.89%
Dietitian-led paediatric feeding clinics	10.06%
Ordering pathology	9.30%
Dietitian-led clinic for head and neck oncology patients	7.37%
Nasogastric tube insertion and management	6.52%
Prescribing medications	5.41%
Dietitian-led metabolic clinics in mental health services	3.97%
Diabetes management: Adjustment of insulin	2.24%
Gastrointestinal tube replacement	1.41%

Table 2. Areas where NSW Health nutrition and dietetics workforce currently work to the top scope of practice

Respondents also indicated the following functions are undertaken by individuals and could also be examples where dietitians worked to the top scope of practice:

- Charting medications
- Nutritional coaching - beyond the competencies described in Appendix D – DA National Competency Standards (Domain 2)
- Prescribing enteral and parenteral nutrition
- Dietitian-led post blood and marrow transplant clinics
- Dietitian-led eating disorder clinics
- Dietitian-led pancreatic insufficiency clinics
- Gastrostomy tube management.

For the purpose of clarity, it should be noted that this list is not exhaustive and areas where dietitians may work to the top of their scope may vary and depend on local policy

[3] This question asked, "Which functions described below do you perform in your current role?" Following review and validation with Co-Chairs of the Nutrition and Dietetics Committee, it was noted that that this question could represent a wide area of practice – from provision of commercial supplements/high energy and high protein drinks through standard channels such as meals and mid-meals, through to provision via home enteral nutrition services, or more 'novel' service delivery methods such as MedPass in the inpatient setting. It will be the area of clinical practice (and local policy) that will dictate how much any one dietitian may engage in this. Given the unexpectedly high response to this question, and also the number of dietitians indicating they do not have prescribing rights, it may be that this question was interpreted by respondents to include recommending supplements.

and clinical governance arrangements, as well as capability and training of the individual dietitian.

Allied Health Assistants (Dietetics)

Dietary support workers may also be employed by Local Health Districts and Specialty Health Networks to work alongside nutritionists and dietitians. This group of dietary support workers are employed under the NSW Health Service Allied Health Assistants (State) Award 2019 (NSW Health, 2019). The assistants in nutrition and dietetics are formally recognised as Allied Health Assistants, however the role title given to these support workers vary between Districts, Networks and Pillars. Predominantly historical factors has led to the variation with role title for these workers to include – but are not limited to – dietitian assistant, diet aide, nutrition assistant, or allied health assistant working in dietetics (Urbis, 2015).

Allied Health Assistants (Dietetics) – Scope of Practice

The NSW Health Service Allied Health Assistants (State) Award 2019 describes three classification levels for Allied Health Assistants. The Allied Health Assistant Framework (NSW Ministry of Health, 2020) adds another dimension to describing the scope of Allied Health Assistants (Dietetics). To complete the scope, the general tasks for all Allied Health Assistants in NSW Health are accompanied by care delegated by dietitians, clinical support, administrative support, specific tasks and functions for Allied Health Assistants (Nutrition and Dietetics) across acute, sub-acute and community settings. The specific tasks listed in the Allied Health Assistant Framework include:

- Assist with dietetic programs as directed by the supervising clinical dietician
- Participate in risk screening including malnutrition screening and other relevant screening programs
- Identify and report factors that place patients/clients at nutritional and hydration risk
- Facilitate access to food and fluids
- Apply clinical nutrition/ therapeutic diet protocols as delegated
- Assist the clinical dietitian with implementation and monitoring of prescribed nutrition care plans, including discharge planning
- Facilitate and monitor orders to patient/ client food services, as required by the local facility system and protocols
- Manage and coordinate the provision of enteral feeds, commercial oral supplements and infant feeding formulas
- Assist with nutritional support for patients/clients with dysphagia
- Communicate with all necessary other health service personnel regarding patient/client therapeutic diet requirements
- Support the provision of basic nutrition advice and education.

Delegation

While it is noted that not all health services have Allied Health Assistants (Dietetics), as part of the workforce profile, there is an opportunity for dietitians to delegate tasks to this group in order to free their time for more complex clinical tasks. Therefore, strengthening the dietetic workforce's skills in delegation may be an area of focus for the near-term.

Policy and Strategic Context

In this section, key policies or strategic documents which impact on the NSW Health Nutrition and Dietetics workforce are reviewed.

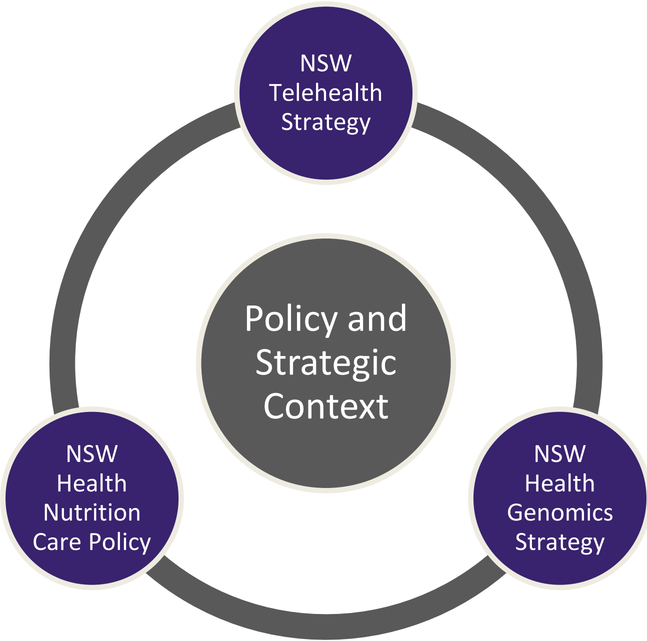

Figure 17. Policy and strategic context

NSW Health Nutrition Care Policy

The key policy directive impacting on the role and function of the NSW Health Nutrition and Dietetics workforce is the Nutrition Care policy (Agency for Clinical Innovation, 2017). The policy is not a workforce document but may be used to inform workforce planning because it mandates the use of dietitian services. The policy describes aspects of malnutrition and obesity and sets out the essential nutrition-related actions expected to occur in NSW Health facilities. This includes performance of weight and height/ length assessments and nutrition screening.

Nutrition screening

Nutrition screening is used by nursing, medical or other clinical staff to identify patients at risk of malnutrition. It is required across a broad range of NSW Health facilities from hospitals, outpatient services, community and ambulatory care settings through to long stay facilities such as multipurpose services and residential aged care.

According to the Nutrition Care policy, nutrition screening should occur within 24 hours of admission and then weekly during the patient's episode of care, and at least monthly in

long stay facilities (e.g. multipurpose services, some rehabilitation centres, some mental health facilities). A nutrition screen should also occur if the patient's clinical condition changes. Patients who are identified as 'at risk' or at nutritional risk are referred to a dietitian for a full nutrition assessment and nutrition support as appropriate.

Nutrition assessments

The Nutrition Care policy requires Local Health Districts, Specialty Health Networks and Public Health Organisations to have a system in place for nutrition assessments to support the diagnosis of malnutrition. The nutrition assessment must be undertaken by a dietitian and an appropriate validated tool must be used to support the diagnosis of malnutrition.

Patients requiring nutrition assessment should be seen by a dietitian within two working days of referral. If there is no dietitian available, a protocol outlines the expected management of the patient until a nutrition assessment can be completed. The policy also notes that strategies such as telehealth could be considered for facilities where access to a dietitian onsite is limited. A nutrition assessment should be discussed with the treating doctor and multidisciplinary team and must be documented in the patient's medical record. See further discussion about the workforce impact of the Nutrition Care policy in Appendix F – Digital Health: Enabling Improved Workforce Resource Utilisation.

Case Study: National Food Policy in Finland

During consultation and as part of solution ideation, stakeholders referred to Finland as one example of demonstrating how national policy might be shaped at strategic level to influence population health outcomes. A National Nutrition Council (NNC) has been operating in Finland since 1954, and initially was focussed on addressing nutritional deficiencies through fortification programs and school lunches. Since the 1970s, the focus of the NNC has been on chronic disease prevention, and most recently a focus has emerged on weight control and the prevention of Type 2 diabetes. Overwhelmingly, Finland demonstrates a highly integrated approach to national health through diet, and nutrition policies are broadly embedded in the domains of education, research, food production and legislation. (Virtanen, 2012)

NSW Health Genomics Strategy

The scope of the NSW Health Genomics Strategy (NSW Health, 2017) is clinical genomics, defined as the emerging discipline that involves using genomic information about an individual, a cancer or an infectious organism as part of clinical care (e.g. for diagnostic and/or therapeutic decision-making) and the health outcomes and policy implications of that use.

Genomics can provide greater accuracy in determining disease risk, assessing diagnosis and prognosis, and informing the selection of therapeutic options for care. Improved precision in care may avoid unnecessary treatments and provide savings for the healthcare system and the economy at large. Applications of genomic technology in this way are commonly referred to as precision or personalised medicine. In particular nutrigenomics (the area of nutrition that uses molecular tools to search, access, and understand the several responses obtained through a certain diet applied between individuals or population groups) is an emerging field of genomics and is an area where dietitians may be well-placed to harness their professional expertise in a rapidly transforming field of innovation.

There was significant debate by stakeholders during consultation as to the role of dietitians in the NSW genomics program. The NSW Health Strategy plan presents a significant opportunity for the dietetics profession to become more involved in shaping the implementation and direction of the Genomics Strategy, and since the workshop, the Nutrition and Dietetics Advisory Network have nominated a representative to sit on the NSW Health Genomics Steering Committee. Stakeholders also expressed a view that dietitians could be more involved in helping establish the evidence base for nutrigenomic interventions.

Nutrigenomics and Dietetics workforce perspectives from Quebec

In 2012, a survey was conducted of dietitians registered in Quebec to understand their current knowledge about nutrigenomics, identify training needs in nutrigenomics and highlight the perceived limitations of the use of genetic tests in their scope of practice (Cormier, et al., 2014). The survey found that nearly 77% of respondents were aware of nutrigenomics, but almost all of this group (63% of those working in private practice, and 76% of those working in the public sector) considered they did not have the basic knowledge to integrate nutrigenomics in their practice. Nearly 68% of respondents were not aware of the availability of direct-to-consumer testing. Respondents identified the university system as the preferred route to learn about nutrigenomics and indicated that courses on the relationship between genetics and diet should be included in undergraduate dietetics programs.

NSW Health Telehealth Strategy

The *NSW Health Telehealth Framework and Implementation Strategy 2016-2021* (NSW Ministry of Health, 2016) (The Strategy) outlines actions, timeframes and responsibilities to embed telehealth in core business in NSW Health. The Strategy is based on significant consultation with NSW Health stakeholders, and the findings of a strategic review of telehealth in NSW completed in 2014. The strategic review identifies a range of barriers and enablers to telehealth, and makes recommendations for future oversight, implementation and strategic direction.

Given the 2019 - 2020 COVID-19 pandemic, there has been an increased focus on providing services via telehealth by districts and networks. It is anticipated that this wider-scale adoption of telehealth, combined with the end of the five-year telehealth strategy period will provide a platform for more significant telehealth adoption and integration during the next strategy cycle.

Telehealth at Western NSW Local Health District

Western NSW LHD implemented a Virtual Dietitian service during 2017 and 2018 to increase access to dietetic services in facilities without a dietetic service in place. A second objective of the project was to support dietitians to utilise telehealth as a mode of service delivery.

Patients were eligible to participate in the service if their malnutrition screening tool score was ≥2. The project was so successful that from 2019 it was extended to any small site within the District wishing to enrol in the service.

As a result of the project, dietetic service coverage across the District is more equitably distributed. Other benefits include less pressure on dietitians at base hospitals, more collaborative allied health care services (e.g. working in partnership with a virtual physiotherapist) and faster access to services for patients rather than waiting for a face to face appointment or travelling longer distances for health care.

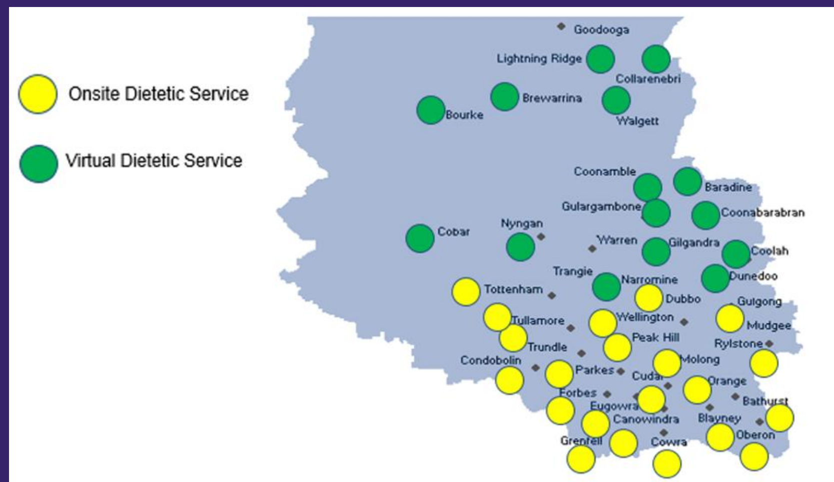

Figure 18. Map of dietetics service coverage in WNSWLHD with Virtual Dietetic Service in place

Opportunities for Change

Given the themes, challenges and priorities discussed, there are eight strategic opportunities for change proposed. These opportunities for change are further supported by Appendix E – Measures to Address Workforce Supply Gaps and Opportunities and Appendix F – Digital Health: Enabling Improved Workforce Resource Utilisation.

Figure 19. Opportunities for change

1. Increase Profile

Increase the profile of the nutrition and dietetics workforce through participation in statewide initiatives and programs.

Example/s actions:

- Strategic priorities including frailty, nutrigenomics and digital health (telehealth).
- Leveraging the relationships of the existing workforce to hold an annual event that profiles and educates about the Nutrition and Dietetics workforce within all Districts and Networks.

2. Prioritised Capability Focus

Develop workforce capability to address priority opportunity areas such as Aboriginal health, mental health and provision of services to Culturally and Linguistically Diverse (CALD) populations.

Example/s actions:

- Change management strategy to further strengthen telehealth capability within the workforce,
- Further focus on delegation skills to support improved utilisation of the AHA (Dietetics) workforce.

These are further explored in

Appendix E – Measures to Address Workforce Supply Gaps and Opportunities.

3. Aboriginal Workforce

Increase the number of dietitians who are Aboriginal.

Example/s actions:

- Develop programs to support Aboriginal nutritionists in community health
- Support Aboriginal Health Workers to complete dietetics qualifications and/or to move into Allied Health Assistant dietetic roles.

4. Gender and Diversity Strategy

Develop a gender and diversity strategy for the NSW Health Nutrition and Dietetics workforce.

5. Workforce Planning

Strengthen career pathways that accommodate the predominantly female workforce and undertake workforce planning initiatives to leverage opportunities.

Example/s actions:

- Provide opportunities through planned career breaks and gaps, flexible work and succession planning.

6. University Sector Collaboration

Continue to work closely with university sector to manage student placements and provide a range of clinical exposure.

Example/s actions:

- Align with the priorities identified in this report - including mental health, Aboriginal health and increasing community-based dietetics services.

7. Community-Based Dietetics Workforce

Review the impact of the nutrition policy on District and Network dietetics resourcing

Example/s actions:

- Consider what supports might be required to increase the proportion of community-based dietetics workforce.

8. Value-Based Care

Investigate options to emphasise a value-based care approach to dietetics services within the Activity Based Funding/Activity Based Management (ABF/ABM) framework.

Conclusion

The NSW Nutrition and Dietetics workforce is highly skilled and passionate about their profession. Throughout this process of Horizons Scanning and Scenario Generation, stakeholders have insightfully reflected on the current state of the workforce and contemplated what transformation might occur to better deliver health services for NSW Health patients in the future.

The NSW Nutrition and Dietetics workforce is fortunate to draw upon a large pool of graduates which results in a perceived oversupply of early career dietitians to the NSW Health workforce. Despite the generous supply of these graduates, there are aspects within the workforce which may be undersupplied, including dietitians working in rural and remote locations, expertise in Aboriginal health and mental health, and in diversity including gender, cultural and linguistic diversity, and disability. It is also acknowledged that when considering the career stage of the NSW Nutrition and Dietetics workforce, the perceived oversupply of those early career nutritionists and dietitians is contrasted with a perceived undersupply of late career nutritionists and dietitians.

A key factor influencing the shape of the NSW Nutrition and Dietetics workforce over the span of a career is the proportion of female dietitians employed in NSW Health. Because this group of the workforce often make changes to their career and employment arrangements as a result of their personal caring responsibilities, it is a likely contributor to the perceived workforce undersupply of mid and late-career nutritionists and dietitians.

There is agreement amongst stakeholders who participated in this project that there are strong demand drivers which underpin the broader NSW Nutrition and Dietetics workforce. It was suggested some of these demand drivers are also relevant to the broader allied health workforce such as the increasing acuity of patients, the increase in chronic and complex disease, population demographics and the emergence of new technologies. There are some additional demand factors which are unique to NSW nutritionists and dietitians, including the NSW Nutrition Care policy, research demonstrating the link between diet and good mental health, and impact associated with the National Disability Insurance Scheme (NDIS).

This report identifies eight strategic opportunities for change

1. Increase Profile
2. Prioritised Capability Focus
3. Aboriginal Workforce
4. Gender and Diversity Strategy
5. Workforce Planning
6. University Sector Collaboration
7. Community-Based Dietetics Workforce
8. Value-Based Care

A suite of potential tactical measures to address workforce supply gaps and opportunities has also been developed by stakeholders as part of their involvement in the project. These opportunities can be addressed in any order and it may be

discovered they are interlinked within the measures. These findings are consistent with dietetics workforce strategic planning recently completed by the UK National Health Service (Hickson, 2017).

Finally, there are a range of strategic initiatives within NSW Health which present opportunities for the NSW Nutrition and Dietetics workforce to drive and potentially take an active leadership role. At the time of writing, these areas include involvement in genomics and telehealth. Over the coming decade, it is likely there will be other strategic innovation areas where the NSW Nutrition and Dietetics workforce will have the skills and expertise to make significant contributions.

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Appendix A – Literature Review Summary

Topic	*Key findings*
Executive summary	• A number of changes affecting the dietetic workforce have been largely driven by or the result of government policies, both at the local government level and federal level (Morgan, Campbell, & Sargeant, 2019) • There is an interest from the public in the dietetic and nutritionist field; • Rural Australia faces shortages in dietitians (Health Workforce Australia, 2014) • Aboriginal Australians could be better served by dietitians.
Methods used in literature review	• The literature review considers broader sector impacts on the role, scope and functions of dietitians and explores other jurisdictions and comparable countries • The review also considered the broader health sector and technology trends as part of the analysis • The literature review provides some focus on demand and supply drivers.
Dietitian training and standardisation	• Eligibility for full membership of DA means having completed an accredited program of education • This means: a bachelor or post graduate degree in Nutrition and Dietetics or other qualification deemed equivalent by the employer that provides eligibility for full membership of Dietitians Australia • NSW has three universities which offer accredited courses of study, none of which are in regional areas (Dietitians Association of Australia, 2019).
Nutritionist training and distinctions from dietitian training	• DA notes the existence of numerous nutrition study programs available at Colleges of Technical and Further Education (TAFE) and privately run registered training organisations • Completing these courses, however, will not make one eligible for accreditation with DA • Completing a program such as this will not provide eligibility to join DA program or APD • There is no industry-specific assessing authority that assesses the qualifications of nutritionists • In Australia there is a distinction made between dietitians and other occupations in the nutrition and food science field, including that of a nutritionist (Dietitians Association of Australia, 2019).

Topic	*Key findings*
Workforce supply and demand issues	• A major issue for the dietetic workforce is oversupply • The workforce is predominantly female (Workplace Gender Equality Agency, 2019) • An ageing population and ageing of the health worforce is not a dominant influence on the dietetic workforce Segal & Bolton, 2009).
Workforce participation and oversupply or underemployment	• There is a shortage of dietitians who specialise in Aboriginal health and obesity • At present, the dietitian workforce has a young age profile – similar to that of the nursing workforce (Health Workforce Australia, 2014) • The common denominator between dietitian and nurse workforce profile is occupational dominance by women (Australian Bureau of Statistics, 2011) • Various data sources indicate oversupply or underemployment of dietitians. More dietitians want to enter the workforce than are required to replace those leaving. In some areas the number of students outweighs the number of placements available (Meyer R, 2002), (Dietitians Association of Australia, 2005).
Workforce education and student enrolment cap	• Despite a significant attrition rate of students before graduation, the numbers of graduates are increasing (Department of Health, 2014) • Analysis suggests current downward trend of graduate employment linked to 2009 federal government policy of removing caps on public university places, thus providing a funded place for every domestic bachelor student admitted to the university from 2012 • Federal government policy end-result was a significant shift in sector to a greater user-pays and market-driven model (Dow, 2015).
Changes: hospital admission, Medicare, mental health plans	• A workforce shift away from hospital-based practice to community-based practice has been observed, be it private practice, researching, teaching, sales, or employment in community-managed organisations (Morgan, Campbell, & Sargeant, 2019) • Government policies have focused on implementing healthcare services that treat outpatients rather than admitting people to an inpatient ward • Non-hospital opportunities have been observed in recent years for dietitians, notably in mental health ("not all mental health services are staffed with enough dietitians to support optimal nutrition care") (Dietitians Association of Australia, 2018 and Queensland Department of Health, 2016) • 2004 Medicare policy suggested to be driver of slow increase in dietitians employed in private practice. Further, it is suggested that "the declining share of total consultations demonstrates that dietitians are not using the opportunity presented by Medicare to the same degree as some allied health professions" Mitchell, MacDonald-Wicks, & Capra, 2012)

Topic	Key findings
	• General Practitioners' relationships with dietitians were believed to be the primary influencing factor on referral.
Regional Australia, recruitment, retention, aboriginal Australians	• Health Workforce Australia notes difficulties in recruiting to rural and regional areas (Department of Health, 2014) • There are no DA-accredited rural NSW university dietetic courses • An inequitable distribution of the dietetic workforce across Australia has been observed, with – notably – a lack of degree training in Tasmania, the NT, and similar rural locales (Dietitians Association of Australia, 2005) • Statistics suggest that "locations that had high dietetic student placement throughput between 2006 and 2012 experienced increases in staffing" – which ought to be considered within the framework of improving service within remote and rural communities (Brown, Williams, & Squires, 2013) • NSW Health launched Good Health - Great Jobs Aboriginal Workforce Strategic Framework 2016 – 2020, designed to support local health districts, speciality networks and other NSW health organisations to grow and develop their Aboriginal workforce (NSW Ministry of Health, 2016).
Technology and My Food Choice in the dietitian workforce	• Social media has been used widely as a patient support tool in mental health and even for bariatric patients (Yitka, et al., 2017) • E-health has potential to address allied health needs of Australians living in rural and remote Australia and is an opportunity for innovation (Iacono, et.al., 2016) • Electronic referrals can happen in real time across the continuum of care from emergency departments to inpatient units and out again to general practitioners. There is scope for electronic referrals to be made to private dietitians, not just hospital-based dietitians • The opportunity for dietetics to contribute to personalised medicine is another area of growth opportunity for the dietetics and nutrition workforce. Further, a dietitian with access to the notes of other multidisciplinary team members could enhance outcomes for patients by working as a true team member electronically (ADHA, 2019).
Conclusion	• There is a general oversupply of dietitians, despite many dietitians leaving the dietetic workforce in the first 5 to 10 years. However, there is also evidence of undersupply of dietitians in some specific areas (e.g. rural and remote, mental health services) • One reason for oversupply is the high number of graduates • Some remote and rural communities may be underserved by dietetic services • Recruitment and retention of dietitians in rural services can be challenging • Barriers to recruitment and retention in rural services include professional isolation

Topic	Key findings
	• Other barriers to retention of the dietetic workforce may include perceived lack of management support, access to continuing education and the development of career pathways; • Mental health services may lack dietetic input and therefore there is an opportunity for increased participation of dietitians and dietetic interventions in these services; • Indigenous communities are underserved by dietetic services despite known chronic disease issues that have high dietary correlation; • The dietetic workforce lacks Aboriginal membership; and • Government policy and healthcare funding are strong drivers of demand for dietitians.

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Appendix B – Additional Workforce Profile

Employment status

Just over half of all NSW Health respondents indicated they were employed full-time, and nearly 40% employed part-time.

Many of the individual responses to 'Other' were made by individuals employed full-time, but working reduced hours following a return from maternity leave.

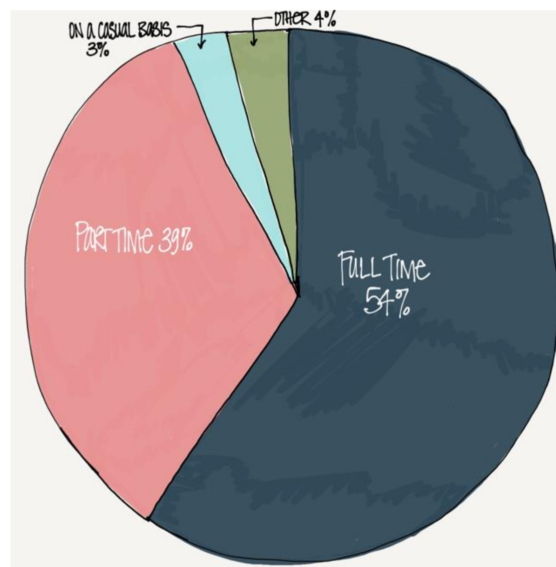

Figure 20. Employment status of NSW Health respondents (n=362)

Highest qualification attained

Approximately half of all respondents indicated their highest qualification attained was a Bachelor or Graduate bachelor's degree. 4% held a Graduate Diploma as their highest qualification, 41% had a Master level qualification and 3% had a PhD.

As may be expected, most respondents indicated their highest level of qualification was in the discipline of Dietetics or Nutrition and Dietetics, although a small number of respondents indicated their highest level of academic qualification was Master of Science, Master of Public Health and Master of Health Management.

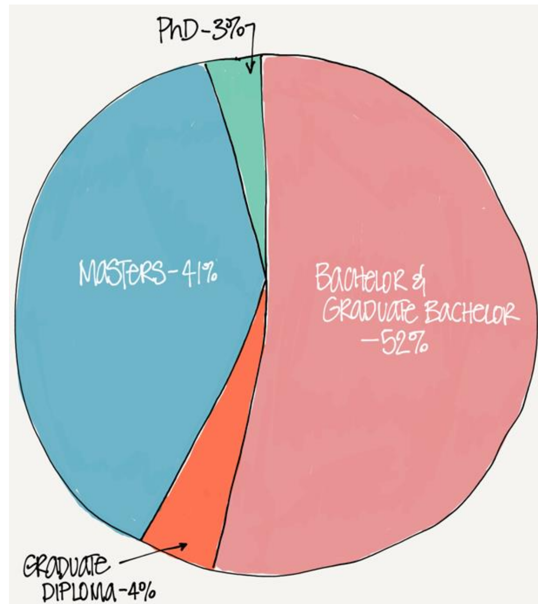

Figure 21. Highest level of academic qualification obtained (n=363)

Length of career as a nutritionist or dietitian

Overall, the NSW Health workforce holds a significant depth of experience working as a nutritionist or dietitian. Just over 50% of the NSW Health workforce had more than ten years' experience; a further quarter of the NSW Health workforce had between five- and ten-years' experience, and the remaining workforce had been working as a nutritionist or dietitian for up to five years.

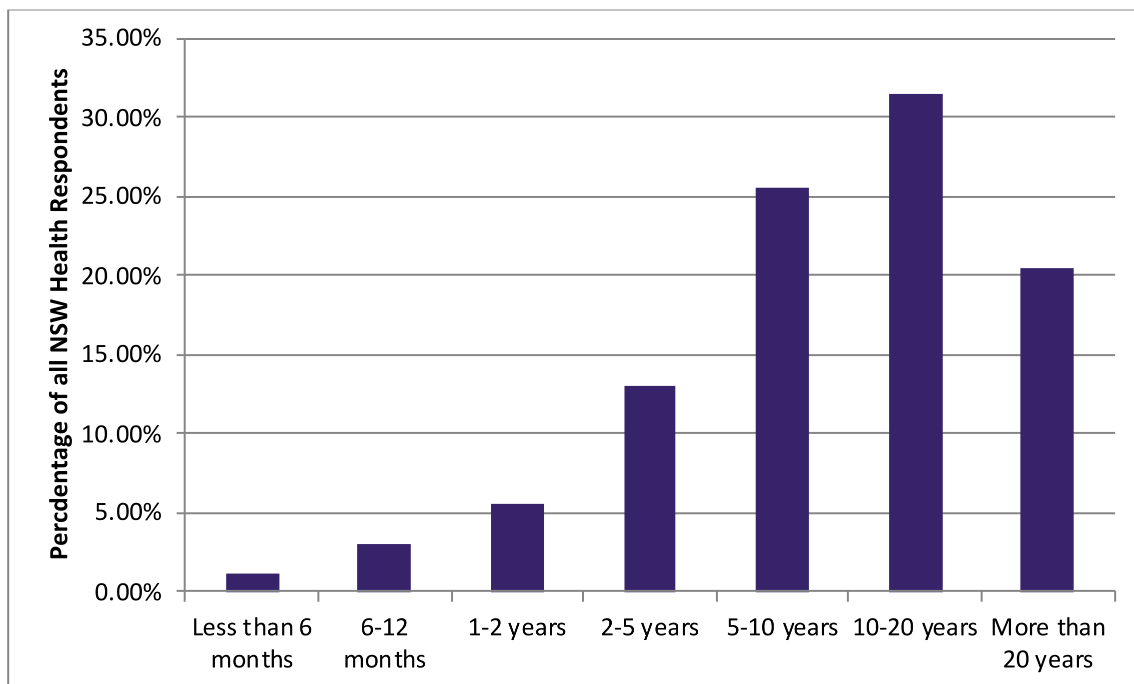

Figure 22. Length of time working as a Dietitian or Nutritionist (n= 363)

Appendix C – DA Accredited Nutrition and Dietetics Courses

State/Territory	Institution	Course/s
Australian Capital Territory	University of Canberra	Master of Nutrition and Dietetics (Code: 772AA)
New South Wales	The University of Newcastle	Bachelor of Nutrition and Dietetics (Honours) (Code: 12339)
	The University of Sydney	Master of Nutrition and Dietetics (Code: LC005)
	University of Wollongong	Bachelor of Nutrition and Dietetics (Honours) (Code: 1879) Bachelor of Nutrition and Dietetics (Honours) (Dean's Scholar) (Code: 1705) Master of Nutrition and Dietetics (Code: 1631)
Queensland	Bond University	Master of Nutrition and Dietetic Practice (Code: CC-63041) Bachelor of Nutrition and Dietetics (Code: 1355)
	Griffith University	Bachelor of Nutrition and Dietetics (Honours) (Code: 1436)
	Queensland University of Technology	Bachelor of Nutrition and Dietetics (Honours) (Code: XN45)
	The University of Queensland	Master of Dietetics Studies (Code: 5473)
	University of the Sunshine Coast	Bachelor of Nutrition and Dietetics (Code: SC353) Bachelor of Dietetics (Code SC302)
South Australia	Flinders University	Master of Nutrition and Dietetics (Code: 2CM093) Bachelor of Nutrition and Dietetics (Code: 214381)
Victoria	Deakin University	Master of Dietetics (Code: H718)
	La Trobe University	Bachelor of Applied Science and Master of Dietetic Practice (Code: HZNDP) Master of Dietetic Practice (Code: HMDP)
	Swinburne University of Technology	Master of Dietetics (Code: M6002) Master of Dietetics (Code: MA-DIET)
Western Australia	Curtin University	Master of Dietetics (Code: MDietCurtin)
	Edith Cowan University	Master of Nutrition and Dietetics (Code: I49)

Table 3. List DA-accredited Nutrition and Dietetics Courses (Graduates are eligible for membership of the DA)

Appendix D – DA National Competency Standards (Domain 2)

Domain 2. Positively influences the health of individuals, groups and/or populations to achieve nutrition outcomes	
Key Tasks/Elements	**Observable and/or measurable actions**
2.1 Applies an evidence-based approach to nutrition and dietetics services	2.1.1 Collects, analyses and interprets relevant health, medical, cultural, social, psychological, economic, personal, environmental, dietary intake, and food supply data in determining nutritional status 2.1.2 Makes appropriate nutrition diagnoses and identifies priority nutrition issues based on all available information 2.1.3 Prioritises key issues, formulates goals and objectives and prepares goal-oriented plans in collaboration with patient/client or carer, community/population/service, other members of the healthcare team, key stakeholders and partners 2.1.4 Implements, evaluates and adapts nutrition care plans/programs/services in collaboration with patient/client or carer, community/population/service and other members of the health care team or key stakeholders and/or partners
2.2 Influences the food supply to improve the nutritional status of individuals, groups and/or populations	2.2.1 Applies an approach to practice that recognises the multi-factorial and interconnected determinants influencing nutrition and health 2.2.2 Identifies opportunities and advocates for change to the wider social, cultural and/or political environment to improve nutrition, food standards, or food supply in various settings 2.2.3 Acknowledges the multiple factors that influence food choice and the provision of service 2.2.4 Uses food legislation, regulation and standards to develop, implement and evaluate food systems to maintain food safety 2.2.5 Applies a socio-ecological approach to the development of strategies to improve nutrition and health
2.3 Facilitates optimal food choice and eating behaviours for health	2.3.1 Applies a highly developed knowledge of nutrition science, health and disease, food and food preparation methods to tailor recommendations to improve the health of individuals, groups and/or populations 2.3.2 Displays effective active listening, interviewing and interpersonal skills to better understand perspectives of clients,

	carers, groups and key stakeholders to inform approaches and influence change 2.3.3 Uses client-centred counselling skills to negotiate and facilitate nutrition, behaviour and lifestyle change and empower clients with self-management skills

Figure 23. Detail from DA National Competency Standards, Domain 2.

Appendix E – Measures to Address Workforce Supply Gaps and Opportunities

As part of the Scenario Generation workshop, key workforce supply challenges identified by stakeholders during consultation activities were explored in detail using tools and frameworks. The purpose of these activities was to:

- Rapidly explore and analyse supply challenges,
- Take the perspective of an imagined future-state scenario in ten years' time where some of the current supply challenges have been resolved; and
- Describe what actions might have occurred from that future-state view to significantly address these issues.

These ideas may help shape an implementation strategy for the workforce to consider how identified supply challenges might be addressed over the coming decade and are included in boxes throughout the discussion in this section.

Gap: Increasing workforce expertise in Aboriginal health

Potential initiatives to address this at a strategic level include:

- Supporting key skills and capability development including cultural awareness. understanding Aboriginal concepts of health and food; developing aptitude in engaging with Aboriginal people and communities; understanding the broader context of Australian culture and history, including the relationship between this history and health disparity in the Aboriginal population, and why there may be a lack of trust with the health system,
- Increasing the proportion of the nutrition and dietetics workforce that is also Aboriginal,
- Support Aboriginal-identified Allied Health Assistants and Aboriginal Health Workers to train in dietetics, and consider training nutritionists who identified as Aboriginal,
- Provide community-based services at schools or in the community (rather than clinics delivered from hospital facilities),
- Recognising that the non-admitted service event does not necessarily acknowledge a non-medical interaction that supports the development of rapport over time and be able to allocate the time necessary to develop and build relationships to establish trust,
- Create a postgraduate accredited course (written and delivered by Aboriginal-identified educators) for dietitians,

- Offering more flexible modes of dietetics education in universities (online, distance),
- Districts and Networks to explain specific local Aboriginal country and history as part of orientation for staff,
- Create pathways for non-Aboriginal dietitians to upskill in Aboriginal health; and
- If appropriate, add dietitians to multidisciplinary Aboriginal Health Teams.

Gap: Increasing workforce expertise in mental health

In this exercise, participants considered what actions might increase the broader nutrition and dietetics expertise in mental health. Potential initiatives include:

- Offering students, a clinical rotation in mental health services,
- Consider providing postgraduate modules and/or courses in mental health dietetics and deliver these online and face-to-face,
- Build capacity within the workforce through shadowing opportunities with more experienced dietitians working in mental health,
- Offer one-year mental health internships (as per the Canadian model),
- Increase FTE dietetics staff in public mental health services,
- Create mentoring opportunities to provide education and network support,
- Implement mental health multidisciplinary team programs which include dietetics across all Districts and Networks,
- Address perceived challenges associated with opportunities, infrastructure and funding for mental health dietetics services,
- Increase dietitians in leadership roles to positively influence state policy and programs; and
- Increase Dietetic Assistants working in mental health services to support education, for example offering cooking classes and support to mental health-based dietitians.

Gap: Increasing the diversity of the nutrition and dietetics workforce

In this exercise, participants considered what might be feasible to address sex, disability and cultural and linguistic diversity within the workforce. Potential initiatives included:

- Understand if the lack of diversity is a result of lack of opportunity or a lack of interest – conduct research amongst target groups,
- Considering the role of the Australian Tertiary Admissions Rank, opportunities for career progression and salary,
- Promote the profession through male dietitian role models and look to engineering and nursing professions to learn and apply their strategies to increase gender diversity within their workforces; and
- Investigate cadetships, scholarships and supported programs for people with a disability and people who are culturally and linguistically diverse and consider targeted incentives for these groups.

Gap: Increasing the rural and remote workforce

In this example, stakeholders discussed what initiatives might help address some of the challenges relating to rural and remote workforce.

In addition to the suggestions below, it was agreed that many of the concepts proposed to increase mental health capacity might also be appropriate for this workforce supply challenge also.

- Consider offering fractional and shared nutrition and dietetics roles with the private and not-for-profit sector,
- Use technological systems to support staff in rural and remote areas and consider how technology might assist fractional FTE across multiple rural and remote sites,
- Increase focus on rural placements and residentials,
- Consider how specialisation might be supported for the rural and remote workforce, considering that their exposure might traditionally be mostly as a generalist dietitian; and
- Address potential practical challenges such as accommodation, help establishing social networks and providing orientation and mentoring support for early career and staff who are new-to-service.

Opportunity: Supporting healthy ageing

Stakeholders identified this as the greatest priority area for the workforce in terms of innovation opportunity. Teams considered how the NSW Health Nutrition and Dietetics workforce might best support healthy ageing. Their key recommendations arising from this exercise are to:

- Realign/reinvest in the dietetics workforce, with a focus on increasing the community-based nutrition and dietetics workforce,
- Utilise improved and more sensitive screening tools in elderly populations,
- Increase the understanding of funding arrangements (Activity Based Funding and Value Based Care) for public hospital services and place the dietetics workforce in the most appropriate service locations, aligning costing processes to capture these improvements,
- Increase community dietetics training/placements in university courses, and prioritise skill development in engaging with community and vulnerable populations as part of placements for students and professional development for NSW Health staff,
- Consider a review of all NSW Health policies to include a health and nutrition lens (as per Finland model),
- Increase professional collaboration with community nursing, general practice and medical staff; and
- Consider introduction of subsidised food programs to address food insecurity for the elderly and provide targeted population health messages to people in this group.

Opportunity: Increasing involvement with vulnerable populations

In this example, we considered how NSW Health nutrition and dietetics workforce might increase their involvement with vulnerable populations. One group took a generalised approach, and another considered this specifically for people with a lived experience of mental health challenges. Their recommendations were to:

- Reorient the workforce to increase focus on community health and population health sectors, and consider a funded dietetic position in every community health service,
- Measure hospitalisations avoided based on dietetic service interventions,
- Involve dietitians in the provision of community food services,
- Include nutrition education delivered by a dietitian in every health professional university course,
- Include mental health education in every dietetic course and offer placement opportunities for dietitians to develop skills and knowledge in this area; and
- Establish a specialised course in mental health nutrition.

Opportunity: Increasing provision of services to CALD populations

In this example, groups considered what could be done to better provide services to CALD populations.

Recommendations to increase provision of services to CALD populations include:

- Invest time and focus on diverse groups when they are new and emerging to anticipate future need for dietetics advice and support,
- Dietetics services may take a flexible and tailored approach to service delivery which reflects local demographic data,
- Universities and employers may support education of clinicians (including the nutrition and dietetics workforce) to understand cultural requirements and sensitivities for CALD populations,
- The local nutrition and dietetics workforce may identify and develop relationships with leaders from community groups and would visit CALD populations in the patient or client’s own environment,
- Services would allow time to the workforce to develop relationships and the funding model would acknowledge this increased resource intensiveness as a reflection of the complexity of the local population,
- This workforce would also include generalist dietitians with the skills to work across a broad range of heath specialities; and
- Locally emphasise innovation in working with these populations as well as making (and learning from) mistakes.

Appendix F – Digital Health: Enabling Improved Workforce Resource Utilisation

As part of the review of this report by a representative sample of NSW Nutrition and Dietetics stakeholders, extensive discussion occurred in relation to the NSW Nutrition Care Policy and the practical workforce implications which may occur as a result.

One of the opportunities for change (and it is noted that this is a digital health change, that could support improved utilisation of the NSW Nutrition and Dietetics workforce) is to improve the reporting functionality within the EMR to enable prioritisation and easy identification of patients with MST scores identifying them ‘at risk’.

As stipulated in the Nutrition Care policy, these patients must be seen by a dietitian for a full nutritional assessment and nutrition support as appropriate within two working days of referral.

There is no single build of EMR in place across NSW Health facilities at the moment, so it is noted that each District may have a slightly different process for obtaining information of patients’ MST scores. However, during discussions, it was established that a dietitian would need to ‘click into’ each individual patient record to identify the MST score for that patient, and there was not generally a process for sourcing a report that provides this information efficiently.

Because the process occurs in this way, patients may be discharged before a Dietitian has the opportunity to respond in accordance with the policy.

A potential resolution (which would benefit both patients and workforce utilisation significantly) would be to design (in close consultation with NSW Health Nutrition and Dietetics stakeholders) a report that extracts MST scores for all admitted patients including their Ward Location and prioritises this list so that the highest scoring patients are listed at the top. This report should be standardised so that the format is consistent across all Districts and Networks.

This would enable the workforce to prioritise their services for admitted patients and ensure that those at most risk are seen prior to discharge where feasible.

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