NSW Ministry of Health

Occupational Therapy – Horizons Scanning and Scenario Generation

July 2017

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1   Executive Summary

> ***THE PURPOSE OF THIS DOCUMENT IS TO OUTLINE THE METHODOLOGY, APPROACH AND THEMES RAISED BY THE LITERATURE AND OCCUPATIONAL THERAPY STAKEHOLDERS TO INFORM THE WORKFORCE MODELLING PHASE (STAGE C IN Figure 1 BELOW) 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.***

The Occupational Therapy Horizons Scanning and Scenario Generation Project is driven by the NSW Health Professionals Workforce Plan 2012-22 (the Plan), which sets out the framework for addressing the workforce implications of increasing demand for health services in NSW. Given this increasing demand for health services, the Plan establishes that simply increasing staffing without considering changing workforce practices and introducing more efficient and effective models of care is unsustainable.

The Plan outlines that the Workforce Planning and Development Branch (WPD) is responsible for developing and modelling projections for the Allied Health workforce over the next five years in line with forecast health service delivery requirements.

In December 2016, there were 19,260 registered occupational therapists in Australia with 28.0% working within NSW. The occupational therapy profession is integral to the delivery of high quality, timely and effective patient care in NSW. The scope of practice and interventions of occupational therapy are applicable across a broad range of chronic and complex conditions. Due to the focus of occupational therapy on the functional impact of illness, there is potential to reduce the burden of disease and increase the number of people participating in life roles and society, therefore improving quality of life. As well as impacting positively on the lives of patients and the communities in which they live, occupational therapists contribute to the effective management of the health system by facilitating timely discharge and preventing hospital admissions.

The Occupational Therapy Workforce Horizons Scanning and Scenario Generation project (the Project) supported stakeholders in the occupational therapy profession to participate in the development of a driver model that articulates key demand and supply drivers for the occupational therapy workforce in NSW.

Demand drivers may be defined as factors that shape and influence demand for a workforce's services. The Project identified several demand drivers for the occupational therapy workforce including population demographics and the increasing incidence of chronic and complex disease, government funding and policy, scopes of practice, service pathways, service coverage and accessibility, service awareness and newly emerging models of care.

Supply drivers may be defined as factors that contribute to the availability, sustainability and size of the workforce. The Project identified several supply drivers for the occupational therapy workforce including the current profile of the profession, career pathways and professional development, succession and workforce planning, training and availability of clinical placements, workforce recruitment and retention in rural / remote areas, scope of practice and skills mix, funding of occupational therapy roles and data and evidence to support workforce activities.

The purpose of this document is to outline the methodology, approach and findings of the project to inform the Workforce Modelling phase (Stage C in Figure 1 below) of the NSW Ministry of Health's Workforce Planning Methodology.

2   Introduction

The Occupational Therapy Horizons Scanning and Scenario Generation Project is driven by the NSW Health Professionals Workforce Plan 2012-22 (the Plan), which sets out the framework for addressing the workforce implications of increasing demand for health services in NSW. Given this increasing demand for health services, the Plan establishes that simply increasing staffing without considering changing workforce practices and introducing more efficient and effective models of care is unsustainable. The Plan outlines that the Workforce Planning and Development Branch (WPD) is responsible for developing and modelling projections for the Allied Health workforce over the next five years in line with forecast health service delivery requirements.

The Horizons Scanning and Scenario Generation project represents an opportunity for stakeholders in the occupational therapy profession to participate in the development of a short, medium and long-term vision for their field. In developing this vision, several system-wide drivers require consideration, including (but not limited to):

- The need to shift the provision of service from an institutional focus, towards a patient-centric model

- An increasing focus on Activity-Based Funding, encouraging services to consider more efficient models of care, often delivered in the home or in community based settings

- Impacts of Information and Communication Technology (ICT) on occupational therapy roles, how technology supports occupational therapy, it's capabilities and challenges with access, and the overarching state-wide eHealth/NSW ICT strategies

- An emphasis on collaborative, multidisciplinary teams across care settings and balancing health profession specialisation with generalisation to address the increased demand for care, particularly amongst patients with chronic and complex conditions

- A need to consider the geographic distribution of workforce to align with changing population demographics and health needs

- Broader NSW-wide and national programs of work including, for example, the NSW Integrated Care Strategy, NSW Health Leading Better Value Care initiative and the National Disability Insurance Scheme (NDIS).

The Information Gathering, Issues and Drivers Analysis; and Scenario Workshop phase of the Scenario Generation stages as set out in the Ministry of Health workforce planning methodology are represented in Figure 1 below.

Figure 1. Ministry of Health Workforce Planning Methodology
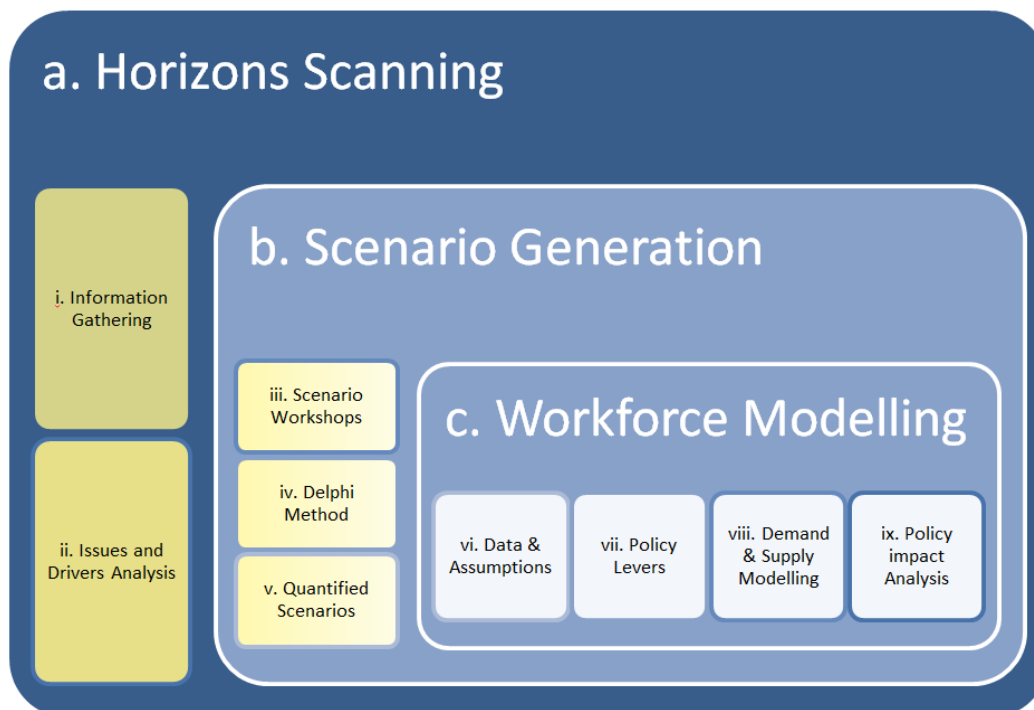
2.1 Methodology

The methodology used to conduct the occupational therapy workforce horizons scanning and scenario generation is comprised of two components – an information gathering phase, and an issue and drivers analysis phase.

Different approaches were used in each phase to draw out relevant information as described below.

2.1.1 Literature Search and Review

An initial literature search was conducted within Google Scholar, which was used as the foundation of a literature review. To augment the initial findings, a comprehensive search of organisational and grey literature was undertaken. Key words relevant to the occupational therapy profession were identified and utilised. Major databases, including OpenAthens, were accessed to supplement the search results. Recent publications were prioritised and available published data were considered.

Literature published outside of New South Wales and Australia was also utilised, including studies conducted in the United Kingdom, United States of America and Scandinavia. Whilst the health systems in the United States and Scandinavia are different to the Australian system, some of the social studies remain relevant.

2.1.2 Stakeholder Online Survey

An online survey was designed and distributed to Local Health District (LHD) and Specialty Health Network (SHN) nominated occupational therapy stakeholders. The survey contained a series of questions relating to the workforce demand and supply drivers, in addition to the challenges and opportunities available. The questions were informed by the initial findings of the literature review. Stakeholders were required to identify the level of significance of the drivers, challenges and opportunities in addition to prioritising them based on their perceived level of impact.

2.1.3 One-to-one Stakeholder Interviews

A small series of one-to-one interviews were conducted in parallel with the online survey. These interviews provided an opportunity for a 'deeper dive' into what stakeholders perceived to be key workforce drivers, challenges and opportunities. Combined with the online surveys and literature review, the interviews completed the information gathering stage and provided a focused framework for development of the horizons scanning workshops.

2.1.4 Horizons Scanning Workshop

The horizons scanning workshop was conducted on the 17th May 2017 and formed the basis for the issues and drivers identification stage of the workforce planning methodology. Key occupational therapy stakeholders representing LHDs, SHNs, NSW based universities and Occupational Therapy Australia participated in the workshop and as a group identified workforce demand and supply drivers.

Validation of the high-level drivers identified in the literature review combined with those raised by stakeholders in the workshop informed the development of an occupational therapy driver model.

2.1.5 Scenario Generation Workshop

The scenario generation workshop was conducted on the 15th June 2017 and built upon themes that were explored in the horizons scanning workshop. To maintain consistency in the methodology, the same horizons scanning workshop participants were engaged.

The workforce driver model was refined to encapsulate the key demand and supply drivers for the occupational therapy workforce. Stakeholders were invited to validate the concepts contained within the occupational therapy workforce driver model. In addition, stakeholders explored a series of future scenarios to determine their plausibility, potential impacts on the workforce and the method by which the workforce aimed to address them.

The findings of the research activities discussed above are detailed in the Occupational Therapy Horizons Scanning and Scenario Generation Report (this document).

The purpose of this document is to outline the methodology, approach and findings of the project from the literature and themes raised by occupational therapy stakeholders to inform the Workforce Modelling phase (Stage C in Figure 1 above) of the NSW Ministry of Health's Workforce Planning Methodology.

3 Overview of the Profession

This section of the report details the occupational therapy scope of practice and roles and functions of the associated and relevant professional boards and bodies.

3.1 Profession Overview and Scope of Practice

The occupational therapy profession is integral in delivering high quality, timely and effective patient care in NSW. The occupational therapy scope of practice and interventions are applicable across a broad range of chronic and complex conditions. Due to the focus of occupational therapy on the functional impact of illness, there is potential to reduce the burden of disease and increase the number of people participating in life roles and society, therefore improving quality of life.

As well as impacting positively on the lives of patients and the communities in which they live, occupational therapists contribute to the effective management of the health system by facilitating early discharge and preventing hospital admissions.

Occupational therapy is a client-centred health profession concerned with promoting health and well-being through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement.

Occupational therapists are university-qualified health professionals who complete an undergraduate or graduate entry course in occupational therapy. An occupational therapist must be registered with the Australian Health Practitioners Regulation Agency (AHPRA).

Occupational therapists help their clients cope with demands, adapt to tasks and overcome challenges in their everyday lives. They do this by using a person's usual daily activities and tasks (their occupations) in a therapeutic way.

As an example, occupational therapists develop therapeutic activities for children that will assist them to achieve their developmental milestones such as fine motor skills and hand-eye coordination. In acute hospital settings, occupational therapists provide specialist interventions to assist with functional recovery and prescribe adaptive equipment to ensure safety upon discharge from hospitals. Occupational therapists help clients regain or enhance their daily lives after specific events such as hip replacements or stroke by providing rehabilitation and functionally orientated assessment and modifying the clients home and community environments to improve their safety and independence.

3.2 Professional Boards and Bodies

Table 1 below provides an overview of the various professional occupational therapy boards and bodies across Australia, their role and the stakeholders they represent.

Table 1. Professional Boards and Bodies

Organisation	Role	Representation
Occupational Therapy Board of Australia	Regulation and registration	Federal government
Occupational Therapy Council (Australia & New Zealand)	Accreditation and assessment	Represents the profession to government, industrial and stakeholder groups
Occupational Therapy Australia	Professional association representing occupational therapy professional development and support	State-level representation to government, industrial groups and the public

3.2.1 Occupational Therapy Board of Australia

The function of the Occupational Therapy Board of Australia (Occupational Therapy Board of Australia, 2016) is to:

- develop standards, codes and guidelines for the occupational therapy profession;
- approve accreditation standards and accredited course of studies;
- register occupational therapy practitioners and students;
- handle notifications, complaints, investigations and disciplinary hearings and
- assess overseas trained practitioners who wish to practice in Australia.

3.2.2 Occupational Therapy Council (Australia & New Zealand)

The Occupational Therapy Council is an independent organisation established to assess and accredit occupational therapy education programs leading to eligibility for registration as an occupational therapist in Australia and New Zealand, and to assess the suitability of overseas trained occupational therapists to practice in Australia and New Zealand (Occupational Therapy Council (Australia & New Zealand), 2015).

3.2.3 Occupational Therapy Australia

Occupational Therapy Australia is the peak professional body representing the interests of occupational therapists across the country. Occupational Therapy Australia is a member service organisation, playing a mix of key roles in professional development, advocacy, collegial networking, as well as the provision of quality member services. Occupational Therapy Australia strives to ensure that members consistently receive quality, responsive services that add significant value to their careers (Occupational Therapy Australia, 2014)

The association also aims to support, promote and represent the profession of occupation therapy as a key component of the allied health sector in Australia.

Occupational Therapy Australia comprises all states and territories (Divisions) and has a membership of some 5,000 individual occupational therapists nationally.

Occupational Therapy Australia representation activities are supported by volunteer member networks, which provide advice and recommendations on key issues that impact members and those to whom they provide services. These networks provide an opportunity for members to influence all levels of government in Australia (Occupational Therapy Australia, 2017).

3.3 Entry to the Profession

Entry into the profession requires registration through the Australian Health Practitioner Regulation Agency (AHPRA) following either successful completion of an approved degree program or the recognition of similar overseas qualification and/or experience. Approved programs of study are included at Appendix A. The processes of professional registration are operated by the Occupational Therapy Board of Australia, which assesses the credentials and experience of all applicants in the determination of whether registration is granted, denied or subject to further requirements. Figure 2 below depicts the pathways of entry to the profession.

Figure 2. Pathways for Entry to the Profession

(Occupational Therapy Board of Australia, AHPRA, My health career)
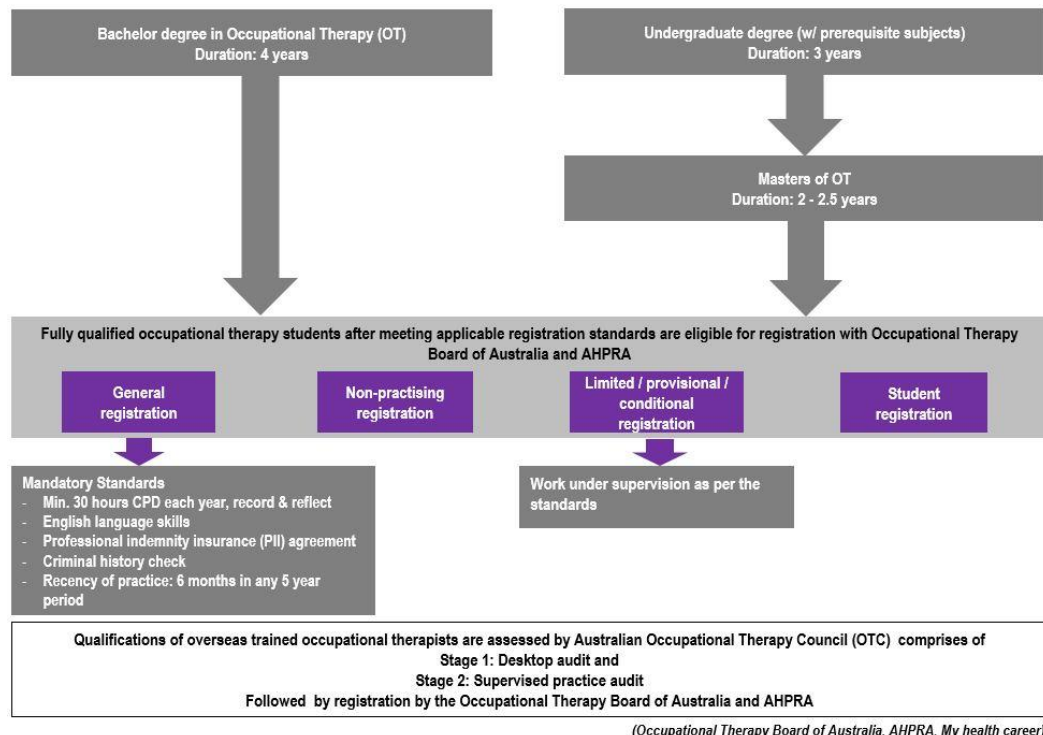
3.4 Workforce Characteristics

When reviewing the characteristics of a specific allied health workforce it is important to consider multiple factors that impact upon it and not just the workforce statistics in isolation. For example, travel arrangements, work flexibility, professional support, professional development, remuneration, and autonomy of practice are all factors that require consideration when reviewing workforce characteristic data.

The 2016 data supplied by the Occupational Therapy Board of Australia (Occupational Therapy Board of Australia, 2016) provides the following statistical characteristics of the occupational therapy workforce:

- The total number of registered occupational therapists for Quarter 2 (Oct – Dec) 2016 was 19,260

- Of the total number of registered occupational therapists, 18,478 were general registrations and 75 were of limited (teaching, research, postgraduate training or supervised practice) registration

- 28.0% of registrants operated within NSW

- 32.5% of general registrations were in the Under 30 age group. 1.1% of general registrations were in the Over 65 age group

- The gender distribution for the Australian occupational therapy workforce was 91.4% female and 8.6% male.

The distribution of occupational therapists across Australia is depicted in Figure 3 below. If a registrant has not defined a place of practice, they are represented in the category No Principle Place of Practice (No PPP).

Figure 3. Registration Type by Principal Place of Practice (percentages) (AHPRA, 2016)
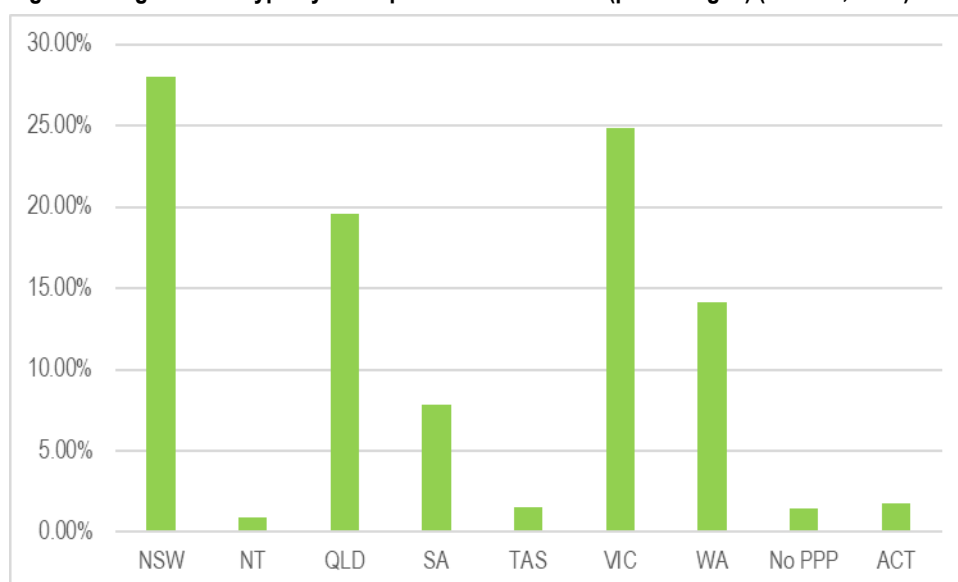
The occupational therapy registrant age distribution across Australia is depicted in Figure 4 below. The under 35 age group represents the largest portion of occupational therapy registrants.

Figure 4. Registrant age distribution (AHPRA, 2016)

Table 2 below shows the gender distribution of the occupational therapy workforce across all Australian states and territories.
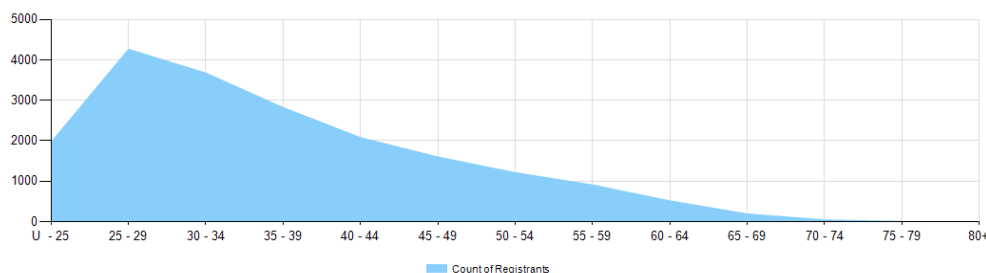
Table 2 Workforce Gender Distribution Across the Australian States (AHPRA, 2016)

Gender	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	No PPP	Total
Female	88.7%	90.9%	88.1%	92.0%	89.3%	91.0%	91.9%	91.9%	93.2%	**91.4%**
Male	11.3%	9.1%	11.9%	8.0%	10.7%	9.0%	8.1%	8.1%	6.8%	**8.6%**

Note: No PPP represents the group of registrants that have no principle place of practice.

Occupational therapists that identified as of Aboriginal or Torres Strait Islander descent accounted for 0.3% of the total number of occupational therapists employed across the states and territories (Australian Institute of Health and Welfare, 2013). There were 2 Aboriginal occupational therapists working in NSW Health compared to approximately 1806 non-Aboriginal occupational therapists (NSW Public Service Commission, 2016).

The Australian Institute of Health and Welfare (AIHW) has been engaged as data custodian of the National Health Workforce Data Set (NHWDS). The AIHW's contract expired on the 30th June 2016 and the Department of Health assumed custodianship of the NHWDS on 1st July 2016. At the time of this report, the statistical data for the period 2016-2017 was unavailable on the Department's website.

The full-time equivalent (FTE) data was obtained from the National Health Workforce Dataset (NHWDS) in 2015 which provided a high-level summary of relevant data.

The numbers of full-time equivalent (FTE) clinicians per 100,000 population decreased with remoteness, from 52 FTE clinicians in Major Cities to 23 FTE in very remote locations (Department of Health, 2015). Since 2013, FTE numbers have increased in all states with Table 3 detailing the breakdown of 2015 FTE statistics per state.

Table 3. Workforce FTE distribution (NHWDS, 2015)

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
FTE	278	6,390	153	2,891	1,193	248	3,769	2,118

It was noted that 21% of occupational therapists reported rehabilitation and 18% reported paediatrics as their primary scope of practice in their main job (Department of Health, 2015).

3.5   Pathways to Access Occupational Therapy Services

There is no one single pathway for referral into occupational therapy services. Currently the following pathways exist:

- Self-referral

- Referral by a General Practitioner or medical specialist

- Referral by another professional in a multidisciplinary team or clinic

- Referral during admission as a public hospital inpatient

- Referral during triage upon presentation at an emergency department

- Referral by a Residential Aged Care Facility

There is an emergence of online clinical care pathways, including Health Pathways, that have the potential to streamline referrals to occupational therapy.

4 Summary of the Key Demand and Supply Factors

This section provides an overview of the key demand and supply factors impacting the occupational therapy workforce. The driver model brings together those demand and supply drivers that were developed through the horizons scanning and scenario generation process with key occupational therapy stakeholders. These drivers are summarised in Figure 5.

Figure 5. Occupational Therapy – Demand and Supply Driver Model

Demand drivers	
Population demographics and increasing incidence of complex and chronic disease	Service pathways
Government funding and policy	Service coverage and accessibility
Scope of practice	Service awareness

Emerging models of care

Supply drivers			
Attraction	Education	Retention	Strategic workforce planning
Profile of the profession	Career pathways and professional development		Succession and workforce planning
Training and availability of placements	Workforce retention in rural and remote areas		Skill mix
Funding of public occupational therapy roles			
Data and evidence to support workforce activities			

4.1 Occupational Therapy Demand Drivers

This section provides a detailed analysis of the demand drivers currently impacting the occupational therapy workforce as identified through the literature and by occupational therapy stakeholders. Demand drivers may be defined as factors that shape and influence demand for a workforce's services.

Table 4 below provides a high-level overview of the demand drivers and is followed by a more detailed explanation and analysis of each.

Table 4. Occupational Therapy Workforce Demand Drivers

Demand Driver	Description
Population demographics and increasing incidence of complex and chronic disease	Growth in the general population in addition to growth in the number and proportion of people who are older.
	Incidence of complex and chronic disease based on population growth, demographic characteristics and geographic distribution.
	High incidence of chronic and complex diseases including cardiovascular, respiratory and diabetes in the Aboriginal and Torres Strait Islander community.
Government funding and policy	Scope, focus and access to services as determined by government funding and expenditure on occupational therapy services (e.g. Activity-Based Funding, My Aged Care, Commonwealth Home Support Program, NDIS and Medicare)
Scope of practice	Scope of roles performed by occupational therapists and other health professionals
Service pathways	Referral and treatment pathways available for occupational therapy services
Service coverage and accessibility	Occupational therapy service coverage and consumer accessibility based on geographical distribution and service operating hours
Service awareness	Awareness of occupational therapy services based on community knowledge and perceptions, and visibility of key programs.
Emerging models of care	Emergence of holistic patient centric models of care including NSW Integrated Care and Whole of Health

4.1.1 Population Demographics and Increasing Incidence of Complex and Chronic Disease

Stakeholders identified that the ageing population was a key demand driver for occupational therapy services. There is a greater demand to address the health needs of the older population (over 65 years).

There is a close relationship between population demographics and prevalence of chronic and complex disease. As the population ages, the increasing prevalence of chronic disease and complex medical conditions will have profound implications for the future health care system (Dall, et al., 2013).

Musculoskeletal health, for example, is critical for people's mobility and dexterity, their ability to work and actively participate in all aspects of life, and to maintain economic, social, and functional independence across their life course (Briggs, et al., 2016). Given that the prevalence and impact of musculoskeletal conditions increase with ageing, it is likely this will increase the demand for occupational therapy services.

Fatigue was noted as a common complaint among older adults. Fatigability refers to the level of fatigue or tiredness a person experiences in relation to activity performance and accounts for both symptomology and function. This type of fatigue is likely to be relieved by a period of rest and with consideration for redesigning daily activities. Mental and physical systems are subject to fatigability, whereby mental fatigability indicates diminished ability to remain engaged in mentally effortful activity and physical fatigability refers to diminished ability for prolonged engagement in physical activities (Murphy & Niemiec, 2014). Occupational therapists are skilled in being able to assess the impacts of such activities on functional independence and wellbeing and provide advice on activity modification to reduce fatigue and enhance performance and quality of life.

Given the ageing population there is potential to see an increase in the number of patients presenting with fatigue over the coming years. This could increase the demand for occupational therapy services as fatigue impacts on occupational performance significantly, which is a key area of focus for the profession.

Occupational therapy stakeholders identified that an ageing population coupled with an increasing prevalence of chronic and complex conditions has the potential to increase overall caseloads. There is an increase in the complexity of care needs for patients remaining at home and general practitioners managing chronic disease care plans often require input from occupational therapists given that many chronic and complex conditions have a significant impact on function.

For example, osteoarthritis (OA) is a leading cause of disability among older adults, and affects upwards of one in eight adults. This highly prevalent disease and its associated disability has a formidable effect on individuals and society (Hunter, et al., 2014). An increase in the prevalence of this disease could place additional demands on occupational therapists that are required to contribute to a rising number of care plans.

The leading causes of death for Indigenous Australians between 2007-2011 was identified as circulatory disease followed by endocrine, metabolic and nutritional disorders (i.e. diabetes). Indigenous Australians were five times as likely as non-Indigenous Australians to pass away from these chronic and complex diseases as compared to non-Indigenous Australians (Australian Institute of Health and Welfare, 2014).

This is significant for the occupational therapy profession which could potentially support improved outcomes for Aboriginal and Torres Strait Islander people. The philosophies of occupational therapy and Aboriginal Health are well aligned – focused on a holistic approach to

health care that is about more than just the health of any one individual, but about the community and society. Finding opportunities to deliver more occupational therapy services to Aboriginal and Torres Strait Islander communities in a culturally appropriate and sensitive manner could have a significant positive impact on the health outcomes of Aboriginal people.

4.1.2   Government Funding and Policy

Stakeholders identified that government funding and policy direction may directly impact upon the scope, focus and access to occupational therapy services in the public health system. A number of funding and policy initiatives emerging from NSW Health have the potential to impact upon demand for occupational therapy services.

Consumer Directed Funding/Care

Occupational therapy stakeholders noted that some services are shifting toward consumer directed funding which relates closely to consumer directed care.

Consumer Directed Care (CDC) is currently being embraced within Australia and internationally to promote autonomy and choice amongst consumers (people aged 65 years and over) living within a community setting. Whilst there is no single definition of CDC, the distinguishing feature is that consumers or their representatives should be able to make choices about the types of care services they access and the delivery of those services (Kaambwa, et al., 2015).

Examples of consumer directed funding models include My Aged Care and the emerging National Disability Insurance Scheme. As the occupational therapy profession becomes better marketed and promoted to consumers in the future, they may choose to utilise more occupational therapy services through CDC models. This could increase the demand on occupational therapy services given its focus on enhancing functional independence and improving quality of life.

Activity Based Funding (ABF)

Activity Based Funding (ABF) is a way of funding hospitals and services. ABF funding should support timely access to quality health services, improve the value of public investment in hospital care and ensure a sustainable and efficient network of public hospital services (Independent Hospital Pricing Authority, 2017). NSW Health aims to provide high value care that achieves the best possible outcomes for the NSW Population.

Under ABF, hospitals receive a fixed amount for each episode of care delivered to each patient, regardless of length of stay or actual resources used. The funding schedule is prospectively determined based on clinically meaningful diagnosis–based "bundles" of services within which patients can be expected to consume similar amounts of resources. The funding allocation for these bundles is intended to account for the anticipated complexity, type, volume, and intensity of care ordinarily provided to patients admitted with diagnoses (Palmer, et al., 2014).

Activity based management is a method of gathering information and recording clinical activity which enables resources to be matched with predicted demand whilst providing best practice and evidence based care. The aims of which are improved outcomes for patients whilst ensuring continued service efficiency and sustainability.

The information captured through activity based management can also inform how services may be improved through development of new models of care to ensure the best outcomes for patients. Participation of occupational therapy in activity based management is important to ensure clinical activity is recorded correctly to ensure resources are matched with predicted demand and that the skills of occupational therapists are best utilised in the delivery of value based care.

National Disability Insurance Scheme (NDIS)

The National Disability Insurance Agency (NDIA) is an independent statutory agency responsible for the implementation of the National Disability Insurance Scheme (NDIS) (Australian Department of Human Services, 2017). Occupational therapy could be strengthened, supported, enhanced and complemented by the NDIS, as the NDIS reflects occupational therapy core principles and has a lifespan view of health and wellbeing of people with a disability (Russi, 2014). As such, there is a potential opportunity for the emergence of NDIS to increase demand of occupational therapy services.

A study was undertaken to develop a framework to support rural private occupational therapists to meet the anticipated increase in demand. Areas of focus for the framework include:

- implications for rehabilitation;

- the need for rural private therapists to upskill to work with individuals possessing disability;

- alternative ways of delivering therapy to individuals with disability beyond the traditional one-on-one therapy models;

- support required for rural private therapists to work collaboratively with individuals and the local community; and

- the need to harness locally available and broader networks, resources and processes to meet the needs and goals of the patients (Dew, et al., 2016).

It is anticipated there will be an increasing number of service providers working in remote Indigenous communities over the next few years, with progressive rollout of the NDIS. To provide culturally appropriate, evidence based services, it is essential for individuals and organisations to understand the meaning, barriers and enablers of participation for children and families in remote areas (O'Kearney, et al., 2015).

Demand for occupational therapy services that address paediatric health needs could also increase through the roll out of NDIS. A study was conducted to examine the effectiveness of occupational therapy interventions for participation outcomes in children with coordination difficulties. The study identified key ingredients related to participation by changing children's master experience, increasing capability beliefs and sense of control. Parents' knowledge, skills positive emotions, sense of empowerment and capability beliefs also related to children's participation (Armitage, et al., 2016).

The intensity and range of supports required by many people with intellectual disabilities and complex support needs translates into the need for commensurate support services. This raises several workforce issues relevant to both the profile of worker skills and the mechanisms through which these skills might be developed and maintained. Workforce planners face the challenge of ensuring both specific (depth) skills in specialist support areas such as behaviour support, as well as generalist (breadth) skills in areas such as service coordination and cross-disciplinary or cross-sector communication, or both (Dowse, et al., 2016).

Given that healthcare systems and associated services are becoming increasingly consumer driven there may be a requirement for occupational therapists to become more responsive to specific consumer need and emerging policy directions that seek to meet consumer need and expectation. The occupational therapy workforce may need support to navigate these new working environments and ways of working.

My Aged Care

My Aged Care was introduced in July 2013 and represents a single clear entry point to the aged care system that provides:

- information about aged care to consumers, family members and carers

- information for service providers

- online service finders that provide information about aged care service providers and assessors; and

- online fee estimators for pricing on home care packages and residential care (Department of Health, 2017).

The literature review identified a significant backlog of web-based referrals and faxes to the My Aged Care contact centre combined with a low volume of assessments being conducted (Belardi, 2015). This is likely attributable to issues with the roll-out My Aged Care model and is expected to improve as the service matures and becomes fully embedded. Delays in referral processing and assessments have potential flow on effects to provisioning of services and affect overall delivery of appropriate care to patients. The implications for delays in referral processing could potentially impact on the service pathways for occupational therapy services.

The Commonwealth Home Support Programme (CHSP) aims to assist older people to stay independent and in their homes and communities for longer (Department of Health, 2017). Home modifications and maintenance as part of the Home and Community Care program (HACC) transitioned into the Commonwealth Home Support Programme (CHSP) on the 1st July 2015 which was identified as a driver for occupational therapy services.

Stakeholders outlined that the implementation of My Aged Care had occasionally seen a delay in the timeliness of referrals into occupational therapy services. This is expected to improve as the My Aged Care model becomes fully embedded across NSW.

4.1.3 Scope of Practice

The occupational therapy scope of practice was identified as a potential factor to influence the demand for services. Within the Horizons Scanning workshop, stakeholders identified that occupational therapists possessed a diversity of skills that enabled them to operate in a wider setting across multiple sectors.

Team dynamics can influence the scope of practice for occupational therapists. An increase in models of care that require a multidisciplinary team approach may increase the demand for occupational therapists. The broad skillset of the occupational therapy workforce enables occupational therapists to work in numerous settings and alongside a wide range of other clinicians. Stakeholders noted that health providers increasingly require a broad skill base within its workforce to meet the needs of its clients.

The fundamental basis of the occupational therapy profession is client centeredness. Emerging models of care are often focused on being more patient-centric which aligns with the occupational therapy philosophy. As such there may be an increased demand for occupational therapy services as more patient centric models of care emerge.

4.1.4 Service Pathways

Stakeholders identified that there is no singular pathway to access occupational therapy services. Health service providers may receive referrals in various forms including electronic, fax, telephone and paper.

NSW Health Pathways is a collaborative initiative between primary and secondary health providers providing benefits including clear referral pathways between services, comprehensive service information for referring clinicians and opportunities for service improvement and redesign (Agency for Clinical Innovation, 2013). There is an opportunity for occupational therapists to utilise Health Pathways to streamline referrals and potentially increase public awareness of services.

4.1.5 Service Coverage and Accessibility

There is currently a disparity in the geographic distribution of occupational therapy services within Australia. The services are aligned with broader distribution of the population, with most services located within the metropolitan areas.

It was noted that there was a disparity between occupational therapy service accessibility in the metropolitan areas compared to rural and remote locations. Aboriginal and Torres Strait Islander communities were found to have no or very limited access to rural and remote services (Allen & Leon, 2008). Culturally appropriate services should be available across NSW.

Publication of resources that support allied health professionals to provide high-quality services in these environments should be encouraged. For example, principles were developed by Services for Australian Rural and Remote Allied Health (SARRAH) to guide AHP services in remote Aboriginal and Torres Strait Islander communities. Principles included were identified as follows; effective engagement with the community, development and support of local community health workforce, adherence to professional and ethical standards set by professional bodies, coordination of services provided by the state and allied health providers, delivery of services through multi-professional primary health care teams, and promoting a safe, high quality, culture based care provision (Allen & Leon, 2008).

Seasonal climate changes, especially in the winter season have the potential to increase demand for services and effect access. For example, stakeholders identified that the winter season in Orange contributes to an increase in patient care needs and therefore an increase in hospital admissions due to the cold climate.

From a service coverage perspective, stakeholders noted that NSW occupational therapy services are predominantly operating five-days per week. A shift to 24/7 service models in the future could result in an increase in demand for occupational therapy services.

4.1.6 Public Awareness of the Occupational Therapy Profession

Public awareness of the occupational therapy profession and associated services was identified as a key driver of demand for occupational therapy services. This demand driver influences several other drivers including service pathways, government funding models and occupational therapy service accessibility.

Stakeholders noted that there was inconsistent knowledge and awareness of the occupational therapy profession and the services that they offer. They felt that this lack of consumer and referrer knowledge of services could affect patient outcomes and overall wellbeing as they are not actively seeking occupational therapy services which could improve their condition. By enhancing public awareness of occupational therapy services, there is a potential to increase demand of services.

The collection and analysis of data and evidence to support workforce activities coupled with the strategic marketing of the workforces' services were identified by stakeholders as opportunities to increase the awareness of the occupational therapy profession and the benefits of its services to the population and the healthcare system.

4.1.7 Emerging Models of Care

Stakeholders identified that emerging models of care including holistic patient-centred care, integrated, multidisciplinary and interdisciplinary models can drive the demand for occupational therapy services. There is an emergence of 'value based healthcare' models internationally and more emphasis on patient outcomes. A decrease in institutional care and support creates a need for hospital avoidance and preventative models of care with focus given to providing 'recovery' and value of patient's independence.

The emergence of new models of care provides an opportunity for the occupational therapy workforce. Stakeholders identified that new models of care could drive an increase in demand for occupational therapy services, potentially introducing additional opportunities via new areas of practice. Additionally, these models of care could increase the number of consumers that are goal orientated and recovery focused, leading to a heightened recognition of the role of occupational therapy.

Patient-centred care is an example of a model of care and consists of three components: holistic, collaborative and responsive care, all of which are facilitated by a therapeutic relationship (Sidani & Fox, 2014). These models of care are consistent with the philosophy of the occupational therapy workforce as they provide holistic care. As occupational therapy involvement in the delivery of these models increases, demand on services could increase.

An example of an emerging patient centred model of care in NSW is the Leading Better Value Care Program. Commencing in 2017/18 the NSW Health system will refocus - away from the traditional approach of measuring value in terms of volume/output in relation to costs, to measuring value in terms of the Institute for Healthcare Improvement Triple Aim of health outcomes, experience of care and efficient and effective care (in relation to costs). In this context, health outcomes are defined as the outcomes that matter to patients (NSW Health, 2017).

NSW Health's Integrated Care Strategy also aims to provide a patient-centred model of care through seamless, effective and efficient care that reflects the whole of a person's health needs; from prevention through to end of life, across both physical and mental health, and in partnership with the individual, their carers and family (NSW Health, 2017).

The NSW Health 'Whole of Health Program' (WOHP) is a centrally facilitated but locally led program which aims to improve access to care for patients across NSW. It began as the Whole of Hospital Program in February 2013 to drive the local change needed to improve patient delays, with NSW having fallen short of the 4-hour Emergency Department (ED) target (previously National Emergency Access Target or NEAT) in 2011 and 2012 (NSW Health, 2016). Through improvements in patient accessibility, this could increase the demand for services.

Other models of care include preventative care that consist of: interventions to reduce falls, instrumental activities for daily living, health management and older adult driving (Arbesman, et al., 2014).

Stakeholders identified some additional benefits associated with the emergence of new models of care that included an increase in health, wellbeing, flexibility and outcomes for patients; decrease in hospital admissions and readmissions and empowering patients to become more self-managed. Availability of established occupational therapy roles may increase in the future to support these models potentially improving career development pathways.

4.2   Occupational Therapy Workforce Supply Drivers

This section provides a detailed analysis of the supply drivers currently impacting the occupational therapy workforce as identified through the literature and by stakeholders. Supply drivers may be defined as factors that contribute to the availability, sustainability and size of the workforce.

Table 5 below provides a high-level overview of the supply drivers and is followed by a more detailed explanation and analysis of each supply driver.

Table 5. Occupational Therapy Workforce Supply Drivers

Supply Driver	Description
Profile of the profession	The occupational therapy profession's voice, image and representation
Career pathways and professional development	Availability of continual professional development and clear career pathways
Training and availability of placements	Student and graduate training opportunities and the availability of work placements to accommodate them
Workforce retention in rural and remote areas	Workforce retention based on geographical location
Succession and workforce planning	Identifying and developing the future senior OT workforce and overall human resources planning
Skill mix	The combinations of activities or skills needed for the OT profession to deliver appropriate services to consumers / patients
Funding of public occupational therapy roles	Funding of public sector occupational therapy positions and activities

4.2.1   Profile of the Profession

The profile of occupational therapy is a key driver for attracting potential students and professionals into the occupational therapy profession. Occupational therapy is one of the largest allied health professions within NSW (NSW Public Service Commission, 2016). It was identified that there is an increasing number of graduates applying for occupational therapy courses and no current identifiable barriers to attracting potential students to the profession.

Public awareness and perception of the occupational therapy workforce and the services they provide plays a vital role in determining the profile of the profession. Stakeholders expressed that the perception and responsibilities of the occupational therapist role lacked clarity compared to other Allied Health Professions. They also felt that occupational therapists have the potential to play a significant role in the delivery of care in primary and acute settings as well as contributing to the design and implementation of emerging models of care. Stakeholders identified, through the support of data and evidence, it was felt that there was an opportunity to further develop the profile of the profession which in turn could potentially increase the number of occupational therapy roles, activities and professional development opportunities.

4.2.2 Career Pathways and Continuing Professional Development

The development of clear career pathways and continuing professional development were identified by occupational therapy stakeholders as a supply driver. Key areas of focus included education, training and supervision, recruitment and career structure.

In addition, stakeholders identified that there were limited future career options for the workforce in clinical settings that resulted in experienced occupational therapists leaving the profession. Public sector organisational structure plays an important role, with stakeholders identifying that there are relatively flat department structures for occupational therapy in the public sector.

Within rural and remote locations, stakeholders noted that it was difficult for allied health professionals to seek opportunities in other health services because the distances involved often make it very difficult to relocate. This presents a challenge for workforce recruitment and retention.

Ongoing continuing professional development (CPD) of the workforce is essential in developing and maintaining skill sets to deliver appropriate levels of patient care and is a catalyst for career progression. A study conducted in 2010 identified that there were no identifiable Australian CPD opportunities for emergency department occupational therapists and recommended that specialised CPD opportunities be developed (Cusick, et al., 2010).

Stakeholders identified that the availability of continuing professional development opportunities was associated with retention, particularly within rural and remote locations which included both internal opportunities and support for attendance at external courses and conferences.

4.2.3 Succession and Workforce Planning

Stakeholders felt that proactive succession planning for occupational therapy seniors and managers was extremely important. In the current landscape, succession planning is essential to facilitate the transfer of organisational knowledge and values (Cole & Harbour, 2015).

Stakeholders felt that there was limited availability of senior staff and also specialty roles within the workforce. It was identified that there are currently only small numbers of staff applying for higher level roles (i.e. level three and higher) particularly within rural locations. It was identified that training and support for younger or more inexperienced staff was a key enabler to facilitate progression into more senior roles. However, a challenge identified by stakeholders was that as the retirement age increases, older staff stay in senior roles longer and therefore it is difficult for younger staff to find the right opportunity to move up. Opportunity for career progression was seen as a key factor in retaining the occupational therapy workforce and hence has the potential to impact on supply.

In rural and remote settings, this challenge is apparent as there are limited senior staff and specialists being attracted to niche areas. This presents a challenge to workforce recruitment, particularly in rural and remote locations.

Workforce planning in general was also identified by stakeholders as important to ensure the best utilisation of available workforce to meet service needs. With a high proportion of the profession being female, there is a greater demand for the flexibility of roles and rostering practices. Stakeholders identified that strategic workforce planning was required to ensure that occupational therapy services were delivered in an effective manner with the right staff with the right skills being allocated to the right place at the right time.

4.2.4 Training and Availability of Placements

There is a large supply of occupational therapy graduates that can be attributed to the significant number of entry level degree programmes combined with expanding intakes. It was noted that

there is a significant financial pressure on Australian universities to remain viable, leading to increased student enrolments or the introduction of new high demand courses, particularly in health (McKinstry & Fortune, 2014). These factors contribute to a continual growth of graduates into the occupational therapy profession.

The readiness and capabilities of new graduates was a potential challenge that was identified by the stakeholders. They expressed the potential misalignment between some of the skills gained through education with the skills required by clinical placements. Historically there is a notion that "bread and butter OT skills need to be learnt", however there needs to be critical discussions as to what these skills entail (McKinstry & Fortune, 2014). There is a significant opportunity to align the skills learned through education and clinical placements with anticipated future challenges for the profession. For example, more placements in rural and remote areas could encourage new occupational therapists to seek employment in those areas.

A study was conducted to examine the characteristics of occupational therapy students. It was identified that these students possessed characteristics of 'Generation Y', with specific attributes including being hard working, confident with technology, needing positive feedback and demanding professional development opportunities (Hills, et al., 2013). Therefore, there is an opportunity to develop strategies around managing the occupational therapy student cohort with areas identified including career guidance, facilitating creativity, and integrating new technologies like social networking into practice (Hills, et al., 2013). These behavioural drivers provide some insight into potential development of new occupational therapy education programs and a framework for future placements and roles.

4.2.5 Workforce Recruitment and Retention in Rural and Remote Areas

The location of services influence workforce recruitment, retention and career opportunities and therefore supply of the occupational therapy workforce. Allied health workforce recruitment and retention in remote areas is a global problem (Campbell, et al., 2016) and one study identified that personal perceptions of working in remote areas (both positive and negative) may impact recruitment and retention internationally.

Stakeholders noted that there needs to be incentives to attract the workforce to rural and remote areas. Professional development, general support and supervision, particularly within these geographical locations were also identified by stakeholders as a challenge.

The mental health sector is an area that is a challenge for workforce retention, particularly in rural areas. Occupational therapists working in mental health services that experience burnout, low work engagement or poor job satisfaction are at risk of poor wellbeing at work and may be more likely to leave their jobs (Scanlan, et al., 2013). Factors identified as positive contributors to workforce retention include improving recognition of individual occupational therapists and of the profession, supporting satisfactory work/life balance, and ensuring that therapists have access to work that they find challenging and personally rewarding (Scanlan, et al., 2013).

4.2.6 Occupational Therapy Workforce Skill Mix

Traditional models of health service delivery are generally managed around the needs and capabilities of individual disciplines, with medical practitioners considered to be the key decision-makers in aspects of referral, admission, and discharge. With limited specialist resources, this often equates to a delay in service provision for patients, even for those patients who may benefit from early allied health input to facilitate early discharge, prevent admission and maximise functional independence. As a result, allied health practitioners have been identified as possessing the key clinical skills and capability to bridge this service demand gap and act as the first point of contact within the patient's health care journey.

To improve patient access to timely health care, new extended scope allied health roles are being trialled with clinicians accessing specialised training outside the traditional scope of their discipline (Saxon, et al., 2014). Stakeholders identified that specialist skillsets were important to deliver appropriate levels of care to specific cohorts, with examples cited such as mental health, spinal injury and lymphoedema.

Health care organisations worldwide have been exploring innovative ways to deploy their workforces. There has been a focus on staff-mix, i.e. achieving a specific mix of different types of personnel, with an increasing interest in evidence about the value and contributions of different staff-mixes to patient, personnel, and organisational outcomes. Current evidence suggests that staff-mix cannot be considered in isolation from the contexts in which people work (Dubois & Singh, 2009). Stakeholders identified that occupational therapists are well suited for multidisciplinary team environments as their holistic approach enables their skill sets to span across a variety of specialisations.

Reviews suggest that although the concepts of staff-mix and skill-mix are often used interchangeably, the four most prevalent conceptualisations are: number of personnel, mixing qualifications, balancing junior and senior staff members, and mixing disciplines. It was found that health care organisations have a range of options for ensuring a richer staff-mix and include:

- Increasing the number of personnel

- Higher ratios of qualified workers

- Higher ratios of senior staff members

- Multidisciplinary teams (Dubois & Singh, 2009).

An effective system of HR optimisation cannot, however, be restricted to the numbers and types of personnel available. Such a system must also ensure that personnel work to their full potential. Doing so requires a more dynamic approach to skill management that goes beyond the mix of available staff members (Dubois & Singh, 2009).

Skill management refers to an organisation's ability to optimise the use of its workforce. The focus shifts here from achieving a specific mix of different types of personnel to adapting workers' attributes – such as knowledge, skills, and behaviours – and roles to changing environmental conditions and demands. (Dubois & Singh, 2009).

Role enhancement involves expanding a group of workers' skills, so they can assume a wider and higher range of responsibilities through innovative and non-traditional roles (Sibbald, et al., 2004). Role enhancement does not entail adding functions from other professions. It occurs within a given profession's full scope of practice through the integration of theoretical, research-based and practical knowledge inherent to the development of a discipline (Bryant-Lukosius, et al., 2005).

In health care, role enhancement has been associated with the potential to increase longitudinal and personal continuity and improve patients' health outcomes by enabling one professional to cover a wider range of care needs or by enabling one patient to be cared for by fewer workers (Dubois & Singh, 2009).

There are challenges related to role-enhancements of the profession. Despite the benefits associated with role enhancement, some caution is required. First, as traditional roles and functions change, confusion and disagreements can challenge professionals' identity and engender conflicts among practitioners and occupational groups. Such conflicts can, in turn, lead to low morale and antagonistic working relationships. Second, work expansion, even in a vertical direction, is not always synonymous with job enrichment or role enhancement.

In the absence of an explicit professionalisation project, HR management strategies designed to expand practice scopes may undermine professionals' distinctive work domains because they blur role boundaries and make the work of one profession indistinguishable from that of others. Third, it cannot be assumed that role enhancement means a general upskilling of workers. Just because staff members must perform more tasks at higher levels does not mean they have been supported by further training (Dubois & Singh, 2009).

There is a significant opportunity to increase continuing professional development opportunities for the occupational therapy workforce paired with support for skill development. Whilst this would be beneficial for the occupational therapy workforce, consideration must be given to the challenges of enhancing continuing professional development opportunities for occupational therapists working in rural and remote areas.

4.2.7 Funding for Public Occupational Therapy Roles

Stakeholders identified that there were several factors that influence the funding for occupational therapy positions within the public sector.

Firstly, government funding constraints affect the number of available full-time employment positions and the support mechanisms required for the workforce to deliver services. Secondly, there is competition between workforce professions for the funding within the public sector. Thirdly, there was a notable lack of discipline specific educator roles within the occupational therapy profession.

The awareness of occupational therapists and the activities and services they provide plays a pivotal role in determining the potential funding for occupational therapy roles and activities within the public sector. Stakeholders acknowledged that in some cases, upper levels of management were unable to articulate the roles and scope of occupational therapists. The lack of professional awareness may contribute to a negative impact on funding for the profession.

4.2.8 Data and Evidence to Support Workforce Activities

Data and evidence is an enabling factor upon which the demand and supply driver model is built. Through the information gathering stages and stakeholder consultation process, it was noted that the need for data and evidence is critical and influences both the demand and supply drivers. Stakeholders identified that there is still insufficient data and evidence to support the occupational therapy workforce to promote its activities and services.

For older adults and people with disabilities, health can be enhanced and promoted through support for independent living. Occupational therapy practitioners understand how acute and chronic medical conditions affect the ability to live in the community. Coupled with evidence based practice, occupational therapists can focus on issues such as aging in place and home-based primary care (Arbesman, et al., 2014).

Research is a key component required to further the evidence base in healthcare. Investment and participation in research activities that contribute to a research culture are known to have a variety of benefits. A systematic review was conducted that supported the notion that positive research culture and interventions directed at the health workforce are associated with patient, staff and organisational benefits (Harding, et al., 2016).

In a community health setting, it was identified that there is a limitation of skills and support, including the ability to access external support (i.e. grant funding and technical expertise) which can present significant barriers to research generation (Friesen & Comino, 2016).

Since the introduction of Evidence Based Practice (EBP) to occupational therapy, there continues to be discussion about its implementation. It is recognised that the implementation of

EBP is a complex process that may need to be adapted to ensure its applicability to occupational therapy. To implement EBP in occupational therapy, the synthesis of the available published evidence and research with clinical expertise and judgment, as well as knowledge of the values and preferences of the clients, is critical (Taylor, 2017). Evidence-based occupational therapy recognises the range of sources and scope of evidence available to occupational therapists, including:

- Research evidence

- Information provided by the client for determining occupational priorities and capacities

- The knowledge that occupational therapists have gained from experience

- Based on those definitions, the essence of EBP is best summarised as:

- EBP involves more than just the use of research evidence

- Clinical expertise is as important to EBP as research evidence

- Health-care decisions are also influenced by available resources (Taylor, 2017).

A study in the US explored the potential benefits of using Data-Driven Decision Making (DDDM) tools. DDDM provides a framework for reasoning through the occupational therapy process with a focus on utilisation of data to guide and measure outcomes. The study identified that the framework could be a useful strategy to provide practitioners with a systematic process for explicating reasoning, using assessment data to develop and tailor client-centred intervention, and measuring and reporting on outcomes. By providing a clear link from impairment to function to participation, DDDM affords occupational therapy practitioners a vehicle for creating evidence and demonstrating their unique skills and knowledge to enable participation and health (Schaaf, 2015).

Another US study explored factors that support the integration of research into practice. It identified that there were five major supports for EBP that can be incorporated into current occupational therapy practice:

- Clinical experience has an important role in clinician's awareness of self and of available sources of evidence and in their ability to incorporate evidence into practice

- Involvement in research through action research opportunities designed to meet authentic and situated clinical problems supports research utilisation and EBP.

- Partnerships among students, academics, researchers, and the clinical community within a scholarship of practice model promote the integration of research into clinical practice. Fieldwork experiences, research activities that take place in clinical settings, and clearly defined roles for universities in supporting EBP have the potential to achieve some important outcomes in promoting EBP.

- The study of reflection and reflective learning as metacognitive processes involved in the integration of evidence into practice is a new area for exploration

- A strong trend toward developing and measuring the effects of knowledge translation interventions in improving knowledge attitudes and skills (Thomas & Law, 2013).

One of the primary purposes of EBP is the use of evidence to inform and guide clinical decision making. This framework follows an evidence-based philosophy (Sackett, et al., 1996) and requires the integration of information from three sources:

- clinical experience and reasoning,

- preferences of clients and their families, and

- findings from the best available research (Arbesman, et al., 2014).

Stakeholders identified that the implementation of EBP into daily practice was a key potential driver for sustaining and improving care quality to patients.

The NSW Health Analytics Framework provides an ideal context for development of the appropriate reporting and information management capabilities to support the current and future requirements of the occupational therapy workforce.

5 Challenges Encountered by the Occupational Therapy Workforce

This section of the document details some of the key challenges encountered by the occupational therapy workforce.

5.1 Impacts of Constrained Funding Models

Constrained funding models can impact both the demand and supply for services. In particular, government funded initiatives across healthcare and the funding of occupational therapy roles within the public sector were identified as key demand and supply drivers for the occupational therapy workforce.

Stakeholders identified that the impacts of constrained funding models were significant. Constrained funding models can also affect the support structures for the delivery of services. Areas including technology (i.e. implementing appropriate infrastructure and IT support services particularly in rural and remote locations), innovation (i.e. implementing new biomedical treatment delivery techniques) and research (i.e. enriching evidence-based techniques and exploring new medicine) can all be impacted and ultimately influence the capability for the workforce to deliver adequate services in the future.

Despite the impacts of constrained funding models, stakeholders felt that they had little control over the design of funding such models and the allocation of government funding. These issues effect the entire health system and not just the allied health workforce. They acknowledged that the occupational therapy workforce needs to be dynamic and adjust to both new funding models and revised budget allocations accordingly as well as embrace methods of data collection, analysis and reporting to effectively articulate the value of the occupational therapy workforce to the health care system.

5.2 Fragmentation of the Health System

The fragmentation of the Australian Health system can potentially have unexpected consequences including inefficiency, ineffectiveness and unintentionally dis-incentivising optimal care, inequality of access, commercialisation and privatisation of healthcare, depersonalisation of patients and consumers, and ultimately causing despair and discord for patients (Stange, 2009).

Within Australia, the six states and two territories are responsible for their own public health and health care. The Commonwealth of Australia holds the major revenue-raising powers, so states rely on financial transfers to provide services (Hall, 2015). It was noted that there is a complexity around overlapping and fragmented responsibilities between the Commonwealth and State governments.

A recent review concluded that "the complex split of government has all the policy levers needed to ensure a cohesive health system" and that people who suffer the most from the lack of co-ordination are "patients with chronic and complex conditions, such as diabetes, cancer and mental illness, who regularly move from one health service to another" (Hall, 2015).

From a NSW state perspective, stakeholders identified that at the micro level there is often poor coordination of services across different divisions and departments within an individual LHD or SHN. At a meso-level, governance structures may vary from one LHD or SHN to another. This issue can be a challenge for an occupational therapy workforce that is increasingly expected to work within multi-disciplinary and inter-disciplinary teams and environments. Although it should be noted that one of the strengths of the profession, as reported by stakeholders, is its ability to work across multiple sectors.

5.3 Rural and Remote Occupational Therapy Service Considerations

As most occupational therapy services are situated within metropolitan areas, there is a challenge in addressing workforce retention in rural and remote locations. The challenges of attracting the workforce from metropolitan to rural and remote areas presents issues with providing service accessibility to the community - in particular for highly specialised services, for example burns or spinal rehabilitation.

Lack of professional support from organisations was identified as having a significant effect on recruitment of new graduates and retention across all stages of a career. Opportunities for career development and an understanding of the rural context prior to practising in a rural area were also recognised as a significant factor to recruitment and retention (Roots & Li, 2013).

Community mental health services specifically face workforce retention challenges in rural and remote areas. Three key areas that impact the ability to retain workforce in rural and remote areas include:

- staffing

- small towns, and

- the decision to stay or leave (Cosgrave, et al., 2015).

Emerging technology offers a significant opportunity to improve the way services are delivered and that patient engagement is undertaken. One barrier that may prevent technologies from being fully adopted across the allied health professions include age, whereby people younger than 30 are more comfortable with adopting emerging technology compared to their older peers. Workplace barriers include the provision of necessary support mechanisms including training and availability of resources. Community barriers included overall infrastructure and perceptions of client's acceptance (Chedid, et al., 2013).

5.4 Enhancing Occupational Therapy Professional Voice, Representation and Image

Stakeholders identified that the occupational therapy professional voice, representation and image were key factors that impact its ability to provide full input into the design of new models of care. It was felt that these issues also impacted upon the professions ability to obtain appropriate funding for occupational therapy roles and activities.

Data and evidence to support occupational therapy activities was a key element to enhancing the profession's voice, representation and image. Stakeholders identified that strategies around data collection and analysis of occupational therapy services are extremely important if the profession is to improve the way it 'markets' itself in the future.

Stakeholders also highlighted that there is a lack of understanding about the profession at LHD and SHN Executive level. This could negatively impact upon funding for occupational therapy roles, particularly if executive teams do not fully understand the value of the profession in terms of the outcomes it provides to patients.

5.5 Aligning Service Provision with Patient/Consumer needs

The concept of aligning service provision with patient and consumer need is related to the models of care that the occupational therapy profession undertakes. With emerging models of care focussing on patient-centric delivery of care and preventative care, stakeholders identified several potential benefits including empowering patients, increase in focus and flexibility for patients, and ultimately increase in health outcomes and wellbeing.

However, stakeholders felt that the profession did not have sufficient input into the design and implementation of some of these models of care. This results in uncertainty around how the workforce fits into longer term strategic plans.

5.6 Workforce Sustainability

Workforce sustainability is impacted by several key elements including workforce size, the distribution of the workforce across a geographic area, and workforce resource planning (i.e. rostering, leave management and backfill capability).

It was identified that there is an increasing growth of graduates in the occupational therapy profession. Geographic distribution however is a challenge currently facing the workforce. Recruitment and retention, particularly within the rural and remote locations, are challenges that need to be addressed.

Strategies around incentivising the workforce to these rural and remote locations is extremely important. In addition, supporting the workforce with the right technologies (such as telehealth) is essential to workforce sustainability within these areas.

The occupational therapy workforce is predominately female, and this requires more flexible arrangements around maternity leave and the availability of part time positions. Sustainability of the workforce, particularly at a senior level owing to maternity leave and the ability to backfill those positions is an area of challenge. In rural and remote areas, stakeholders noted that it was even more difficult to backfill those roles.

6 Opportunities available for the Occupational Therapy Workforce

There are several opportunities available to the occupational therapy workforce that may be explored and developed in the future.

6.1 Enhancing the Profile and Branding of the Profession

There is potential to enhance the profile and branding of the occupational therapy profession. With the growth of technology including the advent of social media and big data, there is an opportunity for the occupational therapy workforce to enhance its professional profile. As data and evidence is a key factor that influences both workforce demand and supply drivers, effective methods of data collection, analysis and reporting play a pivotal role.

Stakeholders identified that there are challenges surrounding service awareness and professional voice, image and recognition – occupational therapy needs to have a strong voice to influence the design of new models of care and articulate the funding required to deliver services within those models.

As preventative health models of care are being promoted, traditional methods of recording activity and patient outcomes present a unique challenge to the occupational therapy workforce. Stakeholders noted that there needs to be a strategy around the types of data they need to collect and the method by which it can be analysed and reported to promote improved patient outcomes and service benefits.

6.2 Participating in Developing Emerging Models of Care

Stakeholders identified that there was a potential for workforce involvement in the design and implementation of emerging models of care. As occupational therapists provide a holistic view of care, they strongly believe that they can lead the design of some of these emerging models.

Currently, stakeholders have identified that they are unsure of the extent of involvement the workforce has in emerging models of care. There is a potential for a misalignment of service provision with the needs of consumer / patient.

Through the ability to participate in actively developing emerging models of care, stakeholders identified that the potential benefits for active involvement included a genuine holistic approach to the needs of the person, an integrated approach with capacity for continued access to specialised services, increase service delivery in multiple relevant settings, and an increased focus on wellness, prevention and long-term management.

6.3 Growth of Emerging Technologies

An increasing emergence of technologies including mobility devices, health applications and high-speed bandwidth to empower telehealth provides a significant opportunity for the occupational therapy profession. Two questions for consideration are; how does technology assist and enable a more effective workforce and secondly, how does technology assist in service delivery and improving patient care?

Telehealth can be utilised to extend the reach of services, particularly to rural and remote areas. However, it should be noted that for telehealth initiatives to work optimally there must be adequate resourcing, scheduling, administration and technical support. As with all technologies implementation of telehealth must focus on people and processes first – the standalone technology will not work to deliver the desired outcomes in isolation of engagement and planning processes.

Telehealth can provide benefits by enabling clients, remote allied health professionals and students in rural areas to be connected to experts in the metropolitan areas (O'Hara & Jackson,

2017). It can also be utilised to support community rehabilitation settings by expediting review services for clients where they had previously had to wait up to 12 months.

Service delivery can be enhanced by tele rehabilitation, which facilitates training via the web, telephone, or other technology over great distance (Winstein & Requejo, 2015).

There is an opportunity to leverage social media to assist in both the design and delivery of occupational therapy services and how this care can enhance patient engagement in prescribed health behaviours and improved treatment outcomes (Knight, et al., 2014).

There is potential for technology to assist in enhancing independence for those aging with a disability (Agree, 2014). There is a distinction in the development of technological assistance for disabilities, with one aspect focusing on universal design, whereby advocates promote the benefits of standardising devices and environments so that they are uniformly accessible or usable by persons of varying abilities. The second aspect is focused on assistive devices/environmental modifications, whereby the relationship of individual capacity to the physical environment can be considered in developing customised solutions (Agree, 2014).

For occupational therapists conducting home modification work, there is a potential for software applications such as CAD or virtual reality interior design applications (VRIDAs) to allow users to simulate the home environment and visualise changes before implementing them. Customised VRIDAs have the capability to also model specialist occupational therapy equipment and could become a valuable tool to facilitate improved patient/practitioner collaboration if developed and integrated effectively (Atwal, et al., 2014).

The adaptation of 3D modelling engines can enhance and support home modification work. Alzheimer's Australia Victoria has recently launched a tablet application for carers of people living with dementia to help make their homes more accessible. Using interactive 3D game technology from the Unreal Engine, the application allows families to explore a virtual home from their mobile device and learn how to make it more suitable and accessible for people with dementia (McDonald, 2016). The application was developed with funding by the joint federal and state government Home and Community Care Program.

Stakeholders identified a wide variety of technologies that could assist the delivery of patient care and support for the overall workforce. Technology assisted concepts included virtual home visits via mobility platforms such as Apple's FaceTime and Skype; robotic enhanced user interface therapy tools; leveraging 3D printers for use with orthotics; patient driven platforms to support appointment bookings and equipment ordering; and potential development of robotics to perform basic patient assessments.

There are potential benefits associated with the emergence of technologies that included the implementation of 'paper light' environment; improved patient outcomes, ease and timeliness of information access; improved consistency; a framework for data collection and reduction in data deduplication; potential ABF benefits; a major focus on client driven model; and finally, an extended coverage of service for rural and remote patients.

6.4   Expansion of the Allied Health Assistant Role

The NSW Ministry of Health's Allied Health Assistant Framework identifies potential benefits of working with AHAs including improvements to patient satisfaction, increased intensity of clinical care, improvement of clinical outcomes, better utilisation of AHPs to focus on clinical tasks and lastly a cost-effective addition to the allied health workforce (NSW Health, 2013).

A study conducted at Austin Health, Victoria found that patients receiving intervention from AHAs had a shorter stay in hospital and were also more likely to be discharged into their own home as

opposed to a care facility. Other studies have found that assistants can provide benefit to patients through reduced skin breakdown rates, a decline in the average ventilator days per patient, and an overall increased participation in activities of daily life (Duckett & Breadon, 2014).

Support workers can also assist and complement the occupational therapy workforce. Broadening the scope of the support worker roles in the community, to respond to complexity, releases professional staff time to undertake specialised roles with clients. This might lead to optimal utilisation of the support and professional / specialist workforce (Lawn, et al., 2016)

Stakeholders identified potential benefits of enhancing the utility of Allied Health Assistants (AHAs) so that they can more effectively complement and extend occupational therapy scopes of practice. These benefits include a potential increase in service accessibility, a decrease in patient waitlists, intensity of input on complex clients, an increase in funding via ABF and addressing workforce shortages.

There are some risks associated with the implementation of AHAs in the occupational therapy workforce which need to be considered and mitigated. These include the segmentation of workforce roles, potential workforce de-skilling and provision of adequate training and supervision. This is extremely important as inadequately trained and/or under supervised AHAs may pose a risk to patients and other staff.

To ensure patient care is not compromised, stakeholders noted that the development of well-defined reporting lines and local governance of AHA role responsibilities, including adequate supervision and support, should be established.

6.5   Partnerships with Education Providers to Identify Skills and Experience Required of Future Students and Graduates

With the continued growth in numbers of occupational therapy graduates, there is an ongoing challenge to provide appropriate placements for students with adequate support for clinicians supervising students. Stakeholders noted that the development of appropriate skill sets, and environmental experience were requirements for new graduates. The development of partnerships and an ongoing dialogue between education providers and clinical workplaces is an opportunity to support the development of the future workforce.

Currently there are challenges around the development of appropriate skills and experience for students to meet the clinical requirements of certain placements. This misalignment of skills and experience has the potential to affect the appropriate delivery of care to patients and an inability of new graduates to operate at an optimal level. Rostering best practice should be employed to ensure that students are sufficiently exposed to a wider range of opportunities to develop their skills.

Stakeholders noted that the benefits of developing strong partnerships with other allied health professions would enable the development of graduates that are more responsive to individual skills and interests, improving the adaptability of occupational therapists in diverse settings, improving the overall quality of the workforce and ultimately developing a workforce that is more responsive to the population needs.

6.6   Incentivising Rural and Remote Locations to Better Distribute the Workforce Across the State

To address the challenge of workforce distribution across the state, there is an opportunity to optimise the distribution of the workforce through incentivisation. Through a combination of strategies including developing models of care that are suited to the geographic location (i.e. a 'hub and spoke' model), providing necessary support mechanisms including IT infrastructure, and

developing virtual professional networks there is potential to develop non-financial incentives to improve recruitment and retention in rural and remote locations.

Challenges related to rural and remote locations range from the ability to adequately attract the workforce to specific areas, provision of adequate support and supervision mechanisms, the retention rate of the existing workforce, and providing equitability of access to patient/consumers.

Through the development of strategies including 'hub and spoke' model of care and designing and implementing appropriate support structures, stakeholders acknowledged that potential benefits included the ability to adequately meet client needs, implementation of early intervention models of care, increased networking and support bases, increased skill level and overall job satisfaction.

6.7 Development of Clear Career Progression Pathways and Continuing Professional Development

Stakeholders identified that there is an opportunity to develop clear continuing professional development (CPD) workforce progression pathways to re-engage and 're-excite' the workforce. Development of appropriate technology support structures such as webinars and placement rotation structures were some of the areas of opportunity identified to re-engage the workforce.

Career progression pathways and CPD was previously identified as a key area that can impact on workforce recruitment and retention, particularly within rural and remote locations.

Stakeholders identified that the potential benefits of implementing career progression pathways and CPD included upskilling of professionals to create a dynamic and fluid workforce, wider career pathways, improved retention and satisfaction and ultimately improved patient care.

6.8 Addressing the Health Needs of Aboriginal and Torres Strait Islander People

Occupational therapy stakeholders identified the health status of the Aboriginal and Torres Strait Islander community as a key service driver and that the issue was sufficiently significant that it warranted separate attention from the broader population and chronic disease incidence drivers.

Occupational therapy and the broader allied health professions should examine its ability to address the health needs and deliver appropriate levels of care to Aboriginal and Torres Strait Islander communities. A study was conducted in Victoria to support the development of effective partnerships between Allied Health Professionals and Aboriginal Health Workers (AHW) to achieve Aboriginal health outcomes (Browne, et al., 2013).

Peer mentoring was identified as a "powerful tool for two-way learning to promote practice improvement". When an organisation was found to have put in place sufficient levels of management support and training for non-Aboriginal and Torres Strait Islander staff and where they partnered closely with AHWs, there was evidence of an increased readiness to learn and adjust practice to deliver services in a more culturally appropriate manner. This increase in cultural awareness may in turn have a positive impact on the health outcomes of Aboriginal and Torres Strait Islander communities.

Inequalities in health outcomes between Aboriginal and Torres Strait Islander people and their non-Aboriginal and Torres Strait Islander counterparts are noted to be the largest in the world (World Health Organisation, 2008).

The Aboriginal and Torres Strait Islander view of health is not just about the physical wellbeing of the individual. It is the social, emotional and cultural wellbeing of the entire community, a concept that is usually ignored by mainstream health services. It is therefore unsurprising that mainstream health services face additional challenges in trying to gain the trust of Aboriginal and Torres Strait Islander people. In terms of health service delivery, Aboriginal and Torres Strait

Islander community controlled health services emphasise the importance of a holistic approach towards Aboriginal and Torres Strait Islander health care, where physical and mental wellbeing is linked to its historical and cultural context (Markwick, et al., 2014).

Recognition of spirituality as a critical factor in Indigenous well-being can contribute to the development and implementation of health promotion and preventative projects. Health professionals, who are non-Indigenous, have a responsibility to understand the dynamic relationship between mind, body and spirit, to accurately address whole health when working with Aboriginal and Torres Strait Islander communities (McLennan & Khavarpour, 2004). The occupational therapy profession should therefore adopt and embrace culturally responsive practices and trauma-informed services.

Stakeholders identified that the geographical distribution of the occupational therapy workforce is just as important as the size of the workforce. Supporting the concept of a holistic model of care, design around implementing 'central hubs' within the communities is of key importance. As Aboriginal and Torres Strait Islander communities possess unique cultural characteristics, specialised models must be designed and developed around the community values themselves.

Stakeholders identified that this should be done by Aboriginal and Torres Strait Islander people and that evidence based models should form the foundation for designing these specialised models of care. Through a combination of leadership, development, mentoring and inclusion the broader health needs of the Aboriginal and Torres Strait Islander Community can be addressed. Stakeholders acknowledged that there should be a process of respectful consultation with the Aboriginal and Torres Strait Islander community on how services should be delivered. The concept of a cultural navigator was identified as one role that could significantly enhance the current occupational therapy service offering to Aboriginal and Torres Strait islander communities.

The encouragement and support of Aboriginal people to patriate in the profession of occupational therapy is key aspect to promoting improved health needs of the broader Aboriginal and Torres Strait Islander communities. Through stakeholder consultation, it was noted that Aboriginal students and graduates were strongly driven to contribute back to their communities. The provisioning of appropriate support and availability of placements for these students is pivotal.

Aboriginal graduates should be supported with future employment in areas that have cultural connections and supports. Career progression from the role of allied health assistants to allied health professionals was a 'natural' transition. It was identified that adequate support for participation of Aboriginal people within the workforce was a key driver.

A study in the Yolngu community supported the idea that communication plays a crucial role in closing the gap to addressing Indigenous health. The key priority for the community was that health staff share their full story about the causes, nature, consequences, prevention, and management of chronic diseases. It was identified that serious limitations in communication and education have extensive negative consequences for individuals, their families and health services (Lowell, et al., 2012).

It was noted that evidenced-based health policies, for example the Preventable Chronic Disease Strategy (PCDS) that are reflective of the cultural and life circumstances of Aboriginal communities are important. Aboriginal Health Workers and Aboriginal Health Practitioners should be empowered to determine the priorities that meet the needs of their communities and to provide input into decisions about ongoing investment into undergraduate education and professional development of Aboriginal and Torres Strait Islander People (Lloyd, et al., 2008).

7 Additional Key Emerging Areas of Interest

In addition to the demand and supply drivers identified and explored, a number of key emerging areas of interest for the occupational therapy profession were considered through the horizons scanning and scenario generation process.

7.1 Impacts of ICT Including eHealth and NSW ICT Strategies

The eHealth NSW initiatives for 2016-2026 (NSW Health, 2016) identify that there are five key drivers for change in patient interaction with technology as follows:

- Technology is strengthening patient knowledge, allowing them to be increasingly empowered, health literate and engaged as partners in their healthcare and wellness

- There is an increasing demand for healthcare workers and pressure to address shortages of skilled health workers, predominantly in regional and rural communities

- The emergence of integrated care models means there is a need to provide seamless, effective and efficient partnering with the patient, their carers and family. Technology must be more successfully harnessed to do this

- Rapid development and adoption of technology innovations has created opportunities within the home, hospital and community care settings

- There is a move toward open information and transparency across government agencies contributing to an improvement in data quality and analytics which assist in delivering greater care across communities and industries (NSW Health, 2016).

Technological developments within integrated care include HealtheNet, a central clinical repository providing a state-wide view of clinical history and seamless information-sharing between hospitals, community health, GPs, patients and private clinicians. This provides a framework to promote transparency and sharing of individual patient data between providers across the state. Additional eHealth Integrated Care solutions include a secure messaging and eReferral management system as well as shared care planning tools. These technological solutions have the potential to support patient-centred models of care and promote occupational therapy involvement in delivering care that spans across the longitudinal view of the patient's journey.

The Community Health and Outpatient Care (CHOC) electronic medical records program was a 7-year state-wide Integrated Clinical System program that has been implemented across eight services (including Aboriginal Health, Aged and Chronic Care and Mental Health) in NSW community health. Leveraging both Cerner's ability to provide information integration across a wide range of care settings and the CHIME solution, a platform that was specifically designed for community health to various Patient Administration Systems and aims to create a 'single patient view', the CHOC program aims to provide clinicians across multiple sites with timely access to clinical information.

The eMR Connect Program aims to deliver a state-wide, comprehensive electronic medical record (eMR) and is an integral component of eHealth NSW's Strategy for NSW Health:2016-2026's integrated care solutions. The integration of clinical systems within the various Local Health Districts and community health systems including CHOC is essential to the vision of the eHealth NSW Integrated Care Solutions Strategy.

From a workforce planning and management perspective, solutions such as the integrated Human Capital Management Suite could potentially support the recruitment and retention process of the workforce via standardisation of processes across the state. In addition, this could

provide data to enrich predictive workforce models that in turn will assist in future workforce planning.

NSW Health have established a state-wide system for Asset and Facilities Management that aims to improve the capacity to deploy, track, manage and maintain clinical and non-clinical assets. Centralised repositories have the potential to assist the occupational therapy workforce, particularly with managing equipment in rural and remote areas.

7.2 Rostering and Alignment with NSW Ministry of Health's Rostering Best Practice Guidelines

Workforce rostering is a factor that influences occupational therapy service coverage. Health services that operate seven days per week are under pressure to show the increased cost of providing weekend services can be measured in improved patient outcomes. A qualitative study was undertaken whereby managers perceived that a seven-day operational week improved patient flow and quality of care and reduced adverse incidents, such as falls and intensive care admissions (Mitchell, et al., 2017). It was noted that there are challenges associated with planning, staffing and management of seven day services, mainly due to change resistance from a workforce that has traditionally operated during traditional working hours.

7.3 Occupational Deprivation

Occupational deprivation is described as "a state of preclusion from engagement in occupations of necessity and/or meaning due to factors that stand outside the immediate control of the individual" (Whiteford, 2000). Physical, social, attitudinal, discriminatory, professional, institutional, racial, legislative, and political impediments to participation in any occupation that a person needs or wants to do could potentially be regarded as occupationally depriving.

Health and wellbeing depends upon being able to engage in occupations that are meaningful and of one's choosing and this is well evidenced by international research. Conversely, being prevented from engaging in meaningful occupations can lead to psychological and physical illness, impairment, and reduced productivity (Occupational Therapy Australia, 2017).

Although Australia is in many ways a fair and inclusive society, there are notable inequalities that exist for some groups which can lead to occupational deprivation. These include but are not limited to: refugees and asylum seekers who are placed in detention and processing centres both in Australia and offshore, people with disability or mental illness, those living in geographically isolated environments, and Aboriginal and Torres Strait Islander peoples (Occupational Therapy Australia, 2017).

Occupational therapists have the potential to assist in addressing 'occupational deprivation' and having a significant positive benefit on the health needs and wellbeing outcomes of vulnerable groups and individuals. This could potentially increase the demand for occupational therapy services.

8   Gaps in Current Body of Literature

The use of technology in the field of occupational therapy has been raised as an opportunity to extend scopes of practice, particularly to rural and remote locations. However, there is a limited evidence for service need and performance metrics to measure the benefits technology can provide. This is especially the case around the innovative use of social media.

From a funding perspective, further study and actual statistical data evidence is required to place a value on preventative care activities. As occupational therapists focus on reducing hospital re-admissions and providing out of home care, there needs to be sufficient empirical evidence to support the true value of these activities.

9   Conclusion

The challenges facing the occupational therapy workforce are not unique to this workforce. As with every other allied health profession, occupational therapy will need to adapt to ensure increasing patient demand is met in and out of hours, across both metropolitan and rural areas. The trend toward increased patient centricity will demand more effective models of multi / inter-disciplinary team based care, which will in turn challenge the prevalent Monday to Friday business hours service configurations state-wide.

Increased staff flexibility will be key and until that is achieved existing staffing models will continue to experience increasing stress as patient demand for services rises and with it, patient expectations. New technologies and auxiliary roles offer potential to extend clinician capacity, but will require investment in time, infrastructure and training before benefits can be truly realised.

Additional work will be required to design new, flexible resourcing models which can offer improved levels of patient care and service while retaining sufficient workforce protection.

Enhancing the degree of involvement that occupational therapists have in future clinical service design will likely prove a critical factor to future success. Only through such collaborative design can the system develop future models of care which will leverage the potential of new technologies, to improve patient care and outcomes delivered by a sustainable occupational therapy workforce.

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11 Appendices

11.1 Appendix A

Table 6 below lists the Australian Board of Occupational Therapy approved programs of study.

Table 6. Approved Programs of Study - Occupational Therapy (AHPRA, 2017)

Education Provider	Program of Study Name
Auckland University of Technology	Bachelor of Health Science (Occupational Therapy)
Australian Catholic University (NSW, QLD, VIC)	Bachelor of Occupational Therapy
Australian Catholic University (NSW, QLD, VIC)	Bachelor of Occupational Therapy (Honours)
Bond University (QLD)	Master of Occupational Therapy
Central Queensland University (QLD)	Bachelor of Occupational Therapy (Honours)
Charles Sturt University	Bachelor of Occupational Therapy
Charles Sturt University	Bachelor of Occupational Therapy (Honours)
Curtin University	Bachelor of Science (Occupational Therapy)
Curtin University	Bachelor of Science (Occupational Therapy) (Honours)
Curtin University	Master of Occupational Therapy
Deakin University	Bachelor of Occupational Therapy
Deakin University	Bachelor of Occupational Therapy (Honours)
Edith Cowan University	Bachelor of Science (Occupational Therapy)
Edith Cowan University	Bachelor of Science (Occupational Therapy) (Honours)
Flinders University	Bachelor of Science / Master of Occupational Therapy
Flinders University	Master of Occupational Therapy
Griffith University	Bachelor of Occupational Therapy
Griffith University	Bachelor of Occupational Therapy (Honours)

James Cook University (QLD)	Bachelor of Occupational Therapy
James Cook University (QLD)	Bachelor of Occupational Therapy (Honours)
La Trobe University (VIC)	Bachelor of Applied Science and Master of Occupational Therapy Practice
La Trobe University (VIC)	Bachelor of Health Sciences and Master of Occupational Therapy Practice
La Trobe University (VIC)	Bachelor of Psychological Science / Master of Occupational Therapy Practice
La Trobe University (VIC)	Master of Occupational Therapy Practice
Monash University	Bachelor of Occupational Therapy
Monash University	Bachelor of Occupational Therapy (Honours)
Monash University	Master of Occupational Therapy Practice
Occupational Therapy Council of Australia and New Zealand	Certificate of Practical Completion
Otago Polytechnic	Bachelor of Occupational Therapy
Southern Cross University	Bachelor of Occupational Therapy
Southern Cross University	Bachelor of Occupational Therapy (Honours)
Swinburne University of Technology (VIC)	Master of Occupational Therapy
University of Canberra (ACT)	Master of Occupational Therapy
University of Newcastle (NSW)	Bachelor of Occupational Therapy
University of Newcastle (NSW)	Bachelor of Occupational Therapy (Honours)
University of Queensland (QLD)	Bachelor of Occupational Therapy (Honours)
University of Queensland (QLD)	Master of Occupational Therapy Studies
University of South Australia (SA)	Bachelor of Occupational Therapy
University of South Australia	Bachelor of Occupational Therapy (Honours)
University of South Australia	Master of Occupational Therapy (Graduate Entry)
University of Sydney	Bachelor of Applied Science (Occupational Therapy)
University of Sydney	Bachelor of Applied Science (Occupational Therapy) (Honours)

University of Sydney	Master of Occupational Therapy
University of the Sunshine Coast	Bachelor of Occupational Therapy
University of the Sunshine Coast	Bachelor of Occupational Therapy (Honours)
University of the Sunshine Coast	Bachelor of Occupational Therapy (with a major in Honours)
Western Sydney University	Bachelor of Applied Science (Occupational Therapy)
Western Sydney University	Bachelor of Applied Science (Honours) / Master of Occupational Therapy
Western Sydney University	Bachelor of Health Science / Master of Occupational Therapy
Western Sydney University	Bachelor of Occupational Therapy
Western Sydney University	Bachelor of Occupational Therapy (Honours)
Western Sydney University	Master of Occupational Therapy