NSW Health Orthoptist Workforce

HORIZONS SCANNING AND SCENARIO GENERATION PROJECT

HealthConnect
Consulting

Contents

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

Executive summary

NSW Orthoptist Workforce Vision 2030
A strong, supported workforce operating in full scope of practice as a valued team member across an increased range of patient groups and locations.

Eye heath in Australia

Over **13 million (55%)** Australians have 1 or more long-term eye conditions

Aboriginal communities suffer vision impairment / blindness at **3 times the rate** of other Australians

direct cost of treating eye disease **$2.98 billion**
Growing by 4.8% pa

Causes of blindness & vision loss
- Age related macular degeneration
- Cataract
- Glaucoma
- Diabetic retinopathy
- Refractive error
- Eye trauma
- Trachoma

Workforce supply drivers

- Undergraduate attraction and education
- Career opportunities: fulltime positions and career pathways
- Education and training
- Workforce planning: numbers, distribution & succession planning
- Workplace governance & culture

2020 NSWH Orthoptists

- **37 FTE** orthoptists
- Work across **9 LHDs/SCHN**
- Commonly work **21-30 hours/wk**
- Work across all age groups

Where do Orthoptists work?
- 99% traditional orthoptics incl. ocular motility, paediatrics & neuro-ophthalmology
- 91% general ophthalmology incl. surgical assisting & refractive surgery
- 50% are involved in independent practice

Workforce demand drivers

- Patient trends and expectations: population growth, age, patient characteristics, aboriginal population
- New policy drivers eg STEPS
- Advancing technology
- Awareness and recognition of the profession

Future workforce opportunities

Advances in technology	Orthoptist led clinics	Multi-disciplinary team inclusion	Expanded orthoptist scope of practice	Leveraging other workforces

Workforce enabler opportunities

Workforce planning	Education & prof development	Raising awareness	Growth of the workforce	Research

Background and approach

Background

The NSW Health Professionals Workforce Plan 2012-2022 (the Plan) requires the NSW Ministry of Health (Ministry) to develop workforce modelling projections to 2030 for the Allied Health workforces (recommendation 7.8). The Plan identifies a number of small but critical workforces that require attention to meet the needs of a changing health care service in NSW.

A Horizons Scanning and Scenario Generation Project was undertaken by HealthConnect Consulting to identify the risks, issues and opportunities relating to the orthoptist workforce, including challenges and drivers that are expected to influence the profession over the next ten years.

Approach

The project consisted of the following five key activities, in alignment with the NSW Ministry of Health Horizons Scanning and Scenario Generation methodology, to gather and synthesise information and test concepts:

| Activity	Description	Date
Rapid literature review	A rapid literature review was conducted to support provide evidence and support the project activities. A rapid review is a form of evidence synthesis that is less comprehensive than a standard systematic review and conducted within a shorter time frame. Attachment 1 provides the Rapid literature review.	January 2020
Stakeholder consultations	One-on-one interviews were conducted with a range of stakeholders with the objective of canvassing a broad and comprehensive range of information relevant to the orthoptist workforce.	February 2020
Horizons scanning workshop	The Orthoptist Horizons Scanning workshop was designed to identify the current and future workforce supply and demand drivers, and the challenges and opportunities for the workforce. The workshop focused on the future vision for the orthoptist workforce as well as value based health care in the context of the orthoptist workforce.	6 March 2020
Online survey	An online survey, via Survey Monkey was open to all NSW Health orthoptists. The purpose of the survey was to broadly assess the perceived impact of the key drivers, challenges and opportunities identified for the orthoptist workforce.	March 2020
Scenario generation workshop	The purpose of the Scenario Generation workshop was to build upon the insights obtained from the survey and the outcomes of the Horizons Scanning Workshop. Workshop participants discussed plausible workforce scenarios considering workforce drivers and agreed trends; identifying scenario related opportunities, risks and barriers, and determining potential impacts and priorities.	1 April 2020

Current state

Eye health in Australia

Over 13 million Australians (55% of the total population) have one or more long-term eye conditions[1]. Access Economics (2010) reported that the direct cost of treating eye disease in Australia was $2.98 billion with the allocated health expenditure on eye conditions growing in real terms by approximately 4.8 per cent per annum. This report also estimated an increase in age-related eye disease with the most prevalent conditions being age-related macular degeneration, glaucoma and cataract in people over 40.

Ageing is the major contributing factor to visual impairment and blindness – two-thirds of Australians with low vision are aged 65 years or over. The most prevalent causes of blindness and vision loss in Australia are age-related macular degeneration, cataract, glaucoma, diabetic retinopathy, uncorrected or under-corrected refractive error, eye trauma and trachoma in some remote areas. Diabetes remains the leading cause of vision loss and blindness in working-age Australians.

Aboriginal communities suffer vision impairment and blindness at 3 times the rate of other Australians, although this is a reduction from 1980 (10x the rate for blindness) and 2008 (6x). Aboriginal communities have high rates of trachoma (an eye infection) in some geographic regions. Australia is the only developed country to still have trachoma. Rates fell from 21% in 2008 to 3.8% in 2017, although many communities remain at risk. [2]

Approximately 90%[3] to 94%[4, 5] of vision impairment and blindness among both Indigenous and non-Indigenous Australians is preventable or treatable.

Figure 1: Eye health in Australia
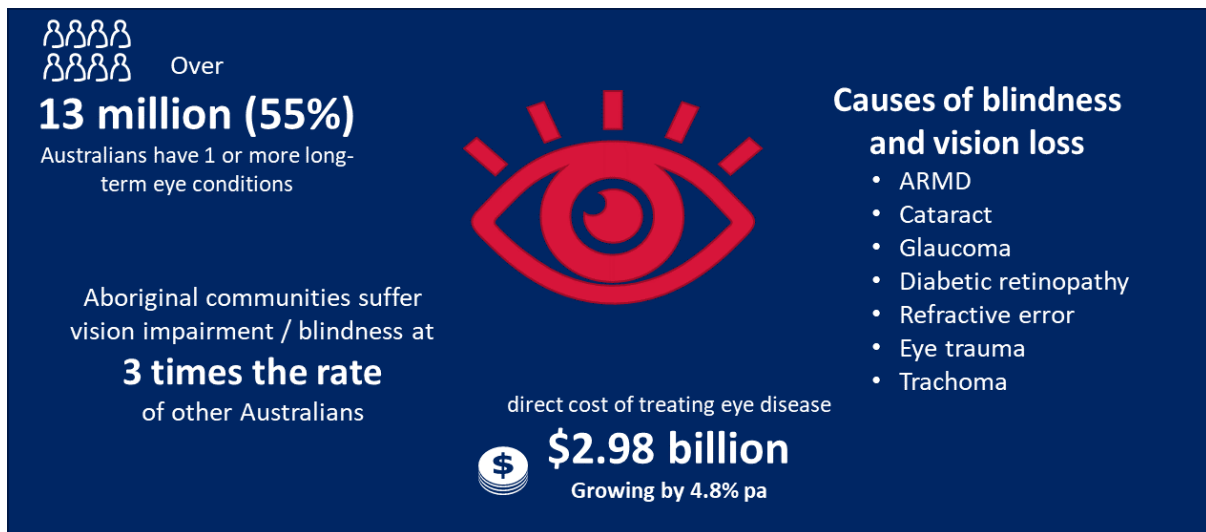
What do we know about the NSW Health orthoptist workforce?

Orthoptists are university-trained eye health professionals who play an integral role in the assessment, diagnosis, management, monitoring and rehabilitation of eye and vision disorders across health statuses and all ages, from birth to end of life. Orthoptists are operating in a continually evolving environment. The pace of change specifically related to technology has increased dramatically over the last decade.

Responsibility for eye health programs and services in Australia is currently spread across governments, the private sector, health care professions and non-government organisations.

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[1] https://www.aihw.gov.au/reports/eye-health/eye-health/contents/how-common-is-visual-impairment

[2] Strong eyes, strong communities – a five year plan for Aboriginal and Torres Strait Islander eye health and vision 2019-2025 – Vision 2020 Australia

[3] National Eye Health Survey 2016

[4] RANZCO. (Spring 2017). EYE2EYE, 20(3)

[5] Taylor, H.R., Boudville, A., Anjou, M., & McNeill, R. (2012). *The Roadmap to Close the Gap for Vision. Full report*. Melbourne

A wide range of occupations deliver eye health care in Australia, including medical practitioners from a range of specialties, nurses, optometrists, orthoptists and pharmacists. There has been a close working relationship between ophthalmologists, orthoptists and ophthalmic nurses in the public and private sectors. Ophthalmologists often employ orthoptists in their private practices and day surgeries.

Orthoptists are well placed to deliver high quality and 'person-centred' low vision care to older people or people at any stage of their lives. The breadth of clinical expertise required to provide the full range of eye health care sets Australian orthoptists apart from some international graduates where training focuses primarily on ocular motility and, to a lesser degree, general ophthalmic support services.

Figure 1 presents a high-level workforce profile of orthoptists in Australia 2011 and 2016[6]. The AIHW estimated that 10,916 people were employed in the eye health workforce in Australia in 2011, of which 674 were orthoptists (or 2.5FTE per 100,000). This number rose to 834 orthoptists (or 2.7 FTE per 100,000) in 2016. This included both the public and private sectors.

Figure 2: Orthoptist workforce profile
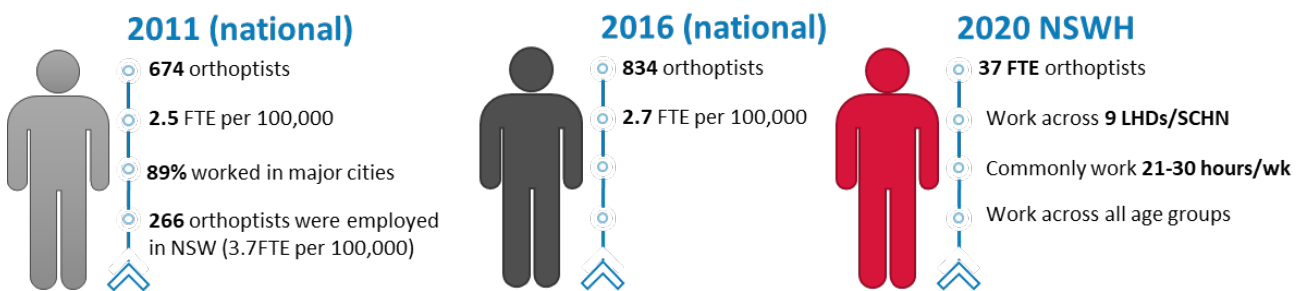
The Ministry Workforce Planning and Talent Development branch data identified that there were 37FTE orthoptists employed by NSW Health (NSWH in 2020, across eight LHDs and the SCHN. This project's online survey provided further insight from 22 respondents indicating that about 41% of orthoptists worked 21-30 hours and 36% worked 30-40 hours. In total, more than three quarters of respondents worked between 21-40 hours. Orthoptists provide services across all age groups. Nearly half (45%) of survey respondents indicated that they did not receive clinical supervision from an allied health professional, of these: 60% do not directly report to an allied health manager; 50% were the LHD/SHN sole therapist; and 50% have insufficient time due to high workload. Survey respondents indicated that the top three key enablers for supervision were direct reporting lines into an allied health manager; supportive workplace culture; and clinical supervision training.

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[6] Australian Institute of Health and Welfare (AIHW) data 2016 and 2019

Orthoptists in practice

In 2017, Orthoptics Australia developed and implemented a workforce survey to report on contemporary Australian orthoptic practice by exploring demographics, education levels, employment, student education involvement and nature of clinical practice. Almost all (99%) respondents indicated that they were involved in traditional orthoptic practice areas including ocular motility, paediatrics and neuro-ophthalmology. In the area of general ophthalmology, 91% respondents indicated that they were involved in areas such as surgical assisting and refractive surgery, an increase from the previous survey where 75.4% indicated they were involved in these areas. Other respondents indicated practice in low vision, research and rehabilitation. Half of the respondents reported involvement in independent orthoptic practice. Figure 3 presents a summary of where orthoptists work in practice.

Workforce shortages are reported in rural and remote areas (Spiers & Harris 2015). Australian universities have encouraged students to complete their clinical training outside of metropolitan areas to broaden their outlook on potential areas of employment.

Figure 3: Orthoptists in practice

Where do Orthoptists work?

99% traditional orthoptics incl. ocular motility, paediatrics & neuro-ophthalmology

91% general ophthalmology incl. surgical assisting & refractive surgery

Other low vision, research and rehabilitation

50% are involved in independent practice

Traditional orthoptic work has already changed considerably in recent years, partly because of the change in the scope of practice in ophthalmology. There is increasing awareness of the positive impact of extended roles both for health professionals and for patients. In an environment where health economics demand efficiencies and increased productivity, orthoptists are seen as cost-effective health providers with the capacity to co-manage eye disease in private and public, primary and tertiary systems (Jolly et al 2019, p.28). There has been development in practice, such as glaucoma and cataract monitoring, to meet emerging needs. While orthoptists are continuing to diagnose and treat visual problems involving eye movement and alignment, their roles are increasingly extending into the management of glaucoma, age-related macular degeneration and low vision as part of a multidisciplinary team.

## Aboriginal eye health and cultural safety

Vision loss is 11% of the Aboriginal health gap and Aboriginal adults have six times more blindness than non-Aboriginal people and a three-fold higher prevalence of general vision loss compared with non-Aboriginal people. There has been significant progress reducing the gap since 1980 (10x prevalence of blindness compared with non-Aboriginal population) and 2008 (6x) to 2016 (3x).[7] However, the prevalence of vision impairment was higher for older Aboriginal people compared to the non-Aboriginal population (8.23% vs 4.42% for 50-59 year olds; 16.85% vs 4.37% for 60-69 year olds).[8]

Although vision impairment was similar across remoteness for non-Aboriginal Australians, Aboriginal Australians had a higher age-adjusted prevalence in Outer Regional areas (21.59%) and Very Remote areas (17.96%) and a lower prevalence in Inner Regional areas (10.20%).[8] In 2016, Aboriginal Australians were less likely than non-Aboriginal Australians to have received eye checks or certain eye care treatments.[8] Nearly all (94%) vision loss experienced by Aboriginal Australians is preventable or treatable, but there are challenges and barriers along the patient pathway that are preventing effective care (Taylor et al. 2012).

The provision of eye-care services within Aboriginal health services results in better vision and access to services for Aboriginal people is improved if their care is delivered within culturally appropriate facilities.

Cultural safety is central to Aboriginal people and their relationships with the health system. It requires self-understanding, knowing and accepting one's own culture and its influence on thought, feelings and behaviour. Orthoptics Australia is committed to ensuring cultural safety, and cultural awareness is incorporated into the curriculum

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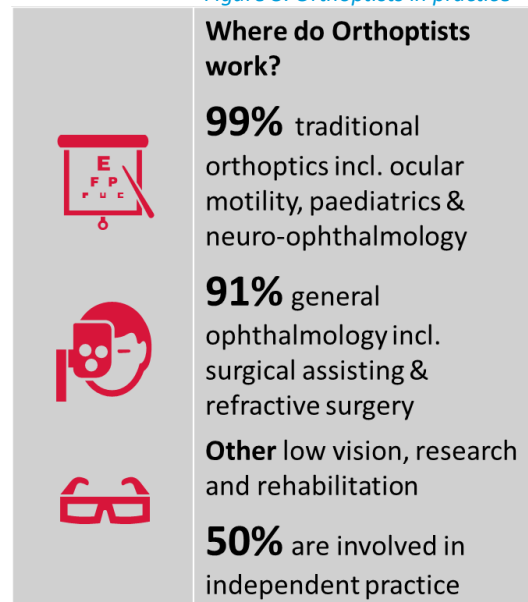
[7] Strong eyes, strong communities – a five year plan for Aboriginal and Torres Strait Islander eye health and vision 2019-2025 – Vision 2020 Australia
[8] National Eye Health Survey 2016

for students undertaking a degree in orthoptics. Currently within NSW Health there is only one orthoptist identifying as Aboriginal.

Rural and regional services

The NSW Rural Doctors Network (RDN) administers Commonwealth programs that provide outreach eye health services, including to Aboriginal-run and Aboriginal-targeted organisations. Data on RDN outreach services extracted in March 2020 indicate that Dubbo and Broken Hill receive orthoptic services, and several areas receive general ophthalmology services, some of which include orthoptists as part of a wider team. Other eye health outreach services include Aboriginal eye health workers, ophthalmic nurses, optometry and surgical ophthalmology services.

Setting the scene: the future orthoptist workforce

Value based health care and the workforce

Value based healthcare will improve health outcomes that matter to patients by evolving how patients receive and how clinicians provide care. Value based healthcare in NSW means delivering services that improve:

- the health outcomes that matter to patients
- the experience of receiving care
- the experience of providing care
- the effectiveness and efficiency of care.

The Quadruple Aim is the contemporary framework underpinning best practice health service planning, design and implementation. The fundamental premise of the framework is that value is harnessed through simultaneously improving population health, improving the experience of receiving and providing care, and of reducing per capita cost. Figure 4 illustrates what value-based health care means from an orthoptist workforce perspective across the four quadrants of the Quadruple Aim.

Figure 4: Value based health care from the orthoptist workforce perspective
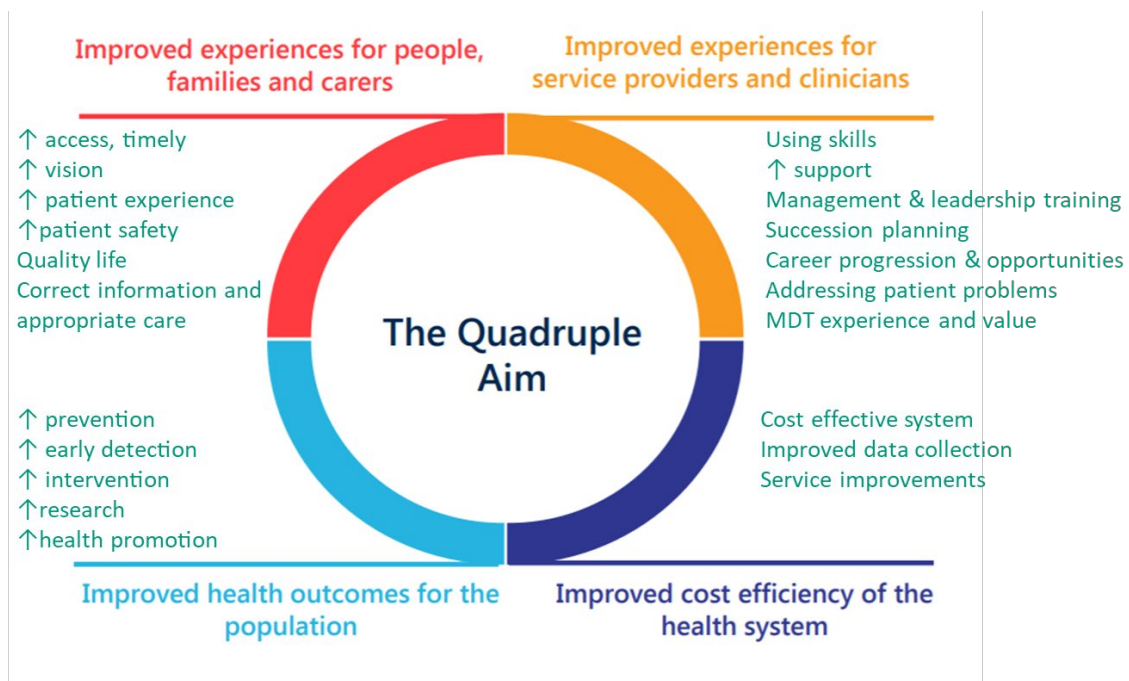
Vision for the orthoptist workforce

For the purpose of this project a shared vision for the NSW Health orthoptist workforce was defined at the first workshop. The vision provides a foundation to discuss the current workforce and to guide future workforce priorities.

NSW Orthoptist Workforce Vision 2030

A strong, supported workforce operating in full scope of practice as a valued team member across an increased range of patient groups and locations.

The core elements of the vision are further defined below:

- *Strong* – adequate numbers of orthoptists and a strong pipeline of orthoptists for the future including new graduates

- *Supported* – appropriate governance, supervision and professional development. Training and education includes new technology and new techniques
- *Full scope of practice* – Orthoptists utilising their full skill set, evidence to support practice, full use of technology and involvement in the development of technology (advice and research)
- *Valued team member* – clear roles for orthoptists, the ability to collaborate and work in multidisciplinary teams with other professionals across different disciplines and sectors
- *Patient groups* – providing services across all ages and disease groups. The term 'patient' is the commonly accepted term used in NSW Health to define a person receiving care or treatment. The term patient can be interchanged with other terms such as clients, consumers and carers depending on the preference of those receiving care or treatment and the care setting.
- *Location* – spread including rural settings.

Supply and demand drivers

The provision of a stable effective workforce with the required capability is a cornerstone for successfully meeting service demand across the system.

Supply drivers

Supply drivers encompass the factors likely to influence the supply of orthoptists to the workforce. An adequate number and equitable distribution of orthoptists are essential to ensure the availability of appropriate eye health services across NSW. A number of supply drivers that might be expected to influence the role of orthoptist workforce now and in the future were identified. These have been grouped into five themes:

1. Undergraduate attraction and education

- The increased awareness and attraction of the Masters in Orthoptics course to new students was seen as a foundational element to future workforce supply. Consultations indicated that this was a continuing area of focus for the University of Technology (UTS) and the orthoptist profession.
- The cost of the Masters in Orthoptics course was not thought to be prohibitive to attracting students to enrol in and complete the two year course. UTS indicated that the current number of applicants to the course far outweighed the places available. The supply of graduating orthoptists was an issue in the years prior to 2015 when the course transitioned from the University of Sydney to UTS as illustrated in Figure 5. Graduating numbers of students are now consistently above 45 students per year.
- The availability of clinical placements for students is currently a challenge. It was suggested that clinical educators/supervisors across all LHDs/SHN could assist to facilitate access to a greater number of clinical placements and manage students. UTS also indicated that the intake of orthoptist students could be increased if more clinical placements were available.

Figure 5: Supply of graduating orthoptists in NSW 2009-2019
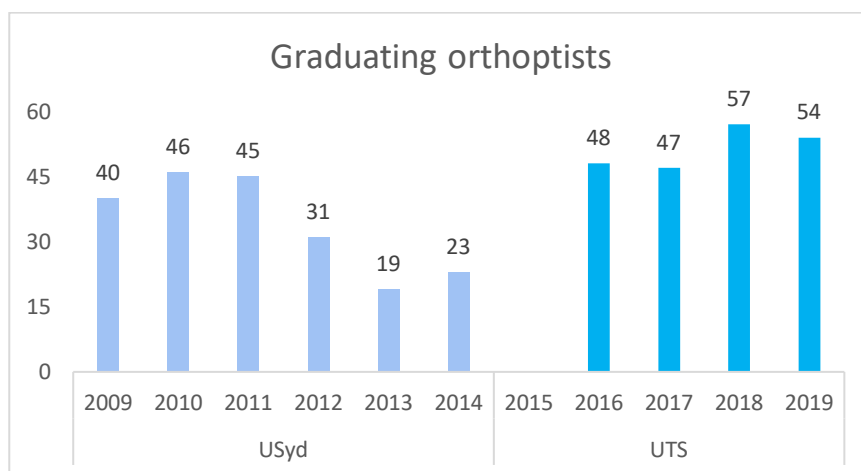
2. Career opportunities

- New graduates are most commonly seeking full-time positions in any sector (public or private). It was reported that there was a lack of full-time positions available (public and private), particularly in rural areas and this could be a barrier to recruitment.
- The number of orthoptist positions in the public sector has been relatively static for several years.
- Currently there is only one new graduate position per year within NSW Health. Stakeholders considered these roles as valuable in growing the workforce and in providing new graduates with support and mentoring during their first year of practice. Expanding these roles was seen as an important low cost recruitment and retention strategy.
- Recruiting orthoptists to rural LHDs can be a challenge. It was suggested that part-time roles could be combined to create more full-time roles which are attractive to orthoptists. For example, a part-time LHD role could be combined with a part-time RDN role.

- Career pathways and opportunities for career progression for orthoptists in NSW Health is reported to be limited. Consideration of roles such as clinical educators and supervisors may be one solution to enhancing career pathways for orthoptists.

3. Education and training

- There an ongoing need for the orthoptist workforce to actively participate in professional development as contemporary practice continually evolves. Availability of professional development opportunities is reported to be limited. There is opportunity to investigate the feasibility of developing education modules for all orthoptists in partnership with education providers. Modules may include for example, top of scope of practice specialist modules, the orthoptist's role on multidisciplinary teams and eye health needs of Aboriginal people.
- Appropriate clinical supervision and mentoring through NSW Health was not available for all orthoptists. This was especially true where the orthoptist was the sole practitioner in their LHD.

4. Workforce planning

- Workforce planning is a foundational component in ensuring that NSW Health trains, recruits and retains a fit-for-purpose orthoptist workforce to effectively meet demand and the needs of the community.
- Succession planning to meet workforce vacancies in future years is required. It was noted that a proportion of the orthoptist workforce will be approaching retirement in the coming years and upskilling/mentoring of younger orthoptists and graduates was a priority.
- Given the small nature of the orthoptist workforce and the spread of orthoptists across limited LHDs/SCHN, it is important that workforce planning considers the orthoptist workforce from a state-wide perspective to comprehensively address workforce challenges and future requirements.
- Developing a workforce pool of orthoptists which provides services across a LHD or across a number of LHDs was proposed as an innovative workforce approach for this specialty.

5. Workplace governance and culture

- Governance arrangements provide professional support for the orthoptist workforce. Governance arrangements across LHDs were noted to be different with some orthoptists reporting to Allied Health and others reporting through Ophthalmology to surgical services. Operational and professional reporting lines were often different.
- It was acknowledged that regardless of formal reporting lines, it is crucial that orthoptists are linked with other allied health professionals and management. Linkages with the LHD Director of Allied Health was important from both an advocacy for the profession perspective and in raising awareness of the profession.
- Formalised and clear governance structures are required to ensure the orthoptist workforce is well supported by management and actively included in the broader allied health workforce. Appropriate local governance arrangements will also support orthoptist workforce planning on an ongoing basis and the implementation of any actions required to support workforce priorities.
- Building a positive workplace culture and valuing the knowledge, skill and contribution of orthoptists will support working relationships with other health professionals and highlight the value of orthoptists.
- Development and advocacy for the profession at the central/statewide level was seen to be lacking. A request was made for the commencement of a statewide group to provide advice, advocacy and progress shared priorities at the state level.

Survey findings

Survey respondents were asked to rate the impact of supply drivers. The survey showed that career opportunities, and undergraduate attraction and education drivers were rated higher than other drivers. The following supply drivers were considered to have a significant impact:

- awareness and attraction of the Masters in Orthoptics course for new students
- availability of full-time positions in any sector / availability of new graduate positions / availability of full-time positions in the public sector
- availability of clinical placements for students, and availability of career pathways and career progression in NSW Health.
- The remaining five supply drivers were rated as having some impact. These included succession planning to meet workforce needs in future years, governance arrangements to provide professional support, availability of

professional development opportunities, cost of the Masters in Orthoptics course and availability of clinical supervision.
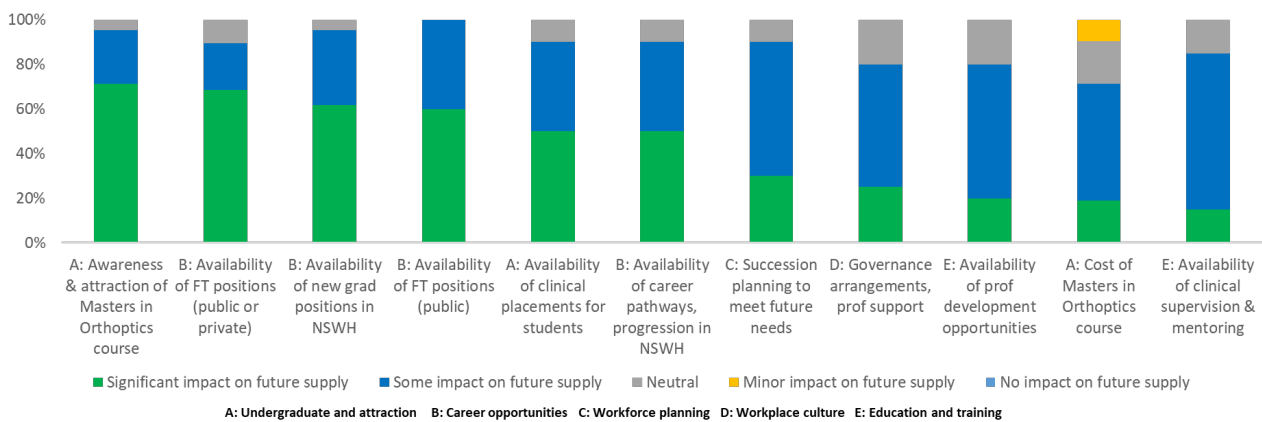
Figure 6: Impact of supply drivers

Table 1 summarises the potential supply driver inputs to future workforce modelling.

Table 1: Inputs to workforce modelling

Inputs to future workforce modelling – supply drivers
• UTS Masters of Orthoptics course graduating numbers, intake numbers and projections, proportion of graduates staying in NSW for work • Workforce data from NSW State-wide Management Reporting Service (SMRS) (sourced directly from the NSW Health HR and Payroll System StaffLink). SMRS provides the ability for users to look at workforce information at an organisational level as well as cost centre level and is used to support workforce operations and planning. • NSW Health clinical placements for eye health professionals (also to understand how NSW Health has grown different parts of the eye health workforce) • Trends in job advertisements for orthoptists by sector, location, and part-time/full-time.

Demand drivers

Demand drivers encompass those factors likely to influence the demand for orthoptist services. A number of key demand drivers that might be expected to influence the role of orthoptist workforce now and in the future have been identified. The demand drivers have been grouped into four themes:

1. Patient trends and expectations
- The NSW population is projected to grow by 14% over the next 10 years[9]. The growth rate is greatest for the 65+ age group in all areas, followed by the 0-17 and the 18-64 age groups in metropolitan areas. The orthoptist workforce will need to grow in line with these forecast requirements.
- Changing patient characteristics and trends, for example the ageing population, the increased acuity of presenting patients, and the increased incidence of chronic diseases such as diabetes have the potential to significantly increase demand.
- Anecdotal evidence suggests that patient waiting lists across all age groups and conditions are growing significantly and many orthoptists are involved in triaging and specific clinics with the goal of reducing waiting lists.
- As discussed earlier, it has been clearly documented that there is considerable unmet need for eye health services in the Aboriginal population.
- Patients are reported as having increasing expectations of health care provision and information requirements.

2. Health system influencers
- New policy drivers are increasing the demand for orthoptist services. The StEPS preschool screening program is increasing demand in secondary referrals.

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[9] Population projections based on data from the NSW Department of Planning and Environment (SAPHaRI). Centre for Epidemiology and Evidence, NSW Ministry of Health.

- Other policy drivers, such as the requirement to measure height and weight of all children presenting to a health service, are both anecdotally time consuming and place additional pressure on orthoptists to meet metrics outside their normal scope of practice.

3. Technology
- Advancements in ophthalmic technology and increased use of technology for investigative, diagnostic and therapeutic purposes are placing greater demands on the orthoptist workforce. Patients are requiring more comprehensive 'work ups' prior to seeing an ophthalmologist and patient expectations are increasing.

4. Awareness and recognition
- Increased awareness, recognition and perceived value of the profession by general practitioners, medical specialists, nursing and other allied health professions has been incrementally growing, mostly through the efforts of orthoptists who demonstrate their value.

Survey findings

Survey respondents were asked to rate the impact of demand drivers as presented in Figure 7. Demand drivers were ranked in order of significance of impact on the workforce as follows:

- patient trends and expectations eg ageing, increased acuity of patients, increased incidence of chronic disease
- health system influencers in the form of new policy drivers
- advancements in technology
- awareness, recognition and the perceived value of the orthoptist workforce
- health system influencers related to current unmet need within the system

increasing patient expectations.

Figure 7: Impact of demand drivers
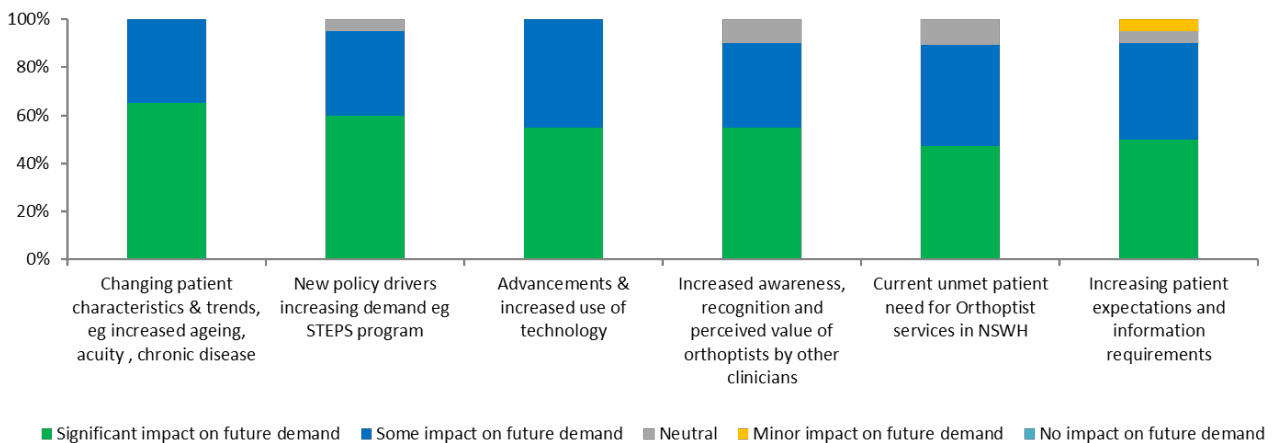
Table 2 summarises the potential demand driver inputs to future workforce modelling.

Table 2: Demand driver inputs to future workforce modelling

Demand driver inputs to future workforce modelling
• Census and demographic data
• Population projections across all age groups and LHDs
• Chronic disease and demand projections across specific conditions eg diabetes, stroke, cataract etc
• Aboriginality status and prevalence of eye conditions
• Numbers and trends of relevant MDTs (e.g. stroke teams) in NSWH that orthoptists could add value to
• Referral numbers and sources
• Place of residence of patients to identify demand for orthoptist service in LHDs where these are not currently available
• Average waiting time for appointments and treatments
• Expected advances in technology and how these may reshape the orthoptist and related roles
• Average caseload and time spent on different tasks (clinical, admin, etc) by orthoptists and how these would change due to new policy drivers or a change in the workforce mix

Challenges

A number of challenges, outside those related to supply and demand drivers, were highlighted by the workforce during consultation. These challenges are summarised under the following four themes:

1. Professional identity of orthoptists

- The professional identity of orthoptists was noted to be an ongoing challenge. This challenge also relates to the overarching awareness and recognition of the profession which in turn impacts both supply and demand.
- It was noted that other disciplines practising in the eye health space, such as optometrists and ophthalmic nurses, were expanding their scope of practice and it was acknowledged that this could potentially put the orthoptist role at a perceived risk or encroach on orthoptist practice.
- Participants felt there was room to deliver better value eye health care through working to the top of the orthoptist workforce's scope of practice in a range of areas, including but not limited to additional orthoptist led clinics and expanding to new areas of practice (e.g. stroke, diabetes, rehabilitation and brain injury clinics, genomics and Aboriginal eye health services).

2. Fit-for-purpose infrastructure

- A limitation of functional space in some community and hospital outpatient clinics was noted as a barrier to supporting appropriate models of care and patient management.
- It was agreed that space and clinician/patient requirements should be considered in the design of future facilities and redevelopments-

3. Availability and use of data

- There is a lack of consistent statewide data specific to orthoptists and awareness of how best to utilise data for workforce planning and to demonstrate the value-add of orthoptists.
- Access to detailed data and analytics provides the basis for understanding current and future requirements.
- Improved information about the orthoptist workforce, including by the LHDs/SHN, will support workforce planning and the sustainable supply of the workforce into the future as new and contemporary models of care are implemented.
- Where possible, workforce data should be compared with population growth, age, chronic disease incidence, Aboriginality status and prevalence of eye conditions to support distribution of the workforce and support care delivery in more efficient and effective ways.

4. Rural challenges

- Just over a quarter of the people in NSW live outside the three major cities of Sydney, Newcastle and Wollongong. The healthcare system in rural NSW is complex and multi-layered, with services provided by many organisations.
- Currently there are no orthoptists in NSW Health working in rural areas.
- There are a number of Australian Government funded programs of relevance to eye health care delivery that aim to streamline the distribution of workforce in Australia and address workforce shortages in rural and remote areas, however many are medically related.
- NSW Health polices and plans aim to strengthen the capacity of NSW rural health services to provide connected and seamless care, as close to regional, rural and remote NSW communities as possible[10]. However, one of the major obstacles to maximising the eye health of rural and remote communities is the difficulty experienced in attracting and retaining a competent and highly skilled workforce in these areas. Traditionally, recruitment has focussed on the medical profession. The optimum supply of an allied health workforce in rural and remote communities is a persistent challenge in NSW and across Australia and the consequent shortage of allied health professionals leaves these communities less able to receive appropriate health care (Spiers & Harris 2015).

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[10] See section 4.3.5 for reference to policy directions and some key Plans in NSW. Also relevant is the NSW State Health Plan: Towards 2021

Opportunities for the future

Overview

A range of opportunities for the orthoptist workforce were identified throughout the project. This section of the report presents the opportunities through scenarios, workforce enablers and good practice examples, as described below:

Scenarios - Opportunities were considered in the context of the future workforce and three plausible scenarios were generated for discussion

Workforce enablers - Workforce enablers describe the components that support each scenario and include workforce planning, education and professional development, raising awareness of the profession and growth of the workforce. It is important to acknowledge that no one scenario or workforce enabler sits in isolation. Rather, elements are mutually dependent to support the future workforce, improve the patient journey and achieve the desired outcomes.

Good practice examples - Numerous examples of good practice were highlighted throughout the project and are presented in this section.

Scenario generation

Workshop participants were asked to consider three scenarios:

- Scenario 1: Significant advancement in the development and use of technology
- Scenario 2: Wider embedding of orthoptist led clinics (OLCs) and multidisciplinary teams (MDTs)
- Scenario 3: Advancing scope of practice for orthoptists and leveraging other workforces

These scenarios were informed by the literature review, outcomes from the consultations and online survey, and the horizons scanning workshop. They are intended to stimulate thinking about the future workforce, considering supply and demand drivers along with challenges and opportunities.

While the scenarios presented here provide an overarching direction for workforce modelling, their components require further discussion and development prior to being operationalised across NSW Health.

Scenario 1: Significant advancement in the development and use of technology

- Anecdotal evidence suggests that as more aspects of ophthalmology are being digitalised, greater demand is being placed on the eye health care workforce to perform these diagnostics. Additionally, patients are requiring more comprehensive 'work ups' prior to seeing an ophthalmologist and patient expectations are increasing.
- The traditional role of health care professionals is very likely to change with the increased use of sophisticated health technology, the use of artificial intelligence systems for early detection or identification of disease such as diabetic retinopathy and the increasing use of genomics.
- Non-medical eye health practitioners may be increasingly working from community settings, with more automated decision-making and remote consultations with ophthalmologists, reducing the need for face-to-face clinical evaluation.
- The use of telemedicine is a vital tool to augment the changing pathway and service design. This is particularly relevant for rural and remote populations and hard to reach groups.
- Workshop participants were asked to consider Scenario 1 in relation to how the scenario would work in 2030, the potential benefits and perceived challenges or risks. The outputs from the discussion are summarised in Table 3.

Table 3: Scenario 1 summary outputs from workshop

Scenario 1: Significant advancement in the development and use of technology
It is 2030, and the system for delivering eye health care in NSW has changed dramatically – appropriate eye health screening and triage is being delivered to patients through the use of technology, led by orthoptists. This technology comprises telehealth, artificial intelligence, patient wearables, other remote screening and monitoring. In many instances patients no longer need to visit an eye health professional in person. *This scenario has led to dramatic improvements in the patient journey, quality of care, access to care and many other outcomes.*

Describe how this scenario works in 2030.

How will the workforce implement this scenario?

- Review current and emerging technology and assess the feasibility of models of care and implementation, e.g. wearables, remote photography, artificial intelligence, vision screening charts in virtual reality
- Train and upskill orthoptists across all technology and diagnostics
- Investigate and implement new item numbers/coding practices to support care delivered via telehealth and remote screening
- Investigate model of care options and workforce requirements related to technology, for example:
  - Technicians/optometrists embedded in rural areas to perform tests; Orthoptists based in metro areas reviewing results and making recommendations to ophthalmologists. Orthoptists working with other health professionals
  - Vision Australia using mobility and equipment specialists in rural areas, specialists onsite with patients videoconference with the orthoptist to assess a patient's requirements for visual aids
  - Mobile macular clinic with images fed back to ophthalmologists
- Identify and communicate roles and responsibilities of the workforce and of patients

What workforce inputs and systems are required to support this scenario?

- Policies, guidelines and protocols to support digital relationships and treatment
- Training plan to support telehealth and technology – facilitated by the universities
- New models of funding to support care delivered over a period of time (e.g. 1 month)
- Adequate data collection to capture activity, and support funding and continual improvement
- Adequate technology and bandwidth, particularly for rural and Aboriginal communities
- Appropriate practice management software for recording consultations and services provided

What are the workforce implications for orthoptists, ophthalmologists, other eye health professionals?

- Ophthalmologists could benefit from orthoptists supporting a larger proportion of their workload; from the provision of useful data for decision making; and from greater contribution to emerging technologies such as in genetic profiling

What population/setting would this be the easiest to implement with/in?

- Rural and remote patients
- Paediatrics
- Genetics

What are the potential benefits?	What are the challenges/risks?
- Improved access to screening and care for rural and remote patients - Earlier detection of chronic conditions e.g. macular degeneration, leading to less blindness - Remote screening of paediatrics (e.g. 4 year olds) to mitigate long term poor visual outcomes - Optometrists referring people earlier with optic nerve changes - Improved collaboration across professions and facilitation of patient care, treatments etc - Improved ability to participate in MDTs via technology - Improved access to interpreter services via digital access - Standardised models of care for the use of technology - Utilisation of data and information to communicate and share across disciplines - Improved management of patients including access to services, patient outcomes and experience	- Current bandwidth and availability of technology - Complexity of patient testing and potential limitations of technology - Understanding and planning workforce requirements including the number of FTE and skills required - Limitations of the current funding model to support orthoptists to implement new models through the funding of technology - Risk that other professions may encroach on orthoptists' work

Table 4 highlights some examples of advancements in the development and use of technology identified during this project.

Table 4: Good practice examples related to the development and use of technology

⭐ Artificial Intelligence (AI) in diabetic retinopathy	⭐ Telehealth from the American Academy of Ophthalmology
Artificial intelligence in medicine is an evolving technology which holds promise for mass screening and perhaps may even help in establishing an accurate diagnosis. The ability of complex computing to perform pattern recognition by creating complex relationships based on input data and then comparing it with performance standards is a big step. Diabetic retinopathy is an ever-increasing problem. Early screening and timely treatment can reduce the burden of sight-threatening retinopathy. Any tool which could aid in quick screening of this disorder and minimize requirements of trained human resources would be a boon for patients and ophthalmologists.	Telehealth describes health care delivery over distance or time using electronic communication technologies and serves to enhance health care access, quality and patient satisfaction. Telehealth includes four primary domains: **Live audio-video telemedicine:** Real-time communication between a patient and provider using audiovisual and data collection technology. **Store-and-forward telemedicine**: Electronic transmission of health care data (e.g., images, text, or other digital data) to a provider for evaluation and service delivery using methods other than real-time interaction with the patient. **Remote patient monitoring**: Health data collection directly from the patient, typically during their usual activities of daily living, with transmission to a provider for analysis and possible action. *IOP measurements and macular visual field testing are in early trials.* **Mobile Health (mHealth):** Health care, patient communication, and education based on mobile communication platforms, e.g. fitness tracker, mobile phones, tablet computers, etc.

⭐ The Children's Hospital at Westmead
Over time we have seen a changing health profile of children with more complex medical and behavioural needs presenting to the Eye Clinic at The Children's Hospital at Westmead. This, along with the utilisation of improved emerging technologies giving better visual outcomes, mean that children remain within the eye clinic service for longer, require more visits and each visit takes more time. Increasingly, the complex paediatric ophthalmic cases now managed require a much more sophisticated assessment and evaluation. New technology sees multimodal imaging as a routine part of a clinic visit. The push for younger patients to have non-invasive multimodal testing performed in the clinic is ever increasing to 1) gain quality images to help facilitate best care and 2) avoid or reduce the number of examinations under anaesthetic. Substantial change in clinical practice requirements are now needed by the paediatric eye team to deal with the use of emerging technologies including work practices, staffing levels, and enhanced skill sets.

Scenario 2: Wider embedding of orthoptist led clinics (OLCs) and MDTs

- A number of new and current models of care, based on best practice, innovation and evidence, were discussed. It was identified that many of these models would be appropriate to implement more broadly across NSW Health to support the delivery of care for patients.
- Opportunities exist to standardise and implement orthoptist led triage clinics (e.g. in areas including cataract, diabetic retinopathy, NFM, and management of general referrals) and orthoptist led treatment clinics (e.g. in areas including diabetic retinopathy, glaucoma monitoring) in NSW Health.
- Orthoptist led clinics have clearly demonstrated a significant reduction in waiting lists, examples include the cataract pre-assessment clinic that resulted in 2044 patients being removed from the waiting list and the triage of paediatric patients at SCHN also resulting in a significant decrease in waiting list numbers.
- OLCs have been implemented in a number of locations. In Victoria, patients are managed within OLCs following prescribed protocols by Advanced Practice Orthoptists. Management of selected patients via OLCs significantly assists in the ongoing management of some stable conditions which can be conducted by appropriately trained orthoptists and in the screening and triage of new patients.
- Escalation guidelines for OLCs specify when the orthoptist can escalate to an ophthalmology consultant, such as with the occurrence of an urgent ocular or systemic issue.

- MDTs are best practice across a wide range of health care conditions and NSW Health orthoptists currently work across limited examples of MDTs. There exists opportunity for orthoptists to work more broadly across a range of health care conditions and partner with other clinicians to provide joined up care across a complete care pathway. Health conditions that would most benefit from the inclusion of orthoptists in MDTs include diabetes, stroke, rehabilitation, brain injury and genomics.

Workshop participants were asked to consider Scenario 2 in relation to how the scenario would work in 2030, the potential benefits and the perceived challenges or risks. The outputs from the discussion are summarised in Table 5.

Table 5: Scenario 2 summary outputs from workshop

Scenario 2: Wider embedding of Orthoptist led clinics (OLCs) and MDTs
It is 2030, and the system for delivering eye health care in NSW has changed dramatically – patient outcomes and experience have been enhanced through appropriate triage, monitoring and treatment for eye health care delivered to patients, led by orthoptists.   Orthoptist led clinics are standardised and embedded across NSW Health. Orthoptist led clinics include: triage, monitoring and treatment clinics.   Orthoptists are key members of multidisciplinary & specialist teams including in stroke, rehabilitation, brain injury, genomics.   Orthoptists are decreasing the workload for ophthalmologists and negating the need for patients to see an ophthalmologist as frequently as they did in the past.   *This scenario has led to dramatic improvements in the patient journey, quality of care, access to care & many other outcomes.*

Describe how this scenario works in 2030.

How will the workforce implement this scenario?

OLCs

- Define and standardise OLCs underpinned by published research to demonstrate OLCs are effective and efficient models of care (e.g. long-term model implemented at Bankstown Inpatient Clinic)
- Work with UTS to develop a training module for OLCs. Consider how this would be delivered to Masters students and qualified orthoptists (e.g. through embedding into the Masters course or as an Advanced Practice Certificate for Orthoptists)
- Define operational and clinical requirements of OLCs (e.g. infrastructure, physical space, technology, insurance etc)

MDTs

- Develop condition-specific MDT models and pathways with key stakeholders, emphasising the value orthoptists could contribute
- Define processes and protocols to support collaborative multidisciplinary practice i.e. transfer of knowledge and skills across settings and with the wider team (e.g. nurses)
- Establish role delineation and guidelines for MDT members e.g. nurses, orthoptists, ophthalmologists
- Establish processes for telehealth or remote working e.g. access to patient records

What workforce inputs and systems are required to support this scenario?

- Workforce planning and data analysis supported by policy to implement new OLC models
- Advocates and communication pathways, for example governance group/advisory group would help strengthen data and information sharing and orthoptists' voice
- Administration support for clinical set up and administration (including medical records)
- Education plan for orthoptists working in OLCs at an advanced scope of practice

What are the workforce implications for orthoptists, ophthalmologists, other eye health professionals?

- Orthoptists – greater opportunity to work at top of scope and across disciplines
- Ophthalmologists – it will be important to maintain strong partnerships with the ophthalmologists as sponsors and supporters of OLCs and MDT involvement. Ophthalmologist may need to be willing to 'let go' of some aspects of their current service provision
- Optometrists and opticians - need to manage any perceived overlap in service provision

What population/setting would this be the easiest to implement with/in?

- Sydney metropolitan area, with patients with chronic conditions
- Try telehealth with population cohorts considered stable

What are the benefits?	What are the challenges/risks?
• Increased awareness of orthoptist value across ophthalmologists and other disciplines	• Buy-in from partner workforces • Limitations of the current funding model to support orthoptists in OLCs and MDTs

- Improved management of patients including access to services, patient outcomes and experience
- Improved outcomes for patients that do not currently receive orthoptic care part of a broader disease management plan
- Improved use of telehealth
- Greater career opportunities for orthoptists
- Potential employment opportunities in rural and regional areas
- Improved supervision, mentoring, access to resources
- Increased training of orthoptists in new aspects of care.

- Adequate staffing to support orthoptists' desire to work in MDTs and filling a gap in patient care
- Operational requirements to support OLCs including physical space and insurance requirements
- There is some reluctance from public hospitals to do more intravitreal injections. Currently MBS only covers intravitreal injections by nurses and optometrists Orthoptists are as qualified as an optometrist and more qualified than a nurse for this task.

Table 6 highlights some examples of orthoptist led clinics and multidisciplinary teams identified during this project.

Table 6: Good practice examples related to OLCs and MDTs

⭐ Orthoptist led clinics in hospitals

Alfred Health Victoria: A guideline has been developed to support implementation of an Advanced Practice Role in Orthoptics, in particular, the Orthoptic-Led Diabetic Screening, Glaucoma Monitoring Clinic, Drug Screening and Visual Field Assessment clinic, but it is transferable across other orthoptic specialties to assist ophthalmic services. Patients are managed within the clinics following prescribed protocols by Advanced Practice Orthoptists. Management of selected patients via these clinics significantly assists in the ongoing management of some stable conditions which need monitoring which can be conducted by appropriately trained allied health providers.

Multi-disciplinary Cataract Pre-assessment Clinic (CPAC) SEH: Nursing and orthoptic workforce engaged in advanced scope of practice to improve delivery of patient-centred care. Developed a new model of care for patients referred to SEH with uncomplicated cataract, triage criteria and competency package for staff. Resulted in 2044 patients being removed from the cataract waiting list; 543 patients remaining on the cataract waitlist at project end; no complaints about access to cataract care since the project began.

Royal Children's Hospital Melbourne: Created a "Referral Triage" Orthoptic role 0.4 FTE: Clinical knowledge of patient group; Dedicated referral triage phone number and email; Administrative time; Clear KPIs regarding timely triage; Clear, updated referral guidelines to refer to; Alternate providers to recommend. Referral waitlist decreased from 3131 in Feb 2015 to 595 in Feb 2016. Waitlist at 507 July 2018 managed by FTE of 0.2.

⭐ Multidisciplinary team example: stroke

The National (UK) Clinical Guidelines for Stroke recommend orthoptists as part of the core acute stroke unit multi-disciplinary team, with specialist assessment and management indicated for visual function deficits (inclusive of visual acuity, eye movements, visual field loss, visual inattention and visual perceptual difficulties).

In NSW in 2008, an investigation was undertaken into the detection of ocular conditions and management strategies for patients in the inpatient setting who had suffered a stroke. Results showed that the presence of an orthoptist in the inpatient stroke unit to assess ocular function enabled improved detection of eye conditions (100%), increased intervention and increased understanding of eye functions. Orthoptic involvement also enhanced staff, patient and relative feedback and facilitated appropriate and timely onward referral.

⭐ Potential for community health orthoptist led clinics

Community Health Orthoptists could monitor amblyopia treatment and undertake traditional orthoptic treatment in the form of eye exercises to take some pressure off hospital-based orthoptic clinics. More convenient locations and consistent staffing would lead to increased client compliance and satisfaction.

The STEPS pre-school screening program, for example has increased the number of secondary referrals to orthoptist clinics.

Scenario 3: Top of scope practice for orthoptists and leveraging other workforces

- Clear role delineation and defining the scope of practice for orthoptists was identified as a significant opportunity for the workforce.
- Orthoptists across NSW currently work across a wide variety of areas. The role of an orthoptist has expanded to meet the increased pressure for eye health services. Orthoptists are skilled in ophthalmic diagnostic services including eye diseases such as cataract, glaucoma, diabetic eye disease, age-related macular degeneration neurological and low vision disorders. Orthoptists are able to perform the relevant investigative procedures as

intended for disorders of the eye and visual system. Orthoptist also have provision to diagnose refractive disorders and prescribe glasses.

- Other allied health professions define advanced scope of practice as a role that is within the currently recognised scope of practice for that profession, but that through custom and practice has been performed by other professions. The advanced role may require additional training, as well as significant professional experience and competency development (Australian Physiotherapist Association 2009).
- In line with new and emerging models of care, scope of services and service definitions may require future review to support contemporary models of care.
- There is opportunity to develop and support an advanced scope of practice role in orthoptics in NSW Health.
- Clinical work is important for orthoptists; however, this often means that other activities like research, continuing education, clinical supervision and progression of the profession are not undertaken. Leveraging other workforces to undertake nominated tasks could support orthoptists to participate in other valuable activities.
- It was acknowledged that orthoptists perform some tasks that could be undertaken by other staff. This would enable orthoptists to spend more time on higher value tasks rather than more administrative or low value tasks as may be the case now.
- Concerns were raised regarding the potential implementation of an Orthoptist Allied Health Assistant (AHA) role noting that a well-defined role description together with adequate supervision would be required. There was also concern that an AHA role may detract from growing the orthoptist professional identity and may impact the number of clinical placements available for orthoptist students. Further exploration of any AHA role, including the distinction of this role from an ophthalmic nursing role is required before a determination on the value of such a role in NSW Health can be made. The role of other workforces was not discussed in detail.

Workshop participants were asked to consider Scenario 3 in relation to how the scenario would work in 2030, the potential benefits and the perceived challenges or risks. The outputs from the discussion are summarised in Table 7. The discussions related to this scenario focused primarily on AHAs. Advanced scope of practice for orthoptists is referred to in Scenario 2.

Table 7: Scenario 3 summary outputs from workshop

Scenario 3: Top of scope practice for Orthoptists and leveraging other workforces
It is 2030, and the system for delivering eye health care in NSW has changed dramatically – Orthoptists are working at the top of their practice scope to provide greatest value to the system, patients and other health professionals. A number of Orthoptists are skilled in genetic counselling, rehabilitation and other growing areas of practice. A new role for Allied Health Assistants in Orthoptics has been established, freeing up orthoptists to spend more time on more highly skills practices such as patient diagnostics and treatment. *This scenario has led to dramatic improvements in the patient journey, quality of care, access to care and many other outcomes.*

Describe how this scenario works in 2030. – Allied Health Assistants (AHA) -Orthoptists *How will the workforce implement this scenario?*
• Develop a standardised role description and scope of practice to describe what is / is not the orthoptist's role • Develop a communications plan and engage with other professions to raise awareness and promote the profession; harness support at the district and manager level • Develop a clear framework and role delineation for AHAs distinct from the orthoptist's role • Implement an audit system to safeguard orthoptist's work where AHAs are implemented

What are the opportunities?	What are the challenges/risks?
• AHAs may provide opportunity for more orthoptists to engage in more complex ocular motility work and more treatment instead of doing routine tasks such as VF and OCT. This may also enable orthoptists to engage in more research • AHAs may provide greater opportunity for orthoptists' career progression, for example, to become managers • AHAs may provide improved ability to meet patient demand. For example, AHAs have been shown to be beneficial in community health, using AHA Aboriginal Health workers to facilitate patient attending appointments, emphasising treatment instructions etc	• Growth of the orthoptist workforce is currently stagnant and the implementation of AHAs would potentially place expansion at greater risk • The distinction between AHAs and the role of ophthalmic nurses is unclear – do we need another group in the workforce? • AHAs may impact clinical placements for orthoptist students. AHAs also require training in the workplace

- AHAs may provide an alternative to fill workforce gaps and work remotely with orthoptist supervisors, e.g. in WNSW, there exists demand for orthoptists, but it is hard to attract staff. Good monitoring and supervision for AHAs would be crucial

Table 8 highlights some examples of orthoptist advanced scope of practice and the potential utilisation of other workforces identified during this project.

Table 8: Good practice examples related to scope of practice and AHAs

☆ Developing the Orthoptist's Scope of Practice in A General Ophthalmic Setting	☆ Orthoptist Allied Health Assistants: example key accountabilities
As demand and expectations of patients continue to rise, orthoptists are well placed to meet them. As more orthoptists move away from ocular motility, traditional scope of practice boundaries are being tested. The management of many common conditions demonstrates the increase in dependence on orthoptists and their skills. For example, • Specialised dry eye treatment systems and how the orthoptic staff play a vital role for cataract and MGD patients • Satellite outreach clinics and how the orthoptist can assist with volume and flow • Postoperative care – a developing role for orthoptists • Glaucoma monitoring and their six-monthly reviews. Orthoptists are increasingly sharing the workplace with optometrists, nurses and technicians – but have much to offer in the field of ophthalmic sciences. Meeting the demands of patients is a critical aspect of workforce development and gaining patient confidence.	Clinical • Provide clinical support under the supervision of the orthoptist to achieve patient/client outcomes as defined within a position-specific task list • Document as appropriate in clinical files • Provide effective clinical handover by reporting patient-related information/issues to the supervisor and other health care team members e.g. vision, field test Administrative • Undertake clinical administration tasks under the supervision of the delegating orthoptist, as defined within a position-specific task list • Maintain administrative responsibilities in a timely manner, including: data entry, equipment /stationery ordering • Ensure equipment and accessories are kept clean and maintained regularly, as per written equipment and maintenance schedule • Monitor stores and ensure sufficient equipment and supplies maintained.

Workforce enablers

Enablers describe the components that are required to support a strong workforce supply, to meet demand and to facilitate the delivery of value based health care. The orthoptist workforce enablers are discussed below.

Education and professional development

Professional roles are continually evolving and need to support new and future models of care and service delivery. Opportunities identified included:

- Implementation of processes for knowledge sharing and transfer across the profession. Communicating successes and lessons learned (from new models already implemented or as new models emerge) was highlighted as a valuable exercise to share knowledge between services and further standardise and streamline implementation of models of care.
- Utilisation of existing good practice examples (including orthoptists working at top of scope; competencies for orthoptist led clinics) to build workforce capability and competence in contemporary practice.
- Developing new education and training modules (e.g. advanced practice, technology) to support workforce competence in partnership with education providers such as UTS.
- Strengthening Aboriginal education and clinical safety as a core component of the Master of Orthoptics course.

Workforce planning (including data development and management)

Workforce planning is a foundational component in ensuring that NSW Health trains, recruits and retains a fit-for-purpose workforce to effectively meet the needs of patients. Opportunities identified included:

- Establishment of a state-wide Orthoptist Advisory Group with the NSW Ministry of Health to support collaboration between the Ministry and the NSW Health Orthoptist workforce.

- Initiation of proactive steps by the orthoptist workforce to contribute to state-wide and LHD service and workforce planning to address current and future workforce requirements.
- Strengthening linkages with other allied health leaders and professionals in the LHD.
- Develop guidelines and recommendations for how orthoptists can be included to add values in MDTs.

Improved data and information about the orthoptist workforce and activity will support workforce planning and the sustainable supply of the workforce. Opportunities identified included:

- Education and training for orthoptists on the importance of data collection and standardisation of data collection practices across the workforce.
- Implementation of mechanisms for NSW Health to capture, understand and share data to support future workforce planning, understand patient experience and outcomes, and illustrate the value of orthoptists in the public sector.

Growing the workforce

A perception from participants that sufficient staffing to meet the demand and requirements of patients impacts directly on delivery of high quality patient care. An evidence based/benchmarked number of staff and equitable distribution of orthoptists is essential to ensure access to orthoptist services across NSW. This is important across both geographical regions and for all age groups, including for children and adolescents and older people, where population growth is estimated to be higher and for Aboriginal people whose identified eye health needs are higher. Opportunities to grow the workforce were considered across the following:

- Increasing the number of clinical placement positions for students and to provide exposure for students to work in a variety of areas across NSW Health. One strategy to support this opportunity is the implementation of clinical supervisors/educators to work with UTS and to manage clinical placements and support students.
- Development of a plan in partnership with NSW Health to increase the number of new graduate positions in NSW Health.
- Investigation of initiatives to support and attract more orthoptists to metropolitan and rural areas. This could involve the combining of positions across organisations in rural areas to create more full-time roles, for example, through partnerships between NSW Health and RDN to fund full-time positions.
- Detailed investigation of other workforce roles to support orthoptists, such as Allied Health Assistants in Orthoptics.
- Proactively advocate that relevant MDTs start to include orthoptists, potentially creating new NSW Health orthoptist roles.

Raising awareness of the profession

Promoting the orthoptist profession and the value of orthoptists among other health professionals and the broader patient population may support orthoptists to work across new areas. Opportunities identified include:

- Orthoptists seeking opportunities to collaborate and work together with other health professionals to share practice, innovate and work in multidisciplinary teams.
- Orthoptists actively promoting their scope of practice, knowledge and skills in eye health as distinct from other disciplines.

Research

Eye health treatment and care is informed by innovation and research and the translation of this to clinical practice. Research has been demonstrated to improve the quality of clinical outcomes for patients treated by orthoptists. Strategies to support interested staff to get involved in research, including protected time, clear career pathways to incorporating research, and mentoring should be investigated.

Workforce scenario priorities

Workshop participants were asked to consider scenarios 1 and 2 from the perspective of:

- Impact of the scenario on the workforce – with low impact indicating not much change from the current state and high impact indicating the scenario would move the workforce to align with the future vision.
- Ease of implementation – with low ease indicating it would be difficult to implement and high ease indicating it would be easier to implement.

Figure 8: Impact on the workforce and ease of implementation of scenarios
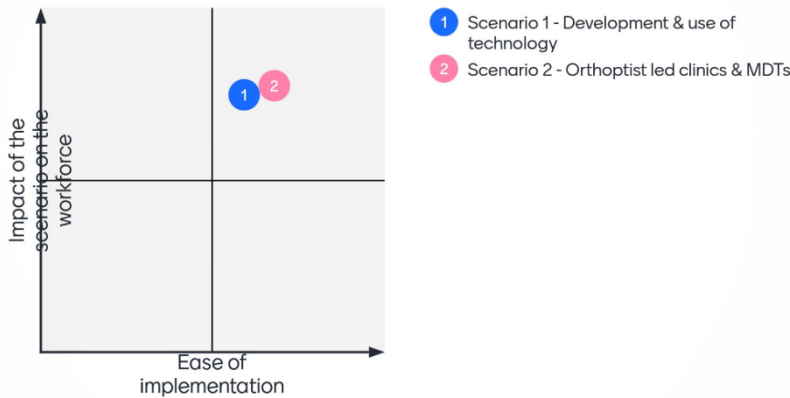
As illustrated in Figure 8, both scenarios were considered to have a high impact on the workforce and strongly aligned with the future vision for the orthoptist workforce. Both scenarios were also judged have a higher degree of ease of implementation.

The vast majority of participants indicated that scenario 1 could be implemented within 0-2 years. The timeframe for the implementation of scenario 2 was a little longer with ten participants indicating that scenario 2 could be implemented within 0-2 years and six participants indicating implementation within 2-5 years.

Survey findings

Survey respondents were asked to rate the how important each opportunity was in supporting the future workforce.

The top priority was implementing a process of knowledge sharing and transfer across the profession, followed by standardising and implementing orthoptist led clinics, and the role and scope of practice for NSW Health orthoptists. Figure 9 presents the top 10 (of 16) opportunities in order of importance.

Figure 9: Orthoptist workforce opportunities ranked in order of importance
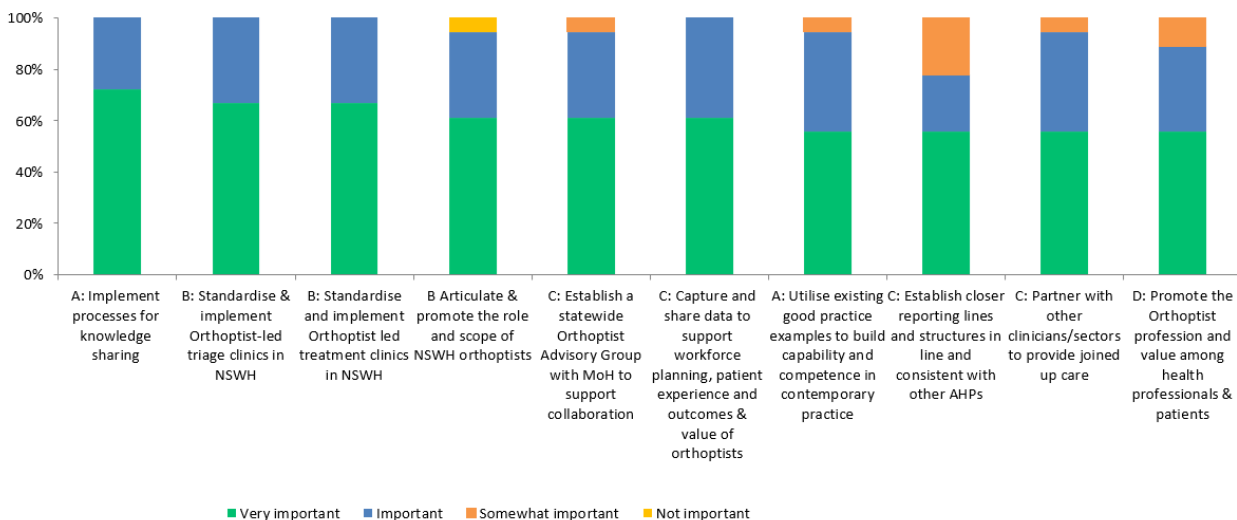
A: Education and professional development B: Orthoptist scope of practice and innovative models of care C: Workforce planning D: Raise awareness E: Grow the workforce F: Technology

The remaining six opportunities included to: increase the number of clinical placement positions for students; implement initiatives to support and attract orthoptist to metropolitan and rural areas; increase the number of new graduate positions; increase the use of telehealth and telemedicine by orthoptists; expand the use of new and emerging technologies; and develop a role for Allied Health Assistants in Orthoptics.

Respondents were also asked to indicate the timeframe for implementation of each priority. Several short term priorities (1-2 years) were identified. Promoting the orthoptist profession and value among other professions and establishing a state-wide Orthoptist Advisory Group were the top ranked priorities and could be implemented as 'quick wins'.

Other short-medium term priorities included: establishing clear reporting lines and partnering with other professions to provide continuous care, increasing the number of clinical placements for students, and increasing initiatives to support and attract orthoptists to metro and rural areas.

Articulating the orthoptist scope of practice and standardising and implementing orthoptist led clinics (which were rated as very important priorities), were considered short to medium term priorities for implementation. This longer timeframe may be attributable to the foundational work and consultation that would need to be achieved for successful implementation. Similarly, technology was seen as a medium to long term priority; however, acknowledging the COVID-19 experience, respondents felt there exists the opportunity to accelerate some technology initiatives, such as a rapidly increasing the use of telehealth and technology.

Figure 10 presents the top 10 (of 16) opportunities ranked from short to long term priority for implementation.

Figure 10: Orthoptist workforce opportunities ranked from short to long term priority for implementation
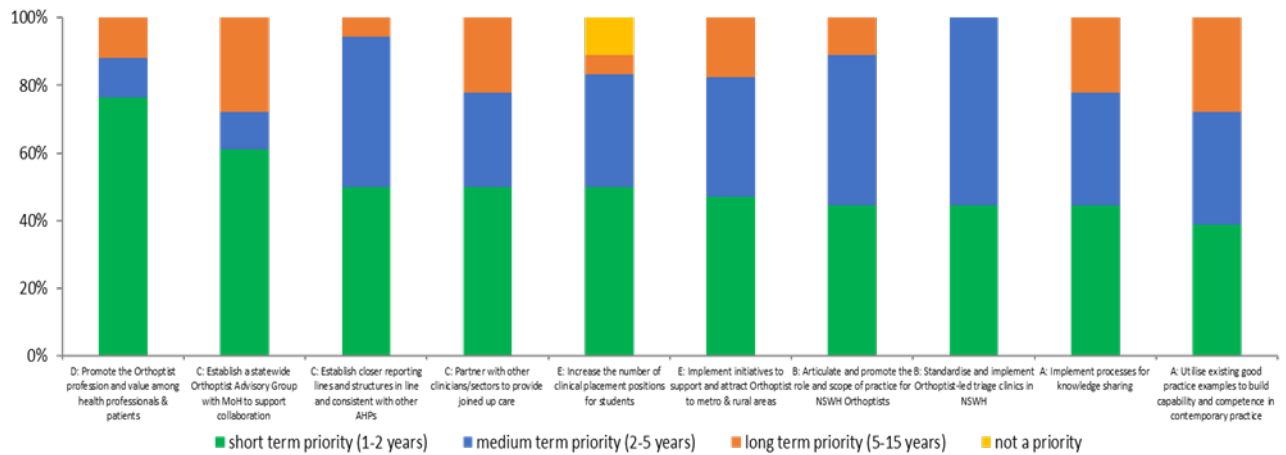
A: Education and professional development B: Orthoptist scope of practice and innovative models of care C: Workforce planning D: Raise awareness E: Grow the workforce F: Technology

The remaining six opportunities considered longer term priorities included: implement mechanisms to understand, capture and share data; standardise and implement Orthoptist led treatment clinics in NSW Health; increase the number of new graduate positions; develop a role for AHAs in Orthoptics; increase the use of telehealth and telemedicine by orthoptists; expand the use of new and emerging technologies.

Key actions for effective workforce change

These suggested key actions focus on translating the findings from this project into practical actions for future workforce modelling and planning of the orthoptist workforce in NSW Health. The suggested actions provide the practical next steps for which there is good evidence, widespread support, and clearly viable avenues for innovative workforce plans and implementation of initiatives.

1: Establish an Orthoptist Advisory Group with the NSW Ministry of Health and develop a communications plan to raise awareness of the workforce and build stronger relationships with key stakeholders.

Establish a clear governance structure at the state level to support workforce planning and the participation and engagement of key internal and external stakeholders.

There are opportunities to increase communication, raise awareness and build stronger relationships with key stakeholders including Ministry of Health staff, Chief Executives, Allied Health Directors, Allied Health staff and other disciplines.

The development and implementation of a considered communication plan will assist to promote a shared understanding of the work undertaken by orthoptists, the value of orthoptists and future workforce needs.

2: A gap analysis of the current activity state of orthoptist services across NSW Health compared with supply and demand data.

Consistent and accurate activity data will inform decision-making and allow strategic improvement at the service, LHD and state levels. A state-wide stocktake of orthoptist services by LHDs will provide useful insights into routinely collected activity data by care setting, workforce staffing by care setting, and patient demographics (such as age, place of residence, Aboriginality). Locally collected information on waiting lists and unmet need could also be used to highlight gaps in care - including estimated unmet need for patients with complex needs requiring MDT care such as diabetes or stroke. This information will serve as a valuable foundation for planning, delivering and evaluating services in NSW in the future.

3: Agree a set of KPIs relevant to the orthoptist workforce and value based health care.

The development of an agreed set of consistent and comparable KPIs will provide a platform for performance improvement and management. KPIs should be aligned with the quadruple aim and should be measures that are currently collected or easy to collect.

Accurate data on activity, outcomes and experience will inform decision making and enable strategic improvement at the service, LHD and state levels. A standardised set of KPIs across LHD/SHNs for orthoptist services will provide useful insights into demand and supply as well as access and outcomes. In addition, the orthoptist workforce will be in a better position to demonstrate the value of new workforce strategies and models of care such as orthoptist led clinics, implementation of new technological driven models and orthoptist contribution to MDTs.

4: Develop an orthoptist workforce strategy articulating future workforce opportunities and priorities and workforce enablers for implementation.

Identify and co-design new workforce opportunities to support more effective demand management, optimal patient care, and staff satisfaction. Opportunities identified include:

- New ways of working to take advantage of advances in technology
- Orthoptist led clinics for triage, screening and treatment of patients
- Integration of orthoptists into multidisciplinary teams

The enablers to support these opportunities should be considered in parallel and include:

- Developing a plan to grow the workforce and, in particular, strengthening recruitment and retention initiatives in rural and outer metro areas, for example through joint positions between different organisations.

- Building capability and competence in contemporary practice and evidence-based ways of working in partnership with existing education and training providers.
- Developing and implementing mechanisms to increase the number of clinical placements and graduate positions (mentors, supervisors etc) and retain and develop the existing orthoptist workforce (governance, supervision and support through Allied Health streams).
- Guidelines and tools to support articulation and standardisation of orthoptist contribution to innovative and new models of care, such as the above opportunities (technology, OLCs, MDTs)

5: Define and document the orthoptist scope of practice and consider new and emerging workforce roles.

The evidence collected during this project highlights the importance of defining the orthoptist role to support a clear understanding of the role and communicate the orthoptist scope of practice broadly.

Developing workforce capacity to respond to increases in demand for orthoptist services is also a key consideration and new workforce roles such as Allied Health Assistants should be investigated to determine the potential value to the orthoptist workforce.

Conclusion

Through further investigation and implementation of the right opportunities, NSW Health and the orthoptist workforce have the opportunity to develop a long term workforce strategy which:
- improves patient outcomes
- realises service efficiencies and release capacity
- improves service delivery to focus on collaboration among all health care providers across the care continuum
- reshapes workforce planning for the profession and achieves the workforce vision of

'A strong, supported workforce operating in full scope of practice as a valued team member across an increased range of patient groups and locations'.

Appendix 1: Rapid literature review

Rapid literature review

January 2020

Contents

Introduction

Background

The rapid literature review (Review) was undertaken to help inform the Horizons Scanning and Scenario Generation.

Aim

The objectives of the Review are to develop a picture of the orthoptist workforce and to understand the supply and demand factors that may influence the workforce in the future. In particular, the Review seeks to identify: 1) scope of practice; 2) best practice models; and, 3) emerging models of care to support eye health, as well as the requirements of the workforce to support this care.

Australian eye health environment

Orthoptists are operating in a continually evolving environment. The pace of change specifically related to technology has increased dramatically over the last decade. Anecdotal evidence suggests that as more aspects of ophthalmology are being digitalised, a greater demand is being placed on the eye health care workforce to perform these diagnostics. Additionally, patients[11] are requiring more comprehensive 'work ups' prior to seeing an Ophthalmologist and patient expectations are increasing.

Orthoptists in Australia[12]

Orthoptists are university trained eye health professionals who play an integral role in the assessment, diagnosis, management, monitoring and rehabilitation of eye and vision disorders across all ages from birth to end of life and health status (Orthoptics Australia). Orthoptics had its roots in the physiology of eye movements and binocular vision, especially in the understanding of depth perception (Brown cited in OA 2018).

Orthoptists were traditionally involved in the management of patients with eye movement disorders and specifically with strabismus (squint), double vision and amblyopia (lazy eye). Over the last several decades, orthoptists have expanded their role and not only specialise in eye movement disorders but are also involved in the care of patients with eye disease such as cataracts, glaucoma, diabetic eye disease, age related macular degeneration, systemic or neurological vision disorders and low vision.

Orthoptists work as primary health practitioners, in a variety of settings including community health, vision screening programmes, non-government organisations, private clinics, hospital outpatient clinics, educational institutions, and research environments. They are essential members of the eye health care professional team, who play a crucial role in providing eye health services to the population, and are viewed as essential to promoting better quality of life in both adults and children with vision problems (RANZCO 2013).

Areas of expertise include (OA 2017):

Diagnosis and orthoptic management of defects of binocular vision, ocular motility, and visual deficits related to neurological (stroke and brain injury) and systemic disease (diabetes)	**In the presence of eye disease, diagnostic procedures including refraction, perimetry, ultrasonography, tomography and electrophysiology**
Orthoptic management of strabismus (turned eye) and amblyopia (non-disease related poor vision)	**Clinical monitoring of stable, chronic conditions such as glaucoma, diabetes and macular degeneration, and escalation to diagnostic services when indicated**
Quality patient education to achieve improved patient compliance with treatment and optimal outcomes	**Research**
Minimising the functional impact of vision impairment and facilitating a high quality of life for individuals with low vision	**Broadly influencing Australian eye care by transferring orthoptic knowledge and skills to ophthalmic industry**
Health promotion through vision screening across the age spectrum	**Ophthalmic practice and health service management**

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[11] The word 'patient' is used to refer to a person accessing any type of health care service.
[12] See https://www.orthoptics.org.au/about-orthoptics/what-is-orthoptics/

Summary of key findings

Topic	Key findings
Eye health in Australia	• Over **13 million Australians** (55% of the total population) have one or more long-term eye conditions. • The direct cost of treating eye disease was estimated at **$2.98 billion** in 2010 with and the allocated health expenditure on eye conditions **growing in real terms by approximately 4.8 per cent** per annum. • **Ageing is the major contributing factor** to visual impairment and blindness – two-thirds of Australians with low vision are aged 65 years or over. • The most prevalent causes of blindness and vision loss in Australia are age-related macular degeneration, cataract, glaucoma, diabetic retinopathy, uncorrected or under-corrected refractive error, eye trauma and trachoma in some remote areas. • Diabetes is the leading cause of vision loss and blindness in working age Australians. • **Aboriginal communities suffer vision impairment and blindness at 3 times the rate of other Australians** and have high rates of trachoma (an eye infection) in some geographic regions.
Workforce – current state	• There is **no single comprehensive data source** on the eye health workforce in Australia. • In 2011, an estimated 10,916 people were employed in the eye health workforce: 674 were orthoptists (2.5 FTE per 100,000) and most were women (88.7%) and most worked in major cities. 266 orthoptists were employed in NSW (3.7FTE per 100,000). In 2016, Australia-wide there were 834 orthoptists (2.7 FTE per 100,000) (AIHW 2016, 2019). • A 2017 survey by orthoptics Australia found that almost all (99%) respondents were involved in traditional orthoptic practice areas including ocular motility, paediatrics and neuro-ophthalmology. In the area of general ophthalmology, 91% respondents were involved in areas such as surgical assisting and refractive surgery, an increase on the 75.4% from the previous survey. Other respondents indicated practice in low vision, research and rehabilitation. Half of the respondents reported an involvement in independent orthoptic practice. • **Workforce shortages are reported in rural and remote areas.**
Workforce - opportunities	• The **use of telemedicine and new technologies** is a vital tool to augment the changing pathway and service design. • Orthoptists are seen as cost-effective health providers with the **capacity to co-manage eye disease** in private and public, primary and tertiary systems. • There has been development in practice and while orthoptists are continuing to diagnose and treat visual problems involving eye movement and alignment, their **roles are extending into the management of glaucoma, age-related macular degeneration and low vision as part of a multidisciplinary team**.
Aboriginal eye health and cultural safety	• **Vision loss is 11% of the Aboriginal health gap.** Aboriginal adults have six times more blindness than non-Aboriginal people and a **three-fold higher prevalence of vision loss** in general among Aboriginal adults compared with non-Aboriginal people. • **Cultural safety is central** to Aboriginal people and their relationships with the health system. • Orthoptics Australia is committed to ensuring cultural safety, and cultural awareness is incorporated into the curriculum for students undertaking a degree in orthoptics.
Rural challenges	• Just over a quarter of the people in NSW live outside the three major cities of Sydney, Newcastle and Wollongong. The healthcare system in rural NSW is complex and multi-layered, with services provided by many organisations. • There are a number of relevant Australian Government funded programs that aim to address workforce shortages in rural and remote areas, however many are medically related. • **A major obstacle is attracting and retaining competent and highly skilled workforce in rural and remote areas.**

Method

The Review followed the general process as outlined in the VCU Research Guides Rapid Review Protocol[13] and drew from the Cochrane Handbook for Systematic Reviews of Interventions.[14] Given the nature of the questions and the broad type of information sourced, evidence quality grading was not used. However, the scope of information, author and source provide a guide to the relevance and quality of reporting.

Search Strategy

Inclusion and exclusion criteria

Peer reviewed literature and grey literature (i.e. reports, guidelines and policies) were searched from 2009-present and included documents from Australia, Canada, UK, England and New Zealand. Key words, search terms and alternate terms* included:

<table>
<tr><td>

Workforce
- Orthoptist/orthoptic
- Orthoptist workforce
- Eye health workforce
- Eye health occupation

Eye problems
- Eye health
- Eye health problems
- Eye disease/s
- Visual impairment
- Eye movement disorder/s
- Sensory deficiency/deficiencies

Population/settings/
- All age groups
- All types of location and setting, i.e. rural, regional, urban, hospital, inpatient, public, private, community

</td><td>

Intervention/program type
- Screening
- Assessment
- Diagnosis
- Eye Healthcare/Health Care
- Treatment
- Management
- Referral
- Support strategies/support approaches
- Intervention
- Technology
- Cultural/cultural competency
- Best practice
- Emerging models

</td></tr>
</table>

Primary document search

A document search was performed on 25 November 2019 by the Ministry of Health Library with the following databases and search terms:

- Search Ac S Comp, Health Bus E
- (orthoptic? or orthoptist) AND workforce AND (australia or canada or united kingdom or england or new zealand); 2009-
- Search Medline, PreMedline, Embase, Emcare, Cochrane
- (Orthoptics/ or orthopti*.mp.) and (Workforce/ or Health Workforce/ or workforce.mp.) AND (Australia or New Zealand or England or UK or Canada)
- Search Medline, PreMedline, Embase, Emcare, Cochrane
- (Orthoptics/ or orthopti*.mp.) AND (Australia or New Zealand or England or UK or Canada)
- Search Medline, PreMedline, Embase, Emcare, Cochrane
- (eye health.mp.) AND (Australia or New Zealand or England or UK or Canada)
- Search Australian Orthoptic Journal
- Screen issue contents
- Search Google
- (orthoptist or orthoptics) and (healthcare or health care or eye health)

The search revealed 25 citations whose abstracts were reviewed manually. 24 were selected for full length manuscript review. 1 citation was excluded as it was not relevant to the review questions.

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[13] https://guides.library.vcu.edu/rapidreview
[14] https://training.cochrane.org/handbook/current

Additional documents search

An additional search for documents was conducted on key sites identified by the Ministry and referenced in documents, including: Orthoptics Australia, Australian Orthoptic Board, Indigenous Allied Health Australia, Royal Institute for Deaf and Blind Children, Cochrane Library, Vision 2020 Australia, Indigenous Eye Health Unit, Melbourne School of Population Health, and British and Irish Orthoptic Society. This search yielded 47 additional documents.

In addition, trends and commentary were searched for on recent social media (e.g. Facebook – Orthoptics); this yielded further searches on some sites mentioned above. Relevant information is reported on where applicable to the review questions.

Review questions

1. What are the requirements of the orthoptic workforce to effectively meet the population's eye health needs (changing demographics, specific issues)?

Eye health[15]

> Over 13 million Australians (55% of the total population) have one or more long-term eye conditions, based on self-reported data from the Australian Bureau of Statistics (ABS) 2017–18 National Health Survey. This includes:
>
> - 7.2 million with hyperopia (long-sightedness)
> - 6.3 million with myopia (short-sightedness)
> - 1.4 million with astigmatism (blurred vision)
> - 687,200 with presbyopia (farsightedness)
> - 548,600 with colour blindness
> - 410,800 with cataract
> - 236,600 with macular degeneration
> - 131,500 with blindness (complete and partial).
>
> Long-term eye conditions are closely associated with increasing age. In 2017–18, long-term eye conditions affected 93% of people aged 55 and over, compared with only 12% among people aged 0–14.
>
> *Source: https://www.aihw.gov.au/reports/eye-health/eye-health/contents/how-common-is-visual-impairment*

Access Economics (2010) reported on the economic impact of vision loss in Australia, with the direct cost of treating eye disease being $2.98 billion and the allocated health expenditure on eye conditions growing in real terms by approximately 4.8 per cent per annum. This report also estimated an increase in age-related eye disease with the most prevalent conditions being age-related macular degeneration, glaucoma and cataract in people over 40.

Ageing is the major contributing factor to visual impairment and blindness and two-thirds of Australians with low vision are aged 65 years or over. The most prevalent causes of blindness and vision loss in Australia are age-related macular degeneration, cataract, glaucoma, diabetic retinopathy, uncorrected or under-corrected refractive error, eye trauma and trachoma in some remote areas. Diabetes remains the leading cause of vision loss and blindness in working age Australians.

Aboriginal[16] communities suffer vision impairment and blindness at 3 times the rate of other Australians and have high rates of trachoma (an eye infection) in some geographic regions.

Other causes of blindness and vision loss in Australia include retinal diseases such as retinitis pigmentosa, amblyopia, eye cancers, stroke, complications of premature birth and various infective agents such as herpes zoster and cytomegaly virus in people with HIV/AIDS. However, at a population level, the prevalence of these conditions is small compared with vision problems associated with ageing towards the end of life.

Eye health care

Responsibility for eye health programs and services in Australia is currently spread across governments, the private sector, health care professions and non-government organisations.

Private health insurance is an important component in the funding of eye health care in Australia. Costs incurred by patients receiving private doctors' services and some optometrical services, whether in or out of hospital, are generally reimbursed either fully or in part by means of Medicare benefits. Private insurance may also assist with meeting the costs of private sector services such as corrective eyewear. All states and territories have subsidised spectacle schemes for people who meet eligibility requirements. These schemes vary across the states and territories. Numerous non-government organisations (often staffed by volunteers) also provide community-based services to

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[15] See Department of Health for more detail on eye health https://www.health.gov.au/health-topics/eye-health
[16] Where the word 'Aboriginal' is used, it refers to both Aboriginal and Torres Strait Islander peoples. 'Indigenous' is retained when it is part of a title of a report or paper, program or quotation.

promote eye health, provide information about specific eye conditions and available treatments, fund research activities and support people with low vision.

Most (i.e. 94%) of all blindness and visual impairment is treatable or preventable (RANZCO 2017). Where eye disease cannot be prevented or treated, the quality of life for people with low vision can be greatly improved with appropriate rehabilitation and support. In Australia, many services and devices are available to help people maintain their independence. The types of supports provided by low vision services include adaptive technology, assistance with employment, in-home support, guide dogs, mobility training and alternative print and library services.

The eye health workforce and orthoptists

A wide range of occupations deliver eye health care in Australia, including medical practitioners from a range of specialties, nurses, optometrists, orthoptists and pharmacists. Many of these occupations encounter eye health issues as one part of a broader role. Specialist professions engaged in the delivery of eye care include ophthalmologists, optometrists, orthoptists, ophthalmic nurses and optical dispensers. The services they provide include prevention, education, research, treatment, rehabilitation and palliation. There is some overlap across the roles of the various eye health care practitioners.

Traditionally there has been a close working relationship between ophthalmologists, orthoptists and ophthalmic nurses in the public and private sectors, but optometrists have tended to work independently in primary care with less direct interaction with other eye care professions. Ophthalmologists often employ orthoptists and ophthalmic nurses in their private practices and day surgeries.

A survey conducted by the Royal Australian and New Zealand College of Ophthalmologists (RANZCO) concluded that orthoptists were the allied health group most utilised by practicing ophthalmologists (RANZCO 2013). More than three quarters of the survey respondents indicated that they use orthoptists, with 42% of them doing so in six or more sessions per week.

In their submission to the Australian Commission on Safety and Quality in Health Care's consultation on 'Patient safety and quality improvement in primary care', Orthoptics Australia noted that participation by orthoptists in primary health services can be under-utilised because of stakeholders' lack of knowledge of the orthoptists' essential role in eye health. As a result, appropriate access to quality eye care by an orthoptist, given their unique understanding of the sensory deprivation caused by low vision means eye health and general health, can be compromised (Orthoptics Australia 2017).

Orthoptists are well placed to deliver high quality and 'person-centred' low vision care to older people or people at any stage of their lives (Fitzpatrick cited in Orthoptics Australia 2018). The breadth of clinical expertise required to provide the full range of eye health care sets Australian orthoptists apart from some international graduates where training focuses primarily on ocular motility and to a lesser degree general ophthalmic support services (Scheetz et al 2013).

Workforce data

There is no single comprehensive data source on the eye health workforce in Australia, and complete data are not available for all occupations. The AIHW 2016 report draws on data from their National Health Workforce Data Set for optometrists and ophthalmologists; the Australian Bureau of Statistics' Census of Population and Housing for optical dispensers, orthoptists and optical mechanics; and from professional organisations for orientation and mobility specialists and occupational therapists specialising in eye health (AIHW 2016).

In 2011, an estimated 10,916 people were employed in the eye health workforce: 674 were orthoptists (2.5 FTE per 100,000). It was reported that the average age was 36 with 39.2% aged under 30, and 17.1% aged over 50. Women accounted for 88.7%. 266 orthoptists were employed in NSW (3.7FTE per 100,000). For Australia, and based on available data, most orthoptists work in major cities with 11% working in inner or outer regional areas. Nearly half (46%) of those in Inner regional areas were aged 50 or over, compared with 17% of the Australian total.

In 2016, Australia-wide there were 834 orthoptists (2.7 FTE per 100,000) (AIHW, 2019).

In 2017, Orthoptics Australia developed and implemented a workforce survey to report on contemporary Australian orthoptic practice by exploring demographics, education levels, employment, student education involvement and

nature of clinical practice (Jolly et al 2019). The survey had previously been conducted in 2012-2013 (Koklanis & Vukicevic 2014).

Almost all (99%) respondents indicated that they were involved in traditional orthoptic practice areas including ocular motility, paediatrics and neuro-ophthalmology. In the area of general ophthalmology, 91% respondents indicated that they were involved in areas such as surgical assisting and refractive surgery, an increase on the 75.4% from the previous survey. Other respondents indicated practice in low vision, research and rehabilitation. Half of the respondents reported an involvement in independent orthoptic practice.

There has been a steady growth in the profession but most work in NSW or Victoria and in metropolitan areas. Workforce shortages are reported in rural and remote areas (e.g. Spiers & Harris 2015). Australian universities have encouraged students to complete their clinical training outside of metropolitan areas to broaden their outlook on potential areas of employment.

Future directions

The traditional role of health care professionals is very likely to change with the increased use of sophisticated health technology, the use of artificial intelligence systems for early detection or identification of disease such as diabetic retinopathy and the increasing use of genomics (Natkunarajah et al. 2019, p.12). Non-medical eye health practitioners may be increasingly working from community settings, with more automated decision-making and remote consultations with ophthalmologists, reducing the need for face-to-face clinical evaluation. The use of telemedicine is a vital tool to augment the changing pathway and service design.

"I have been impressed by the UTS graduates in the way they have been able to embrace technology. When assessing patients before they are seen by the ophthalmologist, our UTS trained orthoptists have organised for the patient to have the appropriate investigations. This has made running the practice easier as it saves time and helps us keep to our schedule." Professor Martin, NSW Paediatric ophthalmology clinic[17].

Traditional orthoptic work has already changed considerably in recent years with the introduction of extended roles in ophthalmology. There is increasing awareness of the positive impact of extended roles both for health professionals and for patients (North cited in International Orthoptic Association).

In response to increasing demand, many hospitals, such as the Royal Victorian Eye and Ear Hospital, Northern Health, Alfred Health and Royal Children's Hospital in Victoria have up-skilled the orthoptic workforce to deliver various new services such as front-end triage clinics, diabetic screening, glaucoma monitoring and cataract assessment clinics. The orthoptists currently working in these programs do so within a specialist setting and support of ophthalmologists and follow specially designed guidelines (Scheetz et al 2013).

"Benefits have included shorter waiting times for patients seen in this clinic and it has enabled medical staff to review patients with more complex surgical outcomes or diseases," Catherine Mancuso, the REEVH's manager of diagnostic eye services, told Insight[18].

In an environment where health economics demand efficiencies and increased productivity, orthoptists are seen cost-effective health providers with the capacity to co-manage eye disease in private and public, primary and tertiary systems (Jolly et al. 2019, p.28). There has been development in practice such as glaucoma and cataract monitoring, to meet emerging needs. While orthoptists are continuing to diagnose and treat visual problems involving eye movement and alignment, increasingly their roles are extending into the management of glaucoma, age-related macular degeneration and low vision as part of a multidisciplinary team (Natkunarajah et al. 2019).

The rollout of The National Disability Insurance Scheme (NDIS) has significantly changed the way disability services providers operate. People with vision impairment are currently required to be enrolled in the NDIS to access vision services, as many vision service providers are required to charge for their services to be sustainable. Orthoptists have a key role in supporting the NDIS application process for their clients who have vision impairment to access the early intervention, therapy, equipment and support that they require (Byrne cited in Orthoptics Australia 2019).

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[17] UTS site - graduate campaign
[18] https://www.insightnews.com.au/victorian-eye-hospital-establishes-new-orthoptist-led-cataract-clinic/

Screening and orthoptist involvement

Garretty (2017) found that vision screening identifies individuals with treatable vision defects who have a greater than 90% chance of achieving normal visual acuity with good compliance to treatment. Vision screening programs led by an orthoptist but delivered by well-trained and monitored screeners can be of as good quality as a screening program delivered by orthoptists.

A particularly positive example of a strategy to address access and improve safe and quality care is the NSW StEPS program,[19] a universal early childhood vision-screening program. NSW Health developed this screening initiative as a result of lobbying by the Agency for Clinical Innovation Orthoptic Subcommittee of the Ophthalmology Committee. The model is unique in Australia and internationally, and is one of the largest, most systematically implemented and evidence-based vision screening programs available.

The University of Technology Sydney (UTS) was commissioned by the NSW Ministry of Health to undertake an evaluation of the StEPS program (NSW Ministry of Health 2019a). The final report was overwhelmingly positive, finding that the StEPS program is a 'highly appropriate and effective strategy for guiding young children to early intervention and treatment for childhood ocular conditions'. It is also 'one of the most successful screening programs of its type on an international scale'. The NSW MoH is committed to quality improvement of the StEPS program and recognises scope to improve aspects of the program particularly achieving better referral outcomes for children in rural and regional areas, and children in disadvantaged metropolitan regions. The NSW MoH responded to the report following consideration of the evaluation key findings, key implications and recommendations (NSW Ministry of Health 2019b).

Several key implications in the UTS evaluation reference enhancement to orthoptics, in particular secondary orthoptic screening (see Appendix for relevant key implications and NSW Health response). It is notable that in the Republic of Ireland and in Scotland, Wales and Northern Ireland, orthoptic-led vision screening is offered to all children, although provision in England is much less consistent and there is a campaign for screening for 4-5 year olds to be made mandatory across the UK and Ireland[20].

Stroke and orthoptist involvement

An example of a project carried out by the Statewide Ophthalmology Service (SOS), a clinician-led network of the Greater Metropolitan Clinical Taskforce (GMCT, a health priority taskforce of NSW Health) demonstrated the importance of the orthoptic workforce (Jolly Thompson & Macfarlane 2008). In 2006/07 the Orthoptic Standing Committee, a committee of the SOS, investigated the detection of ocular conditions and management strategies for patients in the inpatient setting who had suffered a stroke.

The project evaluated three different service delivery models to determine whether patients diagnosed with a stroke and admitted to a designated stroke unit had equitable access to eye care. The results showed that an orthoptist on site is best practice in management of eye conditions for stroke patients. The presence of an orthoptist in the inpatient stroke unit to assess ocular function enabled improved detection of eye conditions (100%, $p<0.001$), increased intervention and increased understanding of eye functions. Orthoptic involvement also enhanced staff, patient and relative feedback and facilitated appropriate and timely onward referral.

Hepworth and Rowe (2019) reported on a 10-year update to the national orthoptic survey (distributed to British and Irish Orthoptics Society) to identify changes in clinical practice for vision assessment for stroke survivors. They found that there has been a positive increase in awareness of stroke-related visual impairment and a steady improvement in provision of eye care for stroke survivors. However, there remains a lack of provision of specialist vision services specifically on stroke units which infers a health inequality for stroke survivors who have visual impairment. Their visual impairments can remain undetected and thus undiagnosed and unmanaged due to unsatisfactory patient care.

The National (UK) Clinical Guidelines for Stroke (updated 2016) recommend orthoptists as part of the core acute stroke unit multi-disciplinary team, with specialist assessment and management indicated for visual function deficits (inclusive of visual acuity, eye movements, visual field loss, visual inattention and visual perceptual difficulties). The NICE stroke rehabilitation guidelines published in 2013 advocate screening of stroke survivors for visual difficulties

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with referral specifically for those with double vision, management for visual field loss and driving advice for those with visual problems (National Institute for Health and Clinical Excellence 2013).

Scope of practice - other

Recent Orthoptist Australia conferences (2018, 2019) have presented a range of studies that demonstrate the value-add of orthoptists and their changing roles. Orthoptists in Australia have increasingly become involved in the care of patients with age-related macular degeneration and specifically of patients undergoing anti-vascular engrowth factor (vegF) treatment for the condition (Boyle cited in International Orthoptic Association 2016).

Lim et al. (2014) studied the clinical decision making of orthoptists and evaluated the inter-rater agreement between orthoptists and an ophthalmologist in determining whether anti-vegF treatment is required based on optical coherence tomography interpretation. They found that agreement between the orthoptists and ophthalmologist in clinical decision making is very high suggesting that orthoptists could potentially have greater involvement in shared-care models within specialist eye clinics.

The type of work in some settings has also changed. Zheng et al (2016) for example found that there has been shift in the etiological profile of optic atrophy. While tumours are still an important cause of paediatric optic atrophy for an Australian population, perinatal events and neurodegenerative disease are becoming more significant. Zheng et al. (2016) suggest the visual needs of children with disability can be better met by establishing stronger links between child development and community paediatric service, ophthalmology and specialist education services. They suggest specialist teams comprising of a paediatrician, orthoptist, paediatric ophthalmologist and qualified teachers would be helpful in providing joint assessments and support links (Zheng et al. 2016).

2. What is required to develop an Aboriginal orthoptic workforce to deliver cultural safety in service delivery?

Eye health in the Aboriginal population

The available evidence indicates that Aboriginal children have a lower prevalence of vision loss, blindness and refractive error, when compared with non-Aboriginal children however this trend reverses by adulthood (Razavi et al. 2018). Vision loss is 11% of the Aboriginal health gap and Aboriginal adults have six times more blindness than non-Aboriginal people (Taylor et al. 2015) and a three-fold higher prevalence of vision loss in general among Aboriginal adults compared with non-Aboriginal people (Razavi et al. 2015).

The three leading causes of vision loss for Aboriginal people over 40 are refractive error (e.g. myopia), cataract and diabetic retinopathy. Australia is the only developed country to still have trachoma, found predominantly in Aboriginal communities (Vision 2020 Australia 2019). Endemic rates of trachoma fell from 21% in 2008 to 3.8% in 2017, but over 130 communities are still at risk, although no communities were designated at risk in NSW in 2017[21].

Foreman et al. (2018) conducted a systematic review on the prevalence and causes of visual loss among the world's First Nation populations. Most countries with First Nation peoples do not have data on the burden of visual loss in these populations. Although existing studies vary in methodologic quality and reliability, they suggest that most vision loss is avoidable. Evidence supports the effectiveness of collaborative eye health programs that directly target Aboriginal populations.

The *Roadmap to Close the Gap for Vision* (Taylor et al. 2012) showed that 94 percent of the vision loss experienced by Aboriginal Australians is preventable or treatable – but that there are challenges and barriers along the patient pathway that are preventing effective care. In the ten years from 2015 to 2024, Pricewaterhouse Coopers estimated that over 34,000 Aboriginal Australians will be affected by low vision or blindness as a result of the four conditions highlighted in the Roadmap (PWC 2015).

As detailed in the 2012 NSW Chief Health Officer report on Aboriginal health (Centre for Epidemiology & Evidence 2012), 11% of Aboriginal people aged over 55 years reported a history of cataracts, compared with 7% for non-Aboriginal people. Cataract causes 32% of blindness and 27% of low vision in Aboriginal adults (aged over 40 years),

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with only 65% of those with vision loss from cataract having received surgery. The national blindness rate for Aboriginal adults is 1.9% (6.2 times the rate for non-Aboriginal people) and the low vision rate is 9.4% (2.8 times the rate for non-Aboriginal people) (Taylor et al. 2010). The cataract procedure rate for NSW in 2010–11 was 561 per 100 000 for Aboriginal people and 817 for non-Aboriginal people. Environmental factors also impact adversely on eye health in general (e.g. functional housing, nutrition and hygiene).

There are regional stakeholder groups established (or developing) in at least 50 of the over 60 regions across Australia which support regional planning and integration of Aboriginal eye health and vision care. These groups are a partnership between key eye health stakeholders in the region – no single organisation has authority for the full range of eye health services for Aboriginal people, but each participant contributes to the overall eye health system and patient pathway (Vision 2020 Australia 2019). Some regional partnerships have a regional implementation manager or equivalent position in place who performs a range of important functions[22].

Policy context and cultural safety

The Roadmap to Close the Gap for Vision

Since 2006, Australia's peak Aboriginal and non-government organisations have come together to improve the health and life expectancy of Aboriginal peoples through the Close the Gap campaign. In 2012, *The Roadmap to Close the Gap for Vision* set out a comprehensive, whole of system strategy to improve access to eye health and vision care services and improved eye health outcomes for Aboriginal people in Australia.

One of the recommendations of *The Roadmap to Close the Gap for Vision* with the intent of cultural safety in mainstream services is that…

"service providers involved in the co-ordination of eye care including Local Hospital Networks and Primary Health Networks, consult with local Aboriginal and Torres Strait Islander communities and improve the cultural awareness of their staff and services."

The provision of eye-care services within Aboriginal health services results in better vision, and access to services for Aboriginal people is improved if their care is delivered within culturally appropriate facilities (Turner et al. 2011). Regional coordinators play an important role in linking their community with visiting eye-care services and improving eye care.

Strong eyes, strong community

On March 2019, Vision 2020 Australia launched '*Strong eyes, strong community – a five-year plan for Aboriginal and Torres Strait Islander health and vision, 2019-2024*' which builds on the work achieved through The Roadmap. $85m has been allocated to support implementation of the Plan.

Strong eyes, strong community charts a course to close the gap for vision and achieve a world class system of eye health and vision care for Aboriginal people. The Plan recognises that provision of eye health must be considered within a comprehensive, primary health care model, and that broader social determinants also impact on eye health and vision outcomes.

Strong regional and local partnerships which support active collaboration between community, service providers and others continue to be critical to plan, deliver and continually improve eye and vision care in line with people's needs and preferences. Embedding eye care into community controlled and mainstream services, at the same time that cultural safety is enhanced in mainstream services, are other important elements which will help ensure that the eye health needs of all Aboriginal people can be met, regardless of where they seek their health care (Vision 2020 Australia; 2019, p.5).

"We look forward to working together to achieve a world class system that delivers culturally safe eye care to all Aboriginal and Torres Strait Islander people." Vision 2020 Australia CEO Judith Abbott

Among the areas for further action in the Plan is embedding eye health in Aboriginal Community Controlled Health Organisations (ACCHOs) and other primary care organisations through a combination of workforce, system and

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[22] Some of these groups have received support from the Australian Government (through Jurisdictional Fundholders), State and Territory governments and/or philanthropic funds.

awareness-raising activities. Short term activity (2019-2020) includes establishing an ACCHO eye health funding pool and establishing a national network of ACCHO staff with eye health skills and knowledge.

The Plan also prioritises embedding cultural safety through all mainstream services. Cultural safety is central to Aboriginal people and their relationships with the health system. "Applying cultural safety to transform practice requires understanding the centrality of culture for Aboriginal and Torres Strait Islander peoples and nations; and respect for the diverse cultures, languages, practise and beliefs" (Indigenous Allied Health Australia [IAHA], 2019, p.1). Importantly it requires self-understanding, knowing and accepting one's own culture and its influence on thought, feelings and behaviour. Effective care requires health providers to have undertaken a process of reflection on their own cultural identity and recognise the impact of the health care professionals' culture on their practice. Professionals need to be culturally responsive – enabling safe approaches that deliver genuine impact. Supporting Aboriginal leadership and working in partnership are essential.

NSW public sector Aboriginal employment strategy

One of the three key strategies of the NSW public sector Aboriginal employment strategy: NSW Working together for a better future 2019-2025 (PSC, 2019) is "Improving Aboriginal cultural capability by teaching all public sector employees to respect and accommodate cultural differences." From June 2020, the Public Service Commission will work with sector HR staff and managers to identify professional development needs and teach them to manage Aboriginal cultural safety issues, as well as develop and deliver targeted professional development activities. It also aims to create an Aboriginal Champions of Change network and develop Terms of Reference with a focus on increasing cultural capability and safety across the sector.

General

Below is the work of the Karadi Aboriginal corporation[23] which provides an example of how delivering vision services within Aboriginal community controlled settings led to improved outcomes for the community.

Indigenous eye health has been working with Aboriginal health services, TAZREACH (the organisation responsible for visiting optometry and ophthalmology services in Tasmania) and a range of stakeholders to identify opportunities to improve access and pathways of care for Aboriginal people. Karadi has three care coordinators working in the Integrated Team Care and provide culturally sensitive care, advocate on behalf of Aboriginal clients and have a good understanding of local health system. They reported on an Aboriginal woman in her 60s who had never had her eyes tested due to her lower literacy levels and her fear of shame and embarrassment. Staff supported this woman through this barrier to accessing eye services. From this experience, the Integrated Team Care staff have been able to build support around this client and others with low literacy levels and provide verbal presentation to increase knowledge and understanding of health issues.

"This is their place and there is a sense of comfort in that."

It had also been assumed that with so many providers near the regional ACCHO that visiting services wouldn't be required, however this assumption was incorrect. There was significant increase in referral/attendance at the clinic at the ACCHO because clients feel safe and comfortable and staff understand their needs.

A study published in 2013 (cited in Razavi et al. 2018) explored the barriers and solutions for the delivery of refractive services among Aboriginal people. Inadequate cultural safety was noted as a barrier to accessing services, however it was reported that in rural and remote communities, there was proportionately greater access to culturally safe community-controlled health services, but these were not available in all areas and there was often a need to travel long distances to access care.

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[23] Information accessed 6 December 2019 from https://mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/ieh/roadmap/share-your-story/karadi

Integrating cultural safety in an active manner reconfigures health care to allow greater equity of realised access (rather than the assumption of full access), including obtaining appropriate intervention (Laverty et al. 2017). Cultural safety acknowledges the barriers to clinical effectiveness arising from inherent power imbalances and moves to redress this dynamic by making the practitioner's cultural underpinning a critical focus for reflection – it invites practitioners to consider: "what do I bring to this encounter, what is going on for me?" (Laverty et al. 2017, p.15).

Culturally safe orthoptics was considered in a presentation at the 2019 Orthotics Australia Conference (Rosamond Gilden, Indigenous Eye Health, The University of Melbourne). It acknowledged that health practitioners need to adopt an ongoing process of self-reflection and cultural self-awareness and an acknowledgement of how a health practitioner's personal culture impacts on care to deliver culturally safe care.

Common issues and challenges in eye care were identified in short presentations at the Closing the Gap for Vision by 2020 National Conference (Indigenous Eye Health Unit 2018) and delegates provided solutions and thoughts through post-it note feedback. One challenge was Cultural Safety in Eye Care presented by Derek Harris and Edward Jones, Ngaayatjarra Council, WA. The issue was: Cultural safety is critical to the engagement of community members with health services and the delivery of quality health outcomes. This is a challenge in urban, regional and remote areas, in community controlled settings with visiting services and in mainstream services. Community members need access to education and employment without losing culture, law or language. Suggested solutions were: locally developed resources; resources in language; and cultural training in mainstream conferences.

Although not specific to orthoptics or to NSW, priority recommendations from the 15th National Rural Health Conference[24] are relevant to the local context. Recommendations fall under the headings: Aboriginal and Torres Strait Islander Health, determinants of health must be addressed, access, workforce, enabling workforce though infrastructure and support, and research. Participants called for urgent commitment of funding to expand Aboriginal community controlled comprehensive primary health care services to not only diagnose and treat health issues, but to work in partnership with other sectors to tackle underlying determinants of health such as housing, education and employment. They recognised the essential role of Aboriginal Health Practitioners and workers in the provision of culturally safe services, including as mentors and trainers of non-Indigenous staff. Below is an example of partnership in practice.

A new vision for improving indigenous eye health - 13 July 2018[25]	A new partnership between two Mildura health services aims to ensure the local Aboriginal community has better access to eye care specialists and support. Vision Australia began offering eye health checks through the Mildura Base Hospital Aboriginal Health Unit (AHU) in April. An orthoptist is available once a month to see Aboriginal patients who have poor vision and eye conditions, prioritising those who are on dialysis.

The organisation signed a MOU with the hospital in 2017 after identifying a need to improve the way it engaged with and supported the Aboriginal community. Staff had participated in cultural awareness training and saw clients in an environment where they felt comfortable. "The AHU has built connections with local indigenous people and services and can identify patients in the hospital system who need assistance with their vision but may not know about or be able to access Vision Australia services without support", said Vision Australia service engagement consultant. "Staff at the AHU can also help clients get to the centre and arrange follow-up appointments if needed." AHU manager Steve Portelli said eye health was a serious issue for indigenous people. "Diabetes is one of the biggest killers in the Aboriginal community, and people often end up with vision loss and other eye conditions, but Aboriginal people often won't engage with services that can help because of the shame factor or because they don't know where to go. We are breaking down those barriers through our partnership with Vision Australia, so people feel comfortable accessing the service." Mr Portelli said the AHU and attached healing centre, which opened about two years ago, was a neutral and safe environment for the Aboriginal community. "It's just off from the hospital and doesn't have a clinical feel, so it's a more relaxed and peaceful place for people to come," he said. "The community also comes to the centre to put up names of family members who have passed and sit there and reflect as part of the healing process. Now they can also feel safe to have their eyes checked, talk to Vision Australia about how the service can help, and access ongoing care and support."

Workforce

Compared with non-Aboriginal people, employed Aboriginal people are 1.5 times as likely to work in health and/or social assistance. As at 2015, it was estimated that there were 2000 Aboriginal allied health staff. It was reported that 15,000 more (8-10 times increase) would be needed by 2026 to reach population parity (IAHA, 2017).

According to Vision 2020 Australia (2019), there are now a small number of qualified orthoptists and (optometrists and ophthalmologists) who identify as being of Aboriginal descent, with additional professionals in training. Aboriginal people have emphasised the importance of increasing these numbers, and sustained efforts by governments, academic institutions, training and accreditation bodies and others is required to achieve this goal.

The *National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework 2016–2023* is a mechanism to guide national Aboriginal health workforce policy and planning. The Framework focuses on prioritisation, target setting and monitoring of progress against growing and developing the capacity of the Aboriginal health workforce. States and territories have developed jurisdictional Aboriginal health workforce strategies and action plans (e.g. *NSW Health Good Health - Great Jobs Aboriginal Workforce Strategic Framework 2016 – 2020*).

While not specific to orthoptics, the National Framework provides strategies and suggested mechanisms that can be applied in the NSW context and with the orthoptist workforce, e.g. a) offer and resource scholarships, expanded cadetship and graduate programs, traineeships and internships; b) create supportive and culturally-safe workplaces; c) provide professional development opportunities for Aboriginal health staff that are tailored to local needs and build inter professional collaboration and networks; d) provide clinical placements in ACCHOs and in appropriate mainstream settings for both Aboriginal and non-Aboriginal students.

Orthoptics Australia is committed to ensuring cultural safety, and cultural awareness is incorporated into the curriculum for students undertaking a degree in orthoptics. This includes studying Indigenous health and exposure to Aboriginal culture. Initiatives such as cadetships or scholarships can support development of the workforce. However

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[25] https://www.visionaustralia.org/community/news/2019-08-23/new-vision-improving-indigenous-eye-health

cultural safety requires embedding in not only course accreditation for each health profession, including measures to reduce resistance, but also in the standards governing clinical professionalism and quality (Laverty et al. 2017).

3. How is eye health being delivered in rural NSW and how can it be improved?

Rural NSW healthcare

Just over a quarter of the people in NSW live outside the three major cities of Sydney, Newcastle and Wollongong. Rural NSW is characterised by its diversity. It is made up of major regional centres and coastal cities, small towns and remote communities.

The healthcare system in rural NSW is complex and multi-layered, with services provided by many organisations. In NSW, there are 15 Local Health Districts (LHDs) responsible for providing health services in a wide range of settings, from primary health care posts in the remote outback to metropolitan tertiary health centres. Seven of these LHDs are classified as comprising rural areas: Far West, Hunter New England, Mid North Coast, Murrumbidgee, Northern NSW, Southern NSW and Western NSW. The private sector plays a major role in the rural health system in NSW. Private medical practitioners provide most primary care services and can also provide hospital services in the public health system. Private hospitals also provide a significant proportion of services to people living in rural areas, ranging from around 10% of hospital treatments in Far West LHD to around 30% in Hunter New England LHD.
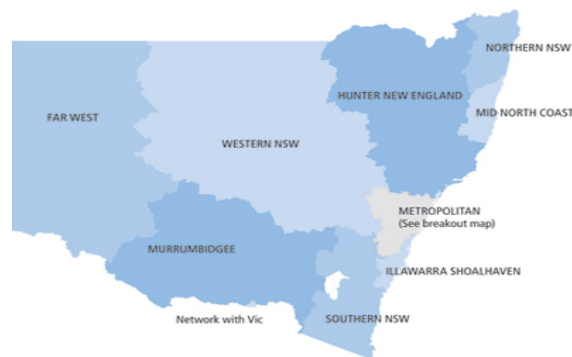
Some of the service models currently used to deliver healthcare in regional, rural and remote NSW include:

- the *Multipurpose Services Program*, a joint NSW and Commonwealth initiative that co-locates acute care, residential aged care, community and allied health, rehabilitation and health education services
- *outreach models*, which broaden the range of health services available in regional, rural and remote locations, and can include specialist medical, allied health, nursing and maternity services
- *telehealth and telemedicine*, used in rural NSW to overcome problems of access to healthcare and the shortage of health professionals. In many cases, telemedicine and telehealth are used to augment other service delivery models
- *expanding the roles of health professionals*, such as paramedics supporting hospitals in smaller rural communities with the provision of emergency care in the hospital setting.

Rural workforce

Allied Health

One of the major obstacles to maximising the eye health of rural and remote communities is the difficulty experienced in attracting and retaining a competent and highly skilled workforce in these areas. The optimum supply of an allied health workforce in rural and remote communities is a persistent challenge in NSW and across Australia. Despite previous indicative research and government investment, the primary focus for rural and remote recruitment has been on the medical profession. The consequent shortage of allied health professionals leaves these communities less able to receive appropriate health care (Spiers & Harris 2015).

Barriers for rural and remote students accessing allied health undergraduate degrees include secondary education disadvantage, financial disadvantage and social dislocation as well as a lack of consideration of health careers (Spiers & Harris 2015). Barriers to transition for allied health students accessing rural and remote clinical placements include

financial disincentive, social isolation and inadequate knowledge of available opportunities. Further barriers include an undersupply of rural placements, inadequate placement administrative and organisational support, competing family commitments and psychological burden for students, and student isolation from peer and professional support and learning resources. Spiers and Harris (2015) found that enablers include regional coordination and resourcing, financial incentives and regional development.

General

There is a range of funding to support allied health students and workers in NSW, e.g., rural allied health clinical placement grants (up to $1000) and undergraduate scholarships ($10,000 per annum).

There are also a number of Australian Government funded programs of relevance to eye health care delivery that aim to streamline the distribution of workforce in Australia and address workforce shortages in rural and remote areas, however many are medically related[26]. Two examples include:

Rural Health Outreach Fund (RHOF) - The RHOF is funded by the Department of Health and administered by state-based organisations. The RHOF consolidates five existing outreach programs: The Medical Specialist Outreach Assistance Program (MSOAP), MSOAP - ophthalmology expansion, MSOAP - maternity services expansion, Rural Women's GP Service Program, and National Rural and Remote Health - Kimberley Paediatric Outreach Program. In NSW, the RHOF is administered by the NSW Rural Doctors Network. The RHOF aims to improve access to medical specialists, GPs, allied and other health providers in rural, regional and remote areas of Australia. There are four priorities under the RHOF: chronic disease management, eye health, maternity and paediatric health and mental health.

Visiting Optometrists Scheme (VOS) - The VOS was established in 1975 to provide funding to optometrists to deliver outreach eye care services to people living in regional, rural and remote locations, who do not have ready access to primary eye care services. In 2009-10 the VOS was expanded to provide increased optometry services to Aboriginal people, particularly in remote and very remote locations. The objective of the VOS is to improve the eye health of people in regional, rural and remote locations by:

- increasing optometry services in areas of identified need
- improving the coordination and integration of those eye health services and the quality of ongoing patient care
- enhancing communication between visiting optometrists, local health providers and other visiting health professionals.

The Workforce Incentive Program (WIP)[27] is a component of the Stronger Rural Health Strategy 2018-19 Budget measure. The aim of the Stronger Rural Health Strategy is to build a sustainable, high quality health workforce that is appropriately qualified, distributed across the country according to community need and engaged in multidisciplinary and team-based models of care. The WIP provides targeted financial incentives to encourage doctors to deliver services in rural and remote areas. The WIP also provides financial incentives to support general practices to engage the services of nurses, Aboriginal Health Practitioners and Health Workers, and eligible allied health professionals – this includes orthoptists.

Orthoptist rural workforce

As noted earlier, most orthoptists work in major cities with 11% working in inner or outer regional areas. In the UTS Master of Orthoptics[28], students experience a diverse range of clinical placement opportunities. Students complete a minimum of 280 hours over the two-year program, both during semester and block placements between semesters, in a range of over 50 placement sites across Sydney in hospital, community and private practice, and over 15 sites outside the Sydney metropolitan area. Students are allocated placements within the Sydney metropolitan area and all students are required to undertake a block (full-time) rural, remote or interstate placement for up to three weeks at a location compatible with their circumstances.

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[26] See https://www1.health.gov.au/internet/main/publishing.nsf/Content/work-co and
https://www1.health.gov.au/internet/publications/publishing.nsf/Content/ageing-eyehealth-australia-toc.htm~ageing-eyehealth-australia-s3.htm
[27] https://www1.health.gov.au/internet/main/publishing.nsf/Content/B9983F50BC3E2C92CA2583840079BB9E/$File/WIP%20Guidelines.pdf
[28] https://www.uts.edu.au/future-students/health-gem/courses/orthoptics-courses

Examples of rural eye health care provision

NSW

At the Close the Gap for Vision by 2020 Conference held in March 2019 (Indigenous Eye Health Unit 2019), Claire O'Neill from the NSW Rural Doctors Network presented on partnership with the local Aboriginal Medical Services, the Aboriginal Unit in Grand Pacific Health and Rural Doctors Network gained funding to undertake clinics to primarily address this need for clients with chronic disease (including diabetes) and clients at risk of eye health issues.

The Aboriginal Health Services for Southern NSW LHD coordinated the clinics for the ophthalmologist and the ACCHOs referred clients to the program and assisted with transport and case coordination through the Integrated Team Care (ITC), a 'Closing the Gap' initiative. To date the engagement and outcomes have been positive with all clinics being booked out and good attendance outcomes.

Barton et al. (2015) presented information on the Western NSW Eye Heath Partnership program at the 13th National Rural Health Conference. They have been able to demonstrate improvements in the regional and remote Western eye health system achieved by stakeholders forming a partnership that enables them to share information plan and coordinate together. Western NSW is an area of comparative disadvantage with inequitable access to ophthalmic and optometric services. Significant areas of western NSW with high Aboriginal populations have limited public secondary eye services. Service mapping and gap analysis have been essential to the service provision.

"The central achievement of this project is the working relationships that continues to develop between stakeholders as they communicate, plan and work together. The Partnership has produced the local framework required to build improvements in public eye health services. To date, this collaboration has enabled strategic decision to be made that strengthen the eye care system." (Barton 2015)

The Third Progress Report on the *National Framework for Action to Promote Eye Health and Prevent* Avoidable Blindness and Vision Loss (Department of Health 2015) included numerous examples of programs and services addressing eye health care in rural NSW. For example, an outreach service from Dubbo was provided to Mudgee on a monthly basis. Ophthalmology and ophthalmic surgery was provided by an ophthalmology surgeon performing on average 7 cases per operating list. Patients were placed on the operating list via referral systems initiated through GPs and local Optometrists. The patients were operated on in a day surgery basis. Follow up of patients was organised through the surgeon's practice. The surgical procedures carried out included cataract surgery. The NSW Rural Doctors Network recruited two new orthoptists to Broken Hill in Far West NSW. In the Greater Newcastle area, an orthoptist attended the weekly Young People's Clinic which targets patients with diabetes aged 18-30 years. Patients who had not had retinal screening within the recommended period were offered on the spot assessment using a non-mydriatic camera, while attending a regular clinic appointment. The results of this screening were immediately available for the consultant to discuss with the patient, and treatment options could be explained. If further assessments were indicated, these could be discussed and referrals made, if appropriate.

Other jurisdictions

There are an increasing number of organisations providing mobile optometric and ophthalmological services with telehealth support from distant specialists. For example, the Lions Outback Vision Van provides services across country Western Australia in 16 towns, The Indigenous Diabetes, Eyes and Screening (IDEAS) van is an initiative of the Diamond Jubilee Partnerships Ltd. The IDEAS van began providing services in 2014, with $5 million funding from the Queensland Government, and the support of Aboriginal Medical Services in Queensland and the Royal Flying Doctor Service. The IDEAS van and support teams (a clinical team of an ophthalmologist, optometrist and an ophthalmic assistant/orthoptist) are now working in 41 communities along with outreach services

Both the IDEAS and Lions Outback Vision Vans work in collaboration with ACCHOs and have, with consent of the patient, electronic referral and records of occasions of service synchronised with the patient electronic health records. Synchronisation of records ensures that eye health services are recorded within a patient's care plan(s) to ensure continuity of care by enabling local follow-up actions, as required, after the mobile clinics have left (NACCHO 2016).

After five years embedding the IDEAS Van initiative in Queensland, the Van is working with the Rural Workforce Agency Victoria (RWAV). RWAV is working with ACCOs, VACCHO and The Fred Hollows Foundation to strengthen

outreach diabetic eye care services and is bringing a mobile treatment facility to Victoria, to increase access for Aboriginal communities most in need. RWAV's Look Out Project will use the IDEAS Van to provide bulk billing screening and treatment for diabetic eye disease as part of this project. The project does not aim to replace any existing services but instead will enhance current service delivery and provide access to bulk billing ophthalmology services.

Service delivery began in July, with services at each location provided every two months by local ophthalmologists, orthoptists and an optometrist. Clients identified as requiring cataract surgery will be referred into the Eye and Ear Surgical Support Service program for treatment. (RANZCO 2019).

Fu et al. (2017) conducted a systematic review identifying and assessing strategies for evaluating the impact of mobile eye health units (MEHUs) on health outcomes. MEHUs have been used since the 1950s to provide eye care services to remote populations where access is otherwise limited. They found that most published articles are narrative audit descriptions of the implementation of a MEHU, while only a few reports on patient and/or service delivery outcomes. Six studies were identified with mobile services offering diabetic retinopathy screening (three studies), optometric services (two studies) and orthoptic services (one study). On face value these programs seem to have high acceptability and produce positive outcomes, but further evaluation is required.

Policy directions

While the following polices are not specific to eye health or the orthoptic workforce they do provide a guide to the strategic direction in rural healthcare in NSW.

NSW Rural Health Plan: Towards 2021

The NSW Rural Health Plan aims to strengthen the capacity of NSW rural health services to provide connected and seamless care, as close to regional, rural and remote NSW communities as possible. The key directions are:

- Healthy rural communities: This Direction focuses on priority issues for rural communities including Aboriginal, maternal, child, youth, mental, sexual and oral health services, as well as prevention and health promotion services in relation to lifestyle factors such as smoking, alcohol use, and poor nutrition. This Direction also includes initiatives aiming to address the social determinants of health through working in partnership across services and sectors.
- Access to high quality care for rural populations: This Direction includes goals and initiatives to strengthen service networks and the use of eHealth solutions, and support patients, consumers, families and carers when travel may be required.
- Integrated rural health services: The goals and initiatives in this Direction focus on improving the integration within and across health services to provide improved health outcomes, patient and consumer experiences, and better use of health resources. This includes enabling locally-driven integration, with services planned and developed in partnership with rural communities and local service providers and partners.

The NSW Rural Health Plan also supports initiatives to attract health professionals to rural and remote areas, including exposure to rural practice through education programs, locating educational institutions in rural areas, financial incentives, and career development.

NSW Health Professionals Workforce Plan 2012–2022

This Plan (aligned with the NSW Rural Health Plan) includes strategies to grow the rural workforce, support rural education and training, improve rural workforce planning capacity and provide support to health professionals working in rural areas.

Building a Sustainable Health Workforce for Rural NSW

NSW Health to attract and retain health workers in rural NSW with the right mix of skills and type of health professionals to meet the needs of rural communities. The Building a Sustainable Health Workforce for Rural NSW outlines a wide range of rural workforce initiatives and programs, although it is noted that most are not specific to allied health or orthoptics or eye health.

References

Access Economics. (2010). *Clear Focus: The economic impact of vision loss in Australia in 2009. A report prepared for Vision 2020 Australia by Access Economics Pty Limited*.

AIHW. (2019). *Indigenous eye health measures 2018. IHW 210.* Retrieved from Canberra:

Australia, Indigenous Allied Health. (2019). *Position Statement: Cultural safety through responsive health practice*. Retrieved from Deakin West, ACT:

Barton, J., Vail, A., Waddell, C., & Hager, J. (2015). *The Western NSW Eye Health Partnership Program*. Paper presented at the 13th National Rural Health Conference, Darwin, NT.

Centre for Epidemiology & Evidence. (2012). *The health of Aboriginal people in NSW: Report of the Chief Health Officer*. Sydney: NSW Ministry of Health.

Department of Health. (2015). *Third Progress Report to Australian Health Ministers (2011-2014) - National Framework for Action to Promote Eye Health and Prevent Avoidable Blindness and Vision Loss.* Canberra, ACT: Commonwealth Department of Health.

Foreman, J., Keel, S., van Wijngaarden, P., Bourne, R.A., Wormald, R., Crowston, J., Taylor, H.R., & Dirani, M. (2018). Prevalence and causes of visual loss among the Indigenous peoples of the world: A systematic review. *JAMA Ophthalmology, 136*(5), 567-580.

Fu S., Turner A., Tan I., Muir J. (2017). Identifying and assessing strategies for evaluating the impact of mobile eye health units on health outcomes. *The Australian journal of rural health., 26*(6), 326-331.

Garretty, T. (2017). Final visual outcomes and treatment received for children referred from a UK primary school visual screening program: A comparison of an orthoptic-led program with orthoptic-delivered services. *Strabismus, 25*(4), 184-190.

Indigenous Allied Health Australia. (2017). *Support Grow Transform Lead. Strategic Plan 2017-2020*.

Indigenous Eye Health Unit, Melbourne School of Population and Global Health. (2018, March 2018). *Striving Together.* Paper presented at the Close the Gap for Vision by 2020. National Conference, Melbourne.

Indigenous Eye Health Unit, Melbourne School of Population and Global Health. (2019). *Strengthen & Sustain.* Paper presented at the Close the Gap for Vision 2020. National Conference, Alice Springs, Northern Territory.

International Orthoptic Association. (2017). Proceedings of the XIIIth International Orthoptic Congress, Rotterdam, The Netherlands.

Jolly, N., Kelly, J., Silveira, S,. & Giribaldi. (2017). Orthoptics Australia Workforce Survey. *Australian Orthoptic Journal, 51*, 25-30.

Jolly, N., Thompson, K., & Macfarlane, A. (July 2008). *Report to the Statewide Ophthalmology Service (SOS) of the Greater Metropolitan Clinical Taskforce (GMCT). The Orthoptist and the management of visual problems in inpatients with stroke: A pilot study to compare existing models of care.* Retrieved from

Koklanis, K., & Vukicevic, M. . (2014). Profile of the Australian Orthoptic Workforce 2012/13. *Australian Orthoptic Journal, 46*(1), 23-26.

Laverty, M., McDermott, D.R., & Calma, T. (2017). Embedding cultural safety in Australia's main health care standards. *The Medical Journal of Australia, 207*(1), 15-16.

Lim, Y.E., Vukicevic, M., Koklanis, K., & Boyle, J. (2014). Indication for Anti-VEGF treatment for neovascular age-related macular degeneration based on optical coherence tomography interpretation: Decision agreement rate between Orthoptist and Ophthalmologist. *Australian Orthoptic Journal, 46*, 9-13.

National Aboriginal Community Controlled Health Organisation (NACCHO). (November 2016). *National ACCHO sector report on eye health service delivery for Aboriginal and Torres Strait Islander People*. Retrieved from www.naccho.org.au

Natkunarajah, M., Parkins, D., & Hingorani, M. (2019). *Ophthalmic Services Guidance: Primary Eye Care, Community Ophthalmology and General Ophthalmology*. Retrieved from London:

NSW Ministry of Health. (2014). *NSW Rural Health Plan: Towards 2021*.

NSW Ministry of Health. (2015). *Building a sustainable health workforce for rural NSW*.

NSW Ministry of Health. (2015). *Health Professionals Workforce Plan 2012-2022 (Revised 2015)*.

NSW Ministry of Health. (2019a). *Evaluation of the Statewide Eyesight Preschooler (StEPS) Final Report 2018*.

NSW Ministry of Health. (2019b). *Response to the Statewide Eyesight Preschooler Screening (StEPS) Program Final Report June 2019*.

NSW Public Service Commission. (2019). *The NSW public sector Aboriginal employment strategy. NSW Working together for a better future 2019-2025*.

RANZCO. (2013). The Royal Australian and New Zealand College of Ophthalmologists. *Position Statement: The Important Role of Orthoptists in Eye Care Delivery.* Retrieved from Surry Hills NSW.

Orthoptics Australia. (2017). *Orthoptic Scope of Practice*.

Orthoptics Australia. (2017). *Submission to Patient Safety & Quality Improvement in Primary Care Discussion Paper*.

Orthoptics Australia. (2018). Selected abstracts from the Orthoptics Australia 75th Annual Scientific Conference held in Adelaide, 19th to 21st November 2018. *Australian Orthoptic Journal, 50*.

Orthoptics Australia. (9-11 November 2019). *Abstracts: 76th Orthoptics Australia Annual Conference*, International Convention Centre Sydney.

Pricewaterhouse Coopers (PwC) (2015). *The value of Indigenous sight: An economic analysis. Final report.*

RANZCO. (Quarter 3 2019). *EYE2EYE, 22*(3).

RANZCO. (Spring 2017). *EYE2EYE, 20*(3).

Razavi, H., Burrow, S., Trzesinski, A. (2018). Review of eye health among Aboriginal and Torres Strait Islander people. *Australian Indigenous HealthBulletin, 18*(4), 48.

Scheetz, J., Koklanis, K., Long, M., Morris, M.E. (2013). Orthoptics at the Crossroads: Matching Future Workforce Needs. *Australian Orthoptic Journal, 45*(1), 4-5.

Spiers, M.C., & Harris, M. (2015). Challenges to student transition in allied health undergraduate education in the Australian rural and remote context: a synthesis of barriers and enablers. *Rural and Remote Health, 15*(2), 3069.

Taylor, H.R. Boudville, A., Anjou, M., & McNeill, R. (September 2015). *The Roadmap to Close the Gap for Vision.* Retrieved from Melbourne.

Taylor, H.R., Boudville, A., Anjou, M., & McNeill, R. (2012). *The Roadmap to Close the Gap for Vision. Full report*. Melbourne.

Toufeeq A., Oram A.J. (2014). School-entry vision screening in the United Kingdom: Practical aspects and outcomes. *Ophthalmic Epidemiology, 21*(4), 210-216.

Turner, A.W., Xie J., Arnold, A.L., Dunn, R.A., & Taylor, H.R. (2011). Eye health service access and utilization in the National Indigenous Eye Health Survey. *Clinical and Experimental Ophthalmology, 39*(7), 598-603.

Vision 2020 Australia. (2019). *Strong eyes, strong communities. A five year plan for Aboriginal and Torres Strait Islander eye health and vision 2019-2024.*

Zheng L., Do H.H.J., Sandercoe T., Jamieson R.V., Grigg J.R. (2016). Changing patterns in paediatric optic atrophy aetiology: 1979 to 2015. *Clinical and Experimental Ophthalmology, 44*(7), 574-581.

Attachment 1: Ministry of Health response to StEPS evaluation

Table 9: Selected Key Implications and NSW Ministry of Health responses from the Response to the Evaluation of the Statewide Eyesight Preschooler Screening (StEPS) Program Final Report (2019)

UTS Key Implication	NSW Ministry of Health response
8. Ongoing training and other support for screeners The evaluation has demonstrated that the program benefits from well-trained, experienced screeners. In light of this, it is advised that there is an ongoing and strengthened focus on training and development (including refresher training) for screeners. This may also support their retention, particularly in areas where frequent turn-over of staff creates a greater level of referral. It would be appropriate for this to be implemented by StEPS orthoptic staff within LHDs according to a state-wide directive.	Statewide training is available through the HETI portal. This was last reviewed in 2016 following the transition of vision screening charts. Local ongoing training is also provided by StEPS Coordinators and competency is assessed by a competency checklist in the StEPS policy directive. A forum was held in 2018 to celebrate 10 years of the StEPS program. It also included educational presentations. Considerations can be made for more regular forums for StEPS staff in the future.
9. Extend the availability of secondary screening where there are gaps The current evaluation has shown that access to secondary orthoptic screening reduces the number of high priority referrals directed to Paediatric Ophthalmic Outpatient Clinics (POOCs) and may detect false positive referrals. It is proposed that the availability and scope of secondary screening be extended and used more consistently throughout the StEPS program.	Due to different StEPS staffing models, not all LHDs have orthoptic clinics. Therefore, it is not be possible to have secondary orthoptic screening available across all LHDs.
10. Explore strategies to improve uptake of post- referral services Barriers to follow-up care are often financial or related to convenience and/or access. To encourage parents to access services and improve post-referral follow-up rates, it is suggested that innovative strategies to increase follow-up care are explored and trialled. For example, co-location of secondary orthoptic screening with optometry and/or optical dispensing may provide greater convenience for families. While, subsidies for the purchase of glasses may reduce the financial burden for those with the greatest need.	The Ministry understands the perceived financial or access related issues that influence a carer's decision not to follow up a referral. However, the examples provided cannot be considered as most optometry and/or optical dispensing business are privately owned. However, the Ministry will continue to provide StEPS Coordinators with updates on subsidised spectacle schemes such as the NSW Spectacles Program. This program provides government funded glasses and vision aids to eligible seniors, children, people experiencing homelessness, those living in rural and remote areas, people with disability, and Aboriginal and multicultural communities.
12. Continue to focus on post-screening parent engagement It is suggested that clearer information about local post-screening referral pathways be provided to parents coupled with an emphasis on compliance with referral to ensure best outcomes for their child. If the role of orthoptic secondary screeners were to be expanded to include triage (see key implication 11), it would be appropriate for secondary screeners to promote compliance through parental education. This may also reduce the rate of non-follow-up. This is of particular importance in rural and regional areas, and for Aboriginal children and families. For some Aboriginal families, this work may be supported through engagement with Aboriginal community health organisations.	The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.

11. Consider better ways to manage referral of children	The Ministry will investigate this further with relevant stakeholders and consideration of resourcing implications.
There may be benefit in investigating the feasibility and implications of expanding the role of secondary screeners to provide a more supported triage service for children eligible or borderline for high priority or routine referral after primary screening. This may assist referrals to be more appropriately targeted to the most relevant service, whether that be optometric services, private or public paediatric ophthalmology or POOCs. This may also improve continuity of care, reduce the likelihood of loss to follow-up and prevent inappropriate referral to POOCs. It is also likely to ensure that urgent cases receive timely and appropriate care.	

Appendix 2: Participating stakeholders

We would like to acknowledge and thank the many contributors to this project and wish all NSW Health orthoptists every success with their future workforce planning efforts.

- Wendy Bryan-Clothier, NSW Ministry of Health
- Nicole Carter, Sydney Children's Hospital Network
- Tonia Chandler, Central Coast Local Health District
- Michael Cosstick, Western Sydney Local Health District
- Katrina Cramp, South Western Sydney Local Health District
- Heather Crossman-Limbert, Nepean Blue Mountains Local Health District
- Katie Geering, Sydney Children's Hospital Network
- Jane Hager, Rural Doctors Network
- Hassan Kadous, NSW Ministry of Health
- Melanie Lai, South Eastern Sydney Local Health District
- Gennelle McInerney, Sydney Local Health District
- Michael Mihail, Northern Sydney Local Health District
- Clare O'Neill, Rural Doctors Network
- Karen Pedemont, South Western Sydney Local Health District
- Christina Peterson, South Eastern Sydney Local Health District
- Kathryn Rose, University of Technology
- Jane Schuller, Orthoptics Australia
- Sallyanne Steenbeek, South Eastern Sydney Local Health District
- Sandra Tait, Sydney Local Health District
- Kathryn Thompson, South Western Sydney Local Health District
- Nicky Turner, Rural Doctors Network
- Nicola Veness, NSW Ministry of Health