RANZCO’s Vision for Aotearoa New Zealand’s Eye Healthcare to 2030 and beyond

Timely and equitable access to eye healthcare services for all New Zealand residents, regardless of postcode, ethnicity or income, to eliminate avoidable blindness
RANZCO Vision 2030 and beyond - Aotearoa New Zealand

Version 1:
This is a living document and will be regularly reviewed and updated by The Royal Australian and New Zealand College of Ophthalmologists, in consultation with stakeholders.

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We acknowledge the Rangatiratanga of Māori as Tangata Whenua and Treaty of Waitangi partners in Aotearoa New Zealand. In recognition that we are a bi-national College we also acknowledge the Aboriginal and Torres Strait Islander Peoples as the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and community. We pay our respects to them and their cultures; and to their Elders past, present and emerging.
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“Timely access to eye healthcare prevents more than 80% of permanent visual impairment and blindness”[1]

and is

“a fundamental human right, the Right to Sight”.[2]
Executive Summary

Timely access to eye health care is critical to ensuring the wellbeing of our society because the ramifications of vision impairment are severe. While most people will acknowledge that the sense they would most hate to lose is their sight, we are failing to prevent that for too many.

Our population is aging and the demand on eye health services continues to increase rapidly. Our waitlists continue to grow and while we can offer better treatments for the six main conditions causing vision impairment, namely age-related macular degeneration (AMD), cataract, glaucoma, diabetic eye disease, keratoconus and refractive error, not everyone can access them.

We have major inequities in care with poorer vision outcomes particularly for our Māori and Pasifika communities.

A National Eye Health Plan

Aotearoa New Zealand has no national vision plan nor the means to execute one.

The greatest priority therefore is to establish a national eye health unit to provide governance and ensure implementation of a national plan for eye health. Māori and Pasifika leadership within this unit is imperative.

The RANZCO Vision 2030 and beyond plan has six main foci with recommendations under each on how eye health services might be improved.

1. Service Delivery
   a) Provided by the four regional services based in the existing hospital departments with increased local and mobile clinics to allow assessment and treatment closer to home for conditions such as macular degeneration, diabetes and glaucoma.
   b) Increased collaborative care arrangements with optometrists, nurses and orthoptists to manage chronic disease.
   c) National subspecialty services including retinopathy of prematurity (ROP), retinoblastoma, ocular oncology and genetics.
   d) A universal national Clinical Prioritisation and Assessment Criteria (CPAC) cataract threshold score of 46.
   e) A national diabetic retinopathy surveillance program overseen by community health and delivered via the regional services in locations easily accessible for patients.
   f) Screening for keratoconus for at-risk young people, particularly Māori and Pasifika and those with trisomy 21/Down syndrome.
   g) Assessment for uncorrected refractive error in underserved locations by optometrists employed by hospitals and working in local or mobile clinics.
   h) A funded means-tested biennial eye health check from age 65, and from age 55 for Māori and Pasifika. We also recommend a second eye check for adolescents beyond year 7 (age 11-12), covered by Enable funding for those who are eligible.
   i) PHARMAC funding of atropine eyedrops to slow myopic progression.
   j) A myopia public awareness campaign about the importance of time outside in natural sunlight and frequent breaks from close work in lessening myopic progression.
   k) Means-tested access to specialised myopia prevention spectacles within the Enable program.
   l) A National Eye Health Survey to ensure we have accurate information about the degree of need and which areas are most affected, supplemented by ongoing clearly defined data collection within each of the regions to facilitate ongoing service delivery planning.
   m) A national ophthalmic electronic medical record and IT systems that will allow images/notes from any hospital, local or mobile clinic to be accessed by all relevant providers.
   n) Increased funding for low vision services.
2. Workforce and Training
   a) Make regional work more attractive by improving the support for regional
departments with increased sub-specialty outreach clinics, providing remote support
for consultants on leave, improving training opportunities for all staff.
b) Provide certainty for ophthalmology training posts with centralised funding of all
posts.
c) Support departments to make advanced commitments to trainees who want to
return to New Zealand.
d) Improve reimbursement for public hospital ophthalmologists and ensure there is
adequate space and resources for them.
e) Allocate specific funding to employ and train allied health professionals in order to
expand collaborative care pathways.
f) Develop a national training program for ophthalmic technicians that can be accessed
remotely from anywhere in New Zealand.

3. Māori and Pasifika Healthcare
   RANZCO's plans for addressing eye health inequity among Māori and Pasifika are clearly
defined in the following documents:
a) ‘Te Tiriti Action Plan for Māori Eye Health Equity’ developed in partnership with Kāpō
Māori Aotearoa.
b) ‘Pasifika Eye Health Action Plan’ developed in partnership with the Pasifika Medical
Association.

4. Global Eye Health
   RANZCO is willing and able to support improved eye health in our region. We call for:
a) Increased financial support for building resilience for our Pacific Island nations.
b) Increased financial support for building in-country capacity, including infrastructure
and training, to provide sustainable medical and eye health services in New Zealand’s
neighbouring countries.
c) Financial support for the development and implementation of a comprehensive
regional (eye) health strategy to support local solutions.
d) A national coordinator to coordinate trips and supplies going to Pacific nations from
New Zealand, in particular enabling equipment, such as operating machinery, to be
moved between nations as appropriate.
e) Using IT solutions that are developed in New Zealand to be shared with neighbouring
Pacific nations to enable long distance photo screening for conditions such as ROP
and diabetes.

5. Preventative Healthcare
   a) Support for the surveillance programs outlined above (including diabetes and
keratoconus) and for educating the public about the need for regular eye health
checks, particularly for at risk populations.

6. Sustainability
   a) Provide services closer to home via local and mobile clinics to reduce travel emissions
as well as improve access.
b) Work with ophthalmic device companies on ways to reduce waste and increase re-
usability of equipment.
c) Develop and implement clinic and operating room protocols that focus on the
sustainable use of resources and minimising carbon emissions.
Introduction

Sight, as our predominant sense, is integral to our wellbeing, affecting childhood development, education, relationships, independence and productivity.

Timely access to eye healthcare prevents more than 80 per cent of permanent visual impairment and blindness, which may otherwise, without timely treatment, become irreversible.\(^{(1)}\)

Therefore, access to timely eye healthcare is a fundamental human right – the Right to Sight.\(^{(2)}\)

At present in New Zealand, access to eye healthcare is not equitable. Māori and Pasifika people,\(^{(3)}\) ethnic minorities,\(^{(4)}\) other vulnerable groups,\(^{(5)}\) regional New Zealand residents\(^{(6)}\) and those with lower incomes have reduced access to eye healthcare.

As a result, there is a higher rate of visual impairment and blindness in these groups – some of which is irreversible and would have been prevented with timely eye healthcare intervention.\(^{(7)}\) This does not sit well with the societal values we hold dear as a country.

This is not new knowledge. Many individuals and organisations, including the Royal Australian and New Zealand College of Ophthalmologists (RANZCO), have been involved in attempting to address this problem over many years with some successes. But still, considerable inequity remains, mainly due to inherent and worsening shortfalls in the structure and funding of our healthcare system.

In addition to the problem of inequity, the need for eye healthcare services is increasing across all patient groups because of our growing and ageing population, with eye disease more prevalent in older New Zealanders, increased obesity and thus diabetic retinopathy, and the advent of new treatments and technologies, which improve outcomes but require increased servicing and costs to deliver.

As the medical college responsible for the education of ophthalmologists, the doctors who treat the conditions causing permanent visual impairment and loss, RANZCO is ideally placed to lead the way among eye healthcare stakeholders and ensure there is one coherent plan for New Zealand eye healthcare into the future.

Now more than ever, against the backdrop of a global pandemic and the current structural healthcare reforms, we need to come together to ensure equitable eye healthcare services for all New Zealand residents.

RANZCO’s Vision for Aotearoa New Zealand’s Eye Healthcare to 2030 and beyond, lays out the College’s understanding of why the New Zealand healthcare system is failing and what changes are needed to address this problem. It considers how the New Zealand healthcare system needs to change to meet the increasing demand for services over the coming decades. It does also take into account that resources are limited and that some procedures, particularly lifestyle procedures such as refractive surgery, lie outside the scope of the provision of the public health system, as may the provision of other ophthalmologic services in excess of whatever threshold is determined to be that required to provide a high-quality public eye care system.

This is a pivotal opportunity to transform eye healthcare in New Zealand and consolidate the country’s position as a regional leader in sustainable healthcare delivery. We owe this to our patients, our profession, the country and future generations of eye healthcare professionals.
Why Timely and Accessible Eye Healthcare is Important

Why Should We All Care About Eye Health?

And Why is Equitable Access to Timely Quality Eye Healthcare Services a Fundamental Human Right?

→ Vision, as our dominant sense, is one of the cornerstones of our existence, affecting early childhood development, schooling and higher education, relationships, and the ability to work and live independently.


“Vision impairment occurs when an eye condition affects the visual system and one or more of its vision functions. Vision impairment has serious consequences for the individual across the life course. Many of these consequences can, however, be mitigated by timely access to quality eye care and rehabilitation.”

“The vast majority of cases of vision impairment caused by common eye conditions, such as diabetic retinopathy and glaucoma, are avoidable with early detection and timely intervention.”

→ The Economic Impact of Vision Loss in Australia in 2009[9] is one of many reports documenting the economic impact on society of impairment or loss of sight. This remains a topical issue, with Marques et al, noting in their 2021 article Global economic productivity losses from vision impairment and blindness[10] that “blindness and moderate and severe vision impairment are associated with a large economic impact worldwide”.

Our Right to Sight

→ Timely access to sight-saving ophthalmic care is a fundamental human right.

→ More than 80 per cent of permanent vision impairment and blindness is avoidable with early detection and timely intervention.

→ Moderate and severe vision impairment is associated with a large economic impact.

→ There is a substantial body of evidence[11] that visual impairment is a risk factor for and results in a substantially increased incidence of falls[12], hip fractures and mortality. These risks were reversible with treatment (e.g., cataract surgery), demonstrating the potential for considerable health and economic benefits from investment in eye health services to reduce wait times.

→ The recent Lancet Global Health Commission on Global Eye Health[13] highlighted that vision impairment reduces mobility, affects mental wellbeing, exacerbates risk of dementia, increases likelihood of falls and road traffic crashes, increases need for social care and ultimately leads to higher mortality rates. Further, the Commission showed that poor eye health has a negative impact on quality of life, education and work.
Current Challenges

A Lack of Vision for Eye Health in Aotearoa New Zealand

Eye Health Aotearoa (EHA) represents all eye health care stakeholders in New Zealand, including Blind Low Vision NZ, RANZCO, Kāpō Māori Aotearoa (Māori vision impaired), NZAO, the School of Vision Sciences (University), Glaucoma NZ, Macular Degeneration NZ, the Sight Support Trust and Vision Impairment Charitable Trust Aotearoa. In 2022, EHA released a report benchmarking the current state of eye care services using the 2021 revised Eye Care Situation Analysis Tool (ECSAT) developed by the World Health Organization (WHO).[14]

The ECSAT confirmed that equity of care, primary integration of healthcare, community delivery of eye care and integrated services for paediatric, diabetic and refractive eye care all needed major or minor strengthening. Among recommendations to improve service delivery were the initiation of nationally integrated services, development of outreach and mobile services, and increased financial support for correction of refractive error.

A major deficit was identified as a lack of a national eye health plan or a dedicated unit to manage eye health. A national eye health strategy and a group to implement it is of utmost importance. RANZCO’s Vision 2030 and beyond plan provides solutions but implementation will require a commitment to this plan.

Population Factors

The rapidly ageing and growing population (annual 4% growth) increases the probability of developing an eye condition, increasing both the number of patients and the number of follow-ups for longer term conditions, such as macular degeneration, glaucoma and diabetic retinopathy. There is an increasing prevalence of obesity and diabetes within the younger population with higher rates in Māori and Pasifika people.

Newer Treatments

AMD is the most common blinding disease of the elderly and until the early 2000s there was no treatment available for this condition. Intravitreal injections with anti vascular endothelial growth factor (VEGF) agents have revolutionised care for these patients.

Intravitreal anti-VEGF injections are also a treatment for some forms of diabetic retinopathy and the number of patients requiring injections for their diabetic retinopathy is similarly increasing, both as the diabetic population increases and the evidence for the management of diabetic retinopathy demonstrates the efficacy of regular injections.

The injections are usually ongoing on a monthly basis and therefore represent a massive burden on eye health services and on the patients themselves. Travel costs, time, accessibility and lack of resources means some patients fail to adhere to recommended treatment protocols and lose sight as a consequence.

Overdue Follow-ups

There has been a national challenge of ‘over-due’ follow-ups, where most departments found they had large numbers of patients who were not being seen by their recommended follow-up date. This problem probably represents under capacity within departments and remains a major risk.

Inequity of Care

Across the Motu there is significant inequity of care. The Clinical Priority Assessment Criteria (CPAC), for which cataracts are accepted onto the wait list, still varies from 45 to 61 between different parts of the country. Practically, this means that patients with a high CPAC score will have a period with poor vision where they are no longer eligible to drive before their cataract surgery is performed, whereas in areas with a lower score, the risk of loss of license is imminent but has not yet occurred. Timely cataract surgery before vision becomes very poor has been shown to be economically effective and significantly reduces falls and hip fractures.
Similarly, in some areas, because of lack of capacity, there are several conditions that are not seen or treated, while in other centres they are treated causing post-code inequities, particularly for rural patients. For example: non-acute dacryo-cysto-rhinostomy for blocked lacrimal ducts is not performed in many centres and can lead to significant infection if not treated, as well as long term irritation and discomfort for patients. Similarly, national guidelines suggest a patient referred with wet AMD should be seen within two weeks, however, this timeframe is not adhered to in many centres, resulting in significant preventable loss of vision.

Māori and Pasifika have universally poorer eye health outcomes, a particularly egregious situation which is discussed in greater detail in a later section.

Many departments have experienced a reduction in available ophthalmology operating time for surgery.

A shortage of consulting space in existing clinics is a common problem, as is a lack of staff to assess patients. Improving equity by taking services to the community with more local, regional and mobile clinics will help provide alternative spaces but will require additional equipment and staff, particularly optometrists, medical photographers, nurses and technicians.

Inadequate Support for the Visually Impaired

RANZCO shares EHA’s position that with timely access to vision rehabilitation and other supports, people who are blind, deafblind or have low vision can remain independent and continue to be engaged in their communities. Investing in rapid access to comprehensive vision rehabilitation could provide social returns on investment as high as $3 for every $1 invested. Trained rehabilitation professionals work directly with people to assess their needs and develop an individualised program of service. This funding needs to be complemented by strategies to grow the specialist workforce required.

There are approximately 30,000 people who meet Blind Low Vision NZ’s criteria for blindness, a best corrected visual acuity ≤6/24 in the better seeing eye. Within this community lies a range of support needs:

→ Children who are blind or vision impaired face significant challenges on their journey to independence and lifelong success. They and their families need intensive support throughout the early years so they can grow and thrive.

→ For adults who are blind or vision impaired, participation in community life includes participating and succeeding in the workforce. Specialised training in technology can enable them to contribute to the economy alongside their sighted peers.

→ Older adults, including many seniors with age-related vision loss, are focused on achieving or maintaining their desired level of personal safety and independence. Basic skills training that enables them to adapt to vision loss, and opportunities for emotional support and social inclusion are critical.
Six Common Conditions, Which Account for Most Visual Impairment in New Zealand

Excluding cataracts, all are chronic conditions requiring ongoing management

**Cataract**

Cataract is a leading cause of treatable vision loss worldwide. Impaired vision from cataract is caused by progressive clouding of the normally clear lens. Individuals with visually significant cataracts experience decreasing visual acuity, typically with an accompanying loss of contrast sensitivity, difficulties with glare, and altered colour recognition. This disease is most often age-related, with the prevalence increasing rapidly in the later years of life. The definitive treatment for cataracts is the surgical removal of the cataractous material and implantation of a new, synthetic lens.

In New Zealand, surgical treatment of cataract is highly effective and safe, resulting in restored vision. The surgical intervention rate (SIR) in New Zealand for cataracts is lower than almost all other Organisation for Economic Co-operation and Development Countries, ranked 28th out of 32. New Zealand’s public healthcare SIR of 373/100,000 population/year is less than half the rate of the United Kingdom’s NHS public hospital SIR of 782/100,000. Despite a robust public healthcare system accessible to all Kiwis, the country lacks a consistent threshold for access to the public healthcare system.

Currently, patients in the public healthcare system are prioritised based on a CPAC score that ranges from 0 to 100 points. Each of the country’s 20 regional District Health Boards have set their own CPAC threshold based on capacity and demand. Under the current system, to be prioritised for publicly funded cataract surgery a patient needs to score above the CPAC threshold in their region. CPAC scores vary widely around the Motu.

**Age-related Macular Degeneration**

AMD is a degeneration of the macula (central retina) causing impairment of the central (detailed) vision. This results in loss of driving and reading vision and significantly affects quality of life and increases the risks of falls. The prevalence of AMD increases rapidly in later years, affecting 1 in 4 people over the age of 80. Eighty per cent of AMD is the dry form, where there is a gradual degeneration of the macula for which there is no treatment. Twenty per cent of AMD is the wet (neovascular) form, where new vessels grow in the macula which leak and can cause a rapid loss of vision.

Neovascular AMD is a leading cause of irreversible blindness and positive outcomes depend on timely diagnosis and early treatment. Treatment requires prompt, regular and ongoing injections of medication into the eye (intravitreal injection; IVI) often for life. With regular IVI 90 per cent of patients maintain vision and 60 per cent have improved vision. As a result of successful treatment of AMD, registrations with Blind Low Vision NZ have reduced significantly in recent years.

Unfortunately, this treatment is not a one off but usually given as a monthly injection or extended to no longer than three monthly and continued life-long when effective. This means patients who previously might have been seen once in clinic and then referred to the Blind Foundation, now need to return to eye departments for regular injections. This has caused a massive increase of injections that is continuing to increase by 5-10 per cent annually. Due to lack of capacity in many departments, many patients are not receiving these treatments in a timely fashion, which can lead to irreversible loss of vision. In most departments collaborative care with nurses providing injections had enabled departments to accommodate the large increase in appointments but further staffing increases are needed, as well as clinics provided to enable treatments closer to home via local clinics or mobile buses.

Treatments for dry AMD (90% of AMD) are likely to become available in the years ahead and providing these may turn out to be an even greater challenge.
Diabetic Retinopathy
Diabetic retinopathy is the most common microvascular complication of diabetes. The global prevalence of diabetes has tripled in the past 20 years. Early detection and timely treatment of vision-threatening diabetic retinopathy can prevent up to 98 per cent of blindness from this cause.

The Global Burden of Disease Study, Lancet Global Health, 2021 finds that “diabetic retinopathy continues to be an identifiable cause of vision impairment. This is of particular concern in younger, economically active age groups” and goes on to note that “the management of severe diabetic retinopathy requires a disproportionate number of resources”.

The Burden of Diabetes in Australia Report finds that “Given the strong evidence that the development and progression of complications can be prevented, improved care and management of people with diabetes could substantially reduce this burden.”

In Aotearoa New Zealand it is believed that only 50 per cent of diabetics currently have regular retinal surveillance. We need a better system for identifying people with diabetes and ensuring they have regular eye checks. RANZCO advocates for a national register of people with diabetes, which will enable a greater number to be screened for complications of the disease.

Glaucoma
The Commission on Global Eye Health: vision beyond 2020 notes “Glaucoma is the second leading cause of blindness (age-standardised prevalence), which results in substantial disability before blindness, yet remains undertreated globally. In most prevalence surveys from high-income countries, less than half of all detected glaucoma was previously diagnosed”.

Detection and management of glaucoma present significant challenges:

→ There is a need to provide effective treatments that prevent glaucoma progression—by reducing intraocular pressure—but because of its chronic nature and complexity of management, glaucoma lacks a one-stop solution such as cataract surgery.

→ Individuals need ongoing monitoring to determine whether their glaucoma is progressing.

Keratoconus
Keratoconus is a progressive corneal disease that typically starts during adolescence. Without treatment it can cause severe vision loss and may require corneal transplant surgery. Keratoconus rates in Aotearoa are higher than in other parts of the world. New Zealand has the highest proportion of corneal transplantation for keratoconus (41.1% to 45.6%) compared with other Organisation for Economic Co-operation and Development Countries.

Recent studies have supported the clinical impression that Māori and Pasifika are more frequently affected and have more severe disease. The Wellington Keratoconus study assessed 1916 adolescents in Years 9-11 for keratoconus. This study found keratoconus affected 1 in 191 (0.525%) adolescents studied and 1 in 45 (2.25%) Māori adolescents.

Keratoconus is more common in trisomy 21/Down syndrome and it should be routine now for these children to have ongoing screening. There are estimated to be 3065 people with T21 in New Zealand with about 40 new cases per year, so the screening burden is not great.

Visual impairment from keratoconus is potentially avoidable as early detection provides the opportunity to offer corneal cross-linking therapy. Corneal cross-linking therapy can prevent the progression of keratoconus, thereby decreasing the number of people requiring corneal grafts for visual rehabilitation. Early detection of keratoconus and timely access to this treatment should allow more people with keratoconus to maintain normal vision either unaided or with spectacle correction alone. This would drastically reduce the visual morbidity currently associated with this disease.
Uncorrected Refractive Error

Refractive error and cataract are the two leading causes of vision impairment worldwide.\[8\] Refractive error includes myopia (short-sight), hyperopia (long-sight), astigmatism and presbyopia (loss of reading vision from the mid-40s).

In the absence of a National Eye Health Survey, we do not have accurate data on the prevalence of uncorrected refractive error in Aotearoa New Zealand. In an Australian survey 11 per cent of non-Indigenous and 14.5 per cent of Indigenous people had severe uncorrected refractive error, meaning they had vision below driving level that could, with glasses, be improved at least two lines on the vision chart.\[33\] Those who were Indigenous, older, male and geographically isolated were at greater risk.

**Myopia** is the most common ocular disorder worldwide; it is the leading cause of visual impairment in children and its incidence is increasing rapidly.\[34, 35\] In 2010, an estimated 1.9 billion people (27% of the world’s population) were myopic and 70 million of them (2.8%) had high myopia. These numbers are projected to rise to 52 per cent and 10 per cent, respectively, by 2050.\[34\] High myopes are at risk of developing complications related to their myopia (pathologic myopia (prevalence 0.9%–3.1%)) which is particularly devastating.\[36, 37\] It confers an increased risk of cataract development, retinal detachment, glaucoma and even blindness.

Myopia worsens progressively over time, usually beginning in the early-mid teens (but sometimes under 5) and generally stabilises in the 20s.\[38\] Causative factors include genetics, reduced exposure to natural light and increased near vision activity.\[38\] There has been a quantifiable increase in myopia during COVID, likely due to increased time inside and in front of devices.\[39\]

Preventative lifestyle changes among children, including increased time spent outdoors and decreased near-work activities, can slow the progression of myopia and therefore reduce the risk of high myopia and its complications.\[39, 40\] Dilute atropine eyedrops\[40, 41\] and specialised spectacles\[40, 41\] have proven benefits in lessening myopic progression.

**Hyperopia** and **astigmatism** are usually inborn errors and if visually significant will be detected at the Well Child preschool vision screening test. It is important that suitable secondary screening services are available for the assessment and treatment of these children. The Greenlane Ophthalmology Department has been running a collaborative care orthoptic-optometry clinic under the guidance of its paediatric ophthalmologist for 25 years and the result has been that over 90 per cent of these children have not required a consultant ophthalmologist appointment. Similar clinics should be established elsewhere.

Correcting refractive error in older children relies on its detection. A Well Child assessment is undertaken in year 7 (age 11-12), mainly to detect early myopia but later onset disease will be missed.

Hamm et al. reported that fewer than 1 in 5 Pasifika children (15.2%) and teens (18%) had received an eye check at least once or within the prior two years.\[42\] Refractive correction was needed in 3.6 per cent and 14.3 per cent respectively, suggesting improved access could have corrected much of this visual impairment.\[43\]

Access to a funded community-based eye health assessment for older children would lessen the negative impact of poor eyesight on adolescents’ education.

**Presbyopia** is an inevitable consequence of age, affecting most people from their mid-40s. It is corrected with reading glasses for those with good distance vision and with bifocal or progressive glasses for those who also have other refractive errors. Cheap over-the-counter reading glasses are suitable for most people.

Providing optometric care for people either via subsidised visits or through hospital employed optometrists as in the collaborative care model above would help reduce the burden of uncorrected refractive error.
RANZCO’s Vision

The aim of RANZCO’s Vision 2030 and beyond plan is to create a national structure for eye health. This will help remove barriers to care in a seamless, future-proofed and sustainable way, and put us in a position to deliver the range of services and care our population requires. A national approach presents an opportunity to improve ophthalmology service delivery by improving waitlist management efficiency, increasing equity, shortening waiting times and enhancing the patient experience. This will help us align with the Pae Ora and Ola Manuia strategic frameworks, and Māori and Pasifika models of health, e.g., Te Whare Tapa Wha and Fonofale.

**Principle 1**
To provide a structure that creates trust and shared decision-making, ensuring patients and whānau can access the very best eye healthcare aligned to their values, needs and aspirations.

**Principle 2**
To achieve equitable outcomes for tangata whenua, and ensure that Māori world views, values and wairuatanga (spirituality) are present in our work.

**Principle 3**
To ensure eye healthcare delivery is sustainable and future-proofed, enabled by innovation and appropriate technology and IT systems, to better care for our community and build trust with our patients.
A National Eye Health Service

In 2022 EHA published an ECSAT report on the state of eye health care in Aotearoa New Zealand. An ECSAT follows a WHO defined process and is a way of identifying strengths and weaknesses in a health system.[14] The ECSAT report identified a lack of governance and the absence of a coordinated national eye health care plan as major weaknesses. EHA and RANZCO believe that integral to addressing inequities in the existing system is the establishment of a national governance unit to lead the implementation and, eventually, the delivery of ophthalmic services nationwide.

RANZCO proposes a national eye service to provide leadership and governance for all ophthalmology care across the country.

The functions of the national service would be to:

→ Develop a national eye health plan.

→ Provide governance, support and review of national and regional initiatives to ensure delivery of this plan.

→ Ensure activities align with any Te Whatu Ora and Te Aka Whai Ora framework.

→ Link with other Te Whatu Ora networks and workstreams as required.

→ Co-ordinate between regions and monitor their provision of services.

→ Ensure geographical equity of care e.g. work towards a single cataract CPAC score across the country and ensure CPAC scoring system is equitable.

→ Ensure equity for disadvantaged populations, particularly Māori and Pasifika.

→ Consider regional and national data to report on outcomes to ensure these aims are met and equity targets are achieved.

→ Balance the equity and clinical requirements of the service with the need for sustainable services.

→ Recommend solutions where regional recommendations are not aligned.

→ Promote effective communication and collaboration among all key stakeholders.

→ Develop, in collaboration with the regions, care pathways that ensure sustainable use of resources and introduce innovative technology or pharmaceuticals as appropriate.
Six Key Areas of Focus

Service Delivery
Māori and Pasifika Health Care
Preventative Healthcare
Workforce and Training
Global Eye Health
Sustainability
Focus on Service Delivery

The Current State of Eye Health Service Delivery

Ophthalmic services are mostly delivered from outpatient clinics and theatres within hospital grounds across the country. In general, areas remote from a hospital are also remote from eye care. This means that many Māori and rural populations live far from eye care. To ensure eye care is available to all our population, new models of care such as mobile delivery are required.

Ophthalmology is mostly outpatient care; approximately one third of patients require surgery (most commonly day cases) and the rest require ongoing medical care. Chronic eye conditions include diabetic retinopathy, AMD and glaucoma. Ophthalmology embraces more than 12 subspecialties including: paediatric ophthalmology, oculo-plastics, neuro ophthalmology, ocular oncology, vitreo-retinal diseases, strabismus, glaucoma, uveitis, genetics, anterior segment, cataract and acute services. Not every department is able to provide all these services and patients may be referred to larger centres for tertiary or quaternary care. Current care is fragmented and access varies depending on locality.

Demand for ophthalmic services has been growing significantly faster than population growth due to the aging population as well as the increasing number of people with diabetes in our communities. A consequence of the increasing demand is insufficient resource within eye departments. This is demonstrated by increasing numbers of overdue follow up patients and long delays for initial appointments. Vulnerable populations and Māori are facing the brunt of these service gaps and delays, which are contributing to poorer outcomes for these groups.

Current barriers to equitable care:

→ Different levels of access available from different services across the Motu.
→ Concentration of services within large metro areas (particularly Auckland) with lack of service in rural and remote areas.
→ Inability to recruit qualified staff within subspecialties and in particular workforces.
→ Lack of support for patients and whanau to travel to appointments.
→ Differential of surgical eligibility and waitlist guidelines between localities.
→ Differential between hospitals and services of data collection and reporting.
→ Lack of unified electronic medical record and image viewing systems.

We seek to remove these barriers and align the principles of this proposal, with key areas of change identified as:

→ Māori will have a greater role in designing health services to ensure our health services work for Māori, and people accessing kaupapa Māori health services.
→ People will be able to get the healthcare they need closer to home. Local imaging centres or mobile services will be available.
→ High quality emergency or specialist care will be available when people need it.
→ Digital technology will be used more and in better ways, to provide people with services in their homes and local communities.
→ We will plan for our future health workforce requirements and provide for the training and development so our healthcare workers will always have the skills they need.
**Proposed Structure**

The National Service would oversee both those programs delivered nationally and those delivered regionally.

**Regional services**

→ Delivering ophthalmology care under the National Service will be four Regional Eye Services based on the four Te Whatu Ora regions. These services will combine current eye departments and develop and invest in facilities (both mobile and static) to ensure equitable delivery of care across each region.

→ Currently, different regions are at different stages of networking/forming a unified service. It is recognised that developing a network on the pathway to become a regional service will take time. Each region will be a multi-site distributed service with integrated mobile units. The current eye outpatient clinics and theatres will be maintained, and smaller 'imaging' clinics opened in areas of need to reduce travelling requirements for patients and enable care closer to home. These 'imaging' clinics provide a base for ophthalmic technician staff or optometrists to see new patients or follow up patients with a view to determine if they need more intensive care or treatment. They can also be used as a site for a visiting ophthalmologist. These imaging sites and the mobile unit can be used for [diabetic retinal screening](#) as well.

**National subspecialty services**

Some very specialised areas of ophthalmology (quaternary services) are best suited to being part of a national service, as the number of experts in these areas is limited and to ensure that mobile patients are adequately cared for as they move within the country. They are currently provided for on a national basis so can immediately be brought under the national umbrella. These services are:

a. **Retinopathy of prematurity**

ROP management involves screening, review and, in some cases, treatment of premature babies to monitor the development of their retina from 30 to 40 weeks gestation. Babies who develop ROP are at risk of blindness and treatment prevents this. While few babies develop aggressive ROP, if they do and it is missed, they face a lifetime of blindness and for this reason ROP screening is an extremely effective ophthalmic intervention. At present each locality has a different screening practice but work is ongoing to ensure that every neonatal intensive care unit has access to a camera which will image babies and have these images uploaded to a national viewing platform.

The Neonatal Retinopathy Screening National Oversight Group will develop, coordinate, monitor and guide the national screening program. In the long term this group will report to the National Ophthalmology Network.

b. **Ocular oncology service**

There are only two specialists in the country who have ocular oncology fellowship training and so this service is best managed as a tertiary or quaternary service with follow up in peripheral centres if appropriate imaging and image sharing is available.

c. **Retinoblastoma service**

Retinoblastoma is a rare childhood tumour that requires conjoint management by ophthalmology and paediatric oncology. These children require regular examination under anaesthesia. Currently this is offered only in Auckland and Christchurch and it would be ideal to maintain this long term.

d. **Genetic services**

Genetic services are also a very specialised area which require significant time input and specialised testing. Most referrals are tertiary or quaternary and may require review in a specialised centre with ongoing shared care closer to home. See [RANZCO’s guidelines for the assessment and management of patients with inherited retinal diseases (IRD)](#).
Specific Recommendations for the Six Conditions Responsible for Most of the Vision Loss in New Zealand

Cataract
In order to create a more equitable measure of patient priority and remove disparities related to where a patient lives, RANZCO is calling on the Minister of Health to set a nationwide CPAC score of 46. Even bringing our national CPAC to 46 would equate to a level of access equivalent to the poorest 4 per cent of units in the United Kingdom.

Equitable nationwide access will particularly benefit Māori and Pasifika patients who typically present with worse vision at an earlier age than other ethnic groups. There are very real benefits to timely cataract surgery, particularly for younger, often working-age Māori and Pasifika. Reducing the threshold for toric (astigmatism correcting) intraocular lenses would reduce the requirement for distance vision glasses and lessen the ongoing financial burden for patients. Anyone with more than 1 dioptre of astigmatism should be able to receive a toric intraocular lens. Many eye departments have insufficient access to theatre space. RANZCO calls for increase of theatre time for ophthalmology departments via all available options including new builds and wet lease.

Age-related macular degeneration
New Zealand has been in the forefront when it comes to managing AMD. Collaborative care arrangements mean nurses currently give 90 per cent of the intravitreal injections in most public hospitals. Access needs to be improved as getting to the clinic on a monthly basis can be challenging for some patients. Care needs to be provided closer to home with more local and mobile clinics. These will require IT systems that allow an offsite ophthalmologist to review the patient’s imaging and ensure appropriate treatment decisions are made.

Priority should be given to utilising newer anti-VEGF regimens that require less frequent treatments. The pending arrival of treatments for dry AMD make it even more critical that our processes are streamlined, access is diversified and robust collaborative care arrangements are put in place.

Diabetic retinal surveillance
At present diabetic retinal screening is managed in multiple areas with many different models. This means that the population of people with diabetes are poorly served and the target of 80 per cent screening of this population is rarely met. In all places, the clinical lead of the service is an ophthalmologist, but the management varies between locations.

In light of future trends, with the possibility of diagnosis of other eye conditions by artificial intelligence (AI) and imaging, it is important that two separate eye health screening systems are not developed but there is instead one network. In the future it is likely there will be a network that will enable total eye health checks for at risk populations for a number of eye conditions. Current diabetic screening locations can be integrated into this model and be expanded to imaging clinics in peripheral areas and mobile imaging services.

To enable a networked approach to eye health checks the first step will be to develop a national diabetic screening program. This will require a national register of people with diabetes being managed by community screening services given their expertise in this area. Capturing patients could be achieved via monitoring of HBA1C blood results, diabetic medications prescriptions and general practitioner (GP) and specialist referrals.

The assessment and treatment would be overseen by the regional ophthalmology services utilising the outreach/local and mobile clinics. With modern retinal cameras and cloud-based image storing there is wide scope to place this technology in local communities at places such as pharmacies, marae, community centres and other places, which will make eye health checks much more accessible to all.
A suitable IT system is critical to ensuring the results and reports can be uploaded and made accessible to all relevant parties, including GPs and specialists.

**Glaucoma**

Glaucoma is most commonly detected by optometrists during a routine eye check. Timely, affordable and convenient access to secondary assessment is needed to filter out those who require higher level care under an ophthalmologist versus those who can be monitored in the community by optometrists.

Collaborative care arrangements will be critical to ensuring we can meet the burden of increasing glaucoma assessments as our population ages. Expanding ‘closer to home’ local and mobile clinics utilising shared care arrangements involving both optometric and ophthalmic expertise could be a cost efficient and effective solution. IT access will be critical to allow offsite review of remote patients.

**Keratoconus**

As keratoconus is prevalent, particularly among young Māori and Pasifika people, and there is a safe and effective treatment to stop progression of the disease (i.e. cross-linking) we need to be more proactive about identifying those people with early disease suitable for treatment.

Detection with corneal topography testing needs to be more widely accessible. An awareness campaign for young people (perhaps linked to applications for a driver’s license) could encourage assessment with an appropriately equipped community optometrist. Subsidised checks of at-risk teens in local and visiting mobile clinics (at schools, marae and churches) would help with accessibility. Teens aged 15 or under could have a funded assessment via the Enable subsidy.

Ongoing assessment of young people with trisomy 21/Down syndrome should be offered by hospitals within departments and local or mobile clinics.

**Uncorrected refractive error**

Optometry services within Aotearoa are mostly delivered by commercial ‘high-street’ operations, owned either by large chains or local owner/operators. The profit incentive means optometry provision is poor in areas of need, particularly remote rural areas, and low decile suburbs.

 Provision of optometry care can be enhanced by employing optometrists within the public health system and many larger ophthalmology departments already do this. RANZCO supports further provision of such service by utilising optometrists in local or mobile facilities in underserved areas like Te Tai Tokerau and Tairawhiti.

Eye Health Aotearoa has called for subsidised biennial eye health checks. RANZCO supports this for those with a community services card who are aged 65 and over and would recommend that for Māori and Pasifika this be from age 55 in recognition of their earlier onset of diseases such as cataract and diabetic retinopathy.

Detecting myopia developing in children beyond the year 7 check requires another assessment, ideally at year 10-11 and a campaign to encourage this would be appropriate. For those with a community services card and eligible for Enable funding this could be done before age 15 and could also be used to check for keratoconus in those at-risk populations.

We recommend a public awareness campaign explaining the lifestyle changes that can lessen myopic progression. Such campaigns are undertaken elsewhere, in Singapore for example. This would help reduce the long-term burden of myopia.

PHARMAC funding of Atropine eyedrops for progressive myopia should be introduced to help stem the tide of increasing myopia affecting our young people. Much like Enable funding for spectacles, strict parameters could be placed around defining the rates of myopia increase and axial length elongation that would allow funded access. While it could be means tested, RANZCO feels it should be freely available for everyone.
Monitoring of change over time is important for these patients and is feasible in the public system only if we are able to create dedicated optometry-led myopia clinics. Children could be seen in these, by the mobile clinics or in community optometry practices. We would recommend a means-tested subsidy for these assessments.

We support the NZAO’s recommendation for Enable funding of Miyosmart and Stellest myopia prevention spectacles. These are the first glasses to have convincing effectivity, so means-tested access via Enable funding for those with appropriate documentation of progression would be beneficial. It would also likely be cost effective with fewer changes of glasses over time.

**Data**

Each regional service will need access to local data of outcomes and service to ensure care is being delivered in a timely and equitable way. Appropriate, consistent data recording, collection and analysis from each region will be required for national reporting of outcomes.

**IT Issues and Future Technologies**

To enable both regional services and a national network it will be important to use a national electronic medical record with audit and reporting capabilities. Similarly, ophthalmic images of all sorts will need a national platform to enable storage, retrieval and remote viewing, as well as enabling mobile and local services to take images that can be shared or reported elsewhere.

With the advent of machine learning and AI there are already several systems that use AI to diagnose and report diabetic retinopathy images. It is likely that similar systems will be developed within the next few years, which will enable AI monitoring and diagnosis of other eye conditions such as glaucoma and macular degeneration. It is important that all regional networks and services develop in a way that recognises this possibility and will make it easy to roll out these technologies.

**Shared/Collaborative Care**

There are a number of areas around the motu where ophthalmologists and optometrists manage patients jointly in a ‘shared care’/co-management model. For example: glaucoma patients require regular follow-up with optical coherence tomography (OCT) and visual field (VF) testing.

RANZCO has considered a number of co-management models involving optometrists, orthoptists, nurses and GPs and believes many of these could be expanded. Using other members of the eye care workforce, with appropriate oversight and support from ophthalmologists, offers the potential for more cost-effective care delivered closer to home. As an example, hospital-employed optometrists could contribute to the assessment of routine glaucoma, diabetic and AMD patients in hospitals and, via peripheral and mobile clinics, provide refractive and eye health screening to currently underserved regional areas.

Appendix A lists the numerous collaborative care models for glaucoma, diabetic retinopathy, macular degeneration and intravitreal injections that are currently used or would be considered by ophthalmology departments.

There is a worldwide shortage of paediatric ophthalmologists and therefore difficulty providing adequate services to paediatric patients. Orthoptists are a highly trained allied health group who can support paediatric services with strabismus assessment, management of amblyopia and with secondary screening of children with poor vision in conjunction with optometrists. Orthoptists and orthoptic/optometry clinics should be available in all departments with outreach clinics to smaller centres. As there is a national shortage of orthoptists, regional models of care enable better management of outreach programs and ensure coverage of the region by services.
Mobile Services
Some areas with very remote and small communities may be best served by mobile units. One such unit is being developed in Te Tai Tokerau. Learnings from one region should be adopted by others if similar services are being set up and appropriate IT support will be vital. Financial assistance will be important to implement these in some regions. We would recommend that mobile units be supported for Te Tai Tokerau, Tairawhiti and Central Otago in the first instance. These locations are considered areas of greatest need in relation to inequities and poorer health outcomes. Mobile units will also assist with the National Eye Health Survey and could be commissioned for the survey and continue subsequently to provide local services for patients in these areas.

Kāwanatanga (Partnership)
Māori will be involved in governance at all levels of the structure and a number of measures have been taken to try to ensure that a Māori voice is heard in these plans. It is expected there will be Māori and Pasifika representatives in each of the governance groups at the regional and national level.

RANZCO signed a Tatau Pounamu/memorandum of understanding with Kāpō Māori Aotearoa in July 2022 to develop a Te Tiriti o Waitangi Action Plan focussed on Māori eye health care and this plan will contribute significantly to the final shape of regional services.

RANZCO has made it a priority to support the selection of Māori and Pasifika trainees to ensure better representation within the ophthalmology workforce. The long-term goal is to have a proportion of Māori and Pasifika ophthalmologists to match the population.

Ophthalmology allied health have also started to develop a national plan of training and career development and within that there is a focus on ensuring there is diversity in the workforce and recruitment.

Improved Support for the Visually Impaired
Vision rehabilitation has multiple benefits including:

- Helps to avoid depression, anxiety and improves well-being;
- Maximises remaining vision;
- Enables individuals to live independently in their homes;
- Enables physical activity and active community participation; and
- Decreases the risk of falls and reduces social isolation.

Authors of an independent 2019 policy and advice report advised that “expanding Blind Low Vision NZ service provision to all those eligible in 2024, and accounting for cost pressures, would require additional funding of $14.0 million.” The same report lays out three different funding models that would both provide the services and train the providers.

A National Eye Health Survey
There is a paucity of data in Aotearoa New Zealand regarding the prevalence of common vision problems including uncorrected refractive error, glaucoma, diabetic eye disease, macular degeneration and keratoconus. We don't know where the areas of greatest need are in the country and therefore where resources need to be focused. The ECSAT score for both collection of health systems data on availability and utilisation of eye care services and on outcomes of eye care services were poor at level 2 – “needs major strengthening”. By collecting data via an eye health survey, we could significantly lift our performance compared to other developed countries.

EHA is a group representing the key eye health stakeholders including Blind Low Vision NZ, RANZCO (ophthalmologists), NZAO (optometrists), Kāpō Māori Aotearoa (Māori visually impaired), Macular Degeneration New Zealand, Glaucoma New Zealand, DNZ Diabetes New Zealand and Vision
Impairment Charitable Trust Aotearoa and the School of Optometry and Vision Science.

EHA has established a working group to design and implement a National Eye Health Survey to obtain this data. New Zealand has never had one before while Australia is currently running its second survey in eight years. RANZCO supports EHA in the call to the government to fund a National Eye Health Survey.

The cost is estimated at $6M and funding will cover the cost of three vans equipped with the appropriate screening equipment (retinal camera, OCT, VF, topographer, autorefractor, lensometer, intraocular pressure tools and slit lamp), which can be used initially for the survey and then provide long term mobile screening services in Te Tai Tokerau, Tairawhiti and Central Otago. See Appendix B.
Focus on Workforce and Training

The Ophthalmology Workforce of the Future is Under Threat

Profile of the New Zealand Ophthalmology Workforce
There are 174 ophthalmologists working in New Zealand, including 137 RANZCO members and 37 non-members (i.e. have trained elsewhere), most of whom (30) access CPD via RANZCO. In addition, there are 30 trainees. Of the total fellows, 21 per cent are women, the average age is 53 years, four are Māori and two are Pasifika. There are three Māori trainees and one trainee is Pasifika.
RANZCO is working to address these imbalances by actively recruiting Māori and Pasifika trainees and the proportion of new trainees is now 55 per cent women.
Most fellows and trainees work fulltime, with the last workforce survey finding the average number of hours per week was 44. Half of the surveyed ophthalmologists indicated that they regularly (i.e., more than once a month) worked in a regional/remote location which was defined as being outside of Auckland, Wellington and Christchurch urban areas. Just over a third (36.9%) of Branch Fellows' work hours were carried out at these regional/remote locations.
There are 3.4 ophthalmologists for every 100,000 people in Aotearoa New Zealand. This is at the bottom end of the range compared to countries in Europe, less than the number in Australia (4 for every 100,000) and significantly less than the USA (5.7 per 100,000 people). This suggests that New Zealand has insufficient ophthalmologists for the country's population. Furthermore, the distribution of ophthalmologists is uneven, with rural and small towns having fewer doctors and having more difficulty recruiting.

Staff Recruitment and Retention
Staff recruitment and retention is a problem across the country but particularly in regional areas. We currently do not train and retain enough local ophthalmologists to maintain our workforce. We are dependent on overseas trained colleagues. Twenty-one per cent (36/174) of the New Zealand ophthalmic workforce is overseas trained and 20 per cent of those we train do not return to New Zealand. If we could retain more, we would be less dependent on international medical graduates.
Salaries for public hospital ophthalmologists have fallen well behind international norms. A recent advertisement for an ophthalmologist in a public hospital in Townsville, Australia offered a remuneration package of up to A$486,763 p.a. In New Zealand salaries reach a maximum of $250,000 after 15 years. This is one reason we lose many of our doctors to Australia and other jurisdictions.
Across New Zealand there is a shortage of orthoptists and there is variability in eye technicians' skills and experience. Orthoptists are trained to assess vision and alignment issues and manage amblyopia in children and are critical for paediatric ophthalmology services. They are recruited from overseas as there is no local training program. Given their specialised skillset they are now on the Green List/Straight to Residence Pathway for immigration, but retention is a problem because their salary in New Zealand is much poorer than elsewhere.
Ophthalmic technicians are trained within departments and serve a vital role in assessing vision and running the various tests required before a patient sees the doctor. A nationally approved, decentralised training program offered virtually in multiple departments would provide a more secure pathway and ensure appropriate skills are developed where they are required.
Optometrists are increasingly utilised within ophthalmology departments for collaborative glaucoma, diabetic and macular degeneration clinics, for paediatric refractions and specialised contact lens management. There is scope for increasing their role in these settings and RANZCO supports a variety of models to achieve this. Dedicated funding support for training and employment will be necessary to make this work. Our collaborative care surveys have identified that the greatest barriers to departments utilising optometric collaborative care more extensively are insufficient funding, lack of space and lack of equipment.

Continuing and expanding the pool of all disciplines of staff across regions is needed to provide more flexibility in resource allocation in line with demand. This is essential if we are to expand the number of virtual (test-based), community-based and mobile clinics to help ensure uniformity and equity of access to care.

Training

Ophthalmologists

New Zealand currently has 30 training positions of which 20 are funded by the government. The remainder source funding from local health authorities and ophthalmology private practices; while such arrangements can work well there is always uncertainty about their ongoing viability and funding issues make it challenging to create additional posts.

RANZCO’s trainees are qualified doctors with at least two years of hospital experience when they apply for the program. There is a binational selection program with RANZCO overseeing a short-listing of applicants based on professional, medical and academic attributes, with additional selection points for Māori and Pasifika and those from regional backgrounds. A New Zealand selection committee then selects from that shortlist those most suitable for training in this country.

Trainees undertake five years of ophthalmology training with a focus on becoming competent comprehensive ophthalmologists. Trainees rotate through departments around the country spending at least six months in a regional area.

A typical ophthalmology trainee accrues over 10,000 hours of clinical experience and has completed over 300 cataract surgeries as well as many other operations by the end of their five years of training. Training is provided by ophthalmologists in public departments acting as tutors and supervisors and trainees undertake defined assessments over time to ensure their competency.

Once they graduate most will spend one to two years overseas gaining additional experience and often sub-specialising as, for example, a glaucoma or retina specialist.

Twenty per cent of those we train do not return to New Zealand and the majority state that reimbursement is a major factor in that decision. Another is a lack of certainty about the availability of public hospital appointments. This highlights there is a lack of long-term recruitment planning to be addressed.

Increasing the number of ophthalmologists is a priority, particularly for regional areas. The following strategies should be considered:

1. Making regional work more attractive by improving the support for their departments. The regional model should assist with larger centres providing increased sub-specialty outreach clinics, providing remote support for consultants on leave, improving training opportunities for all staff.
2. Support certainty of training posts with centralised funding.
3. Training requires trainers with adequate clinic and theatre space to support training. Lack of physical space is a limiting factor for many departments.
4. Allowing departments to make longer term commitments to trainees who want to return to New Zealand. At the moment, human resources policy and a lack of certainty about available full-time equivalents makes this difficult.
5. Identifying early in training those who want a regional post long term and allocating them to more regional rotations during training.
6. Improving reimbursement for public hospital ophthalmologists to encourage them to stay in New Zealand and in the public system.
Ophthalmic technicians

We recommend establishing a nationally approved and funded training program for ophthalmic technicians that can be delivered within public ophthalmology departments. It could be a combination of remote learning and clinic-based experience with standardised assessments. This would be a vocational course that does not require an undergraduate degree. Training should be accessible ‘in place’ and not require moving to a specific city.
Focus on Māori and Pasifika Healthcare

Background

RANZCO recognises Māori as the Tangata Whenua of Aotearoa New Zealand and Te Tiriti o Waitangi as Aotearoa’s founding document, with its associated responsibilities and obligations.

In 2021, the RANZCO Board endorsed the five Te Tiriti principles relevant to the health sector, adapted from recommendations made by the Waitangi Tribunal in Stage one of its Health Services and Outcomes Kaupapa Inquiry WAI 2575. The Ministry of Health articulates those principles as:

→ **Tino rangatiratanga:** The guarantee of tino rangatiratanga, which provides for Māori self-determination and mana Motuhake in the design, delivery and monitoring of health and disability services.

→ **Equity:** The principle of equity, which requires the Crown to commit to achieving equitable health outcomes for Māori.

→ **Active protection:** The principle of active protection, which requires the Crown to act, to the fullest extent practicable, to achieve equitable health outcomes for Māori. This includes ensuring that it, its agents and its Treaty partner are well informed on the extent and nature of both Māori health outcomes and efforts to achieve Māori health equity.

→ **Options:** The principle of options which requires the Crown to provide for and properly resource kaupapa Māori health and disability services. Furthermore, the Crown is obliged to ensure that all health and disability services are provided in a culturally appropriate way that recognises and supports the expression of Hauora Māori models of care.

→ **Partnership:** The principle of partnership which requires the Crown and Māori to work in partnership in the governance, design, delivery and monitoring of health and disability services. Māori must be co-designers, with the Crown, of the primary health system for Māori.

Those principles have guided and will continue to guide RANZCO’s work towards achieving equitable health outcomes for Māori in Aotearoa New Zealand.

RANZCO welcomed the health reforms that saw the establishment of the Māori Health Authority. We are prepared to work with the government and relevant stakeholders to develop strategies and policies which will drive better health outcomes for Māori.

Current Issues

Inequity in New Zealand has been entrenched through colonisation, the ramifications of which have been passed to current generations. Colonisation is often considered to be a historical event rather than an ongoing process that is negatively affecting the health of Indigenous people.

Māori people have been politically, economically and socially undermined, leading to lower income and life expectancy, poorer education and health outcomes, and stigmatisation within health care, among other consequences.

Using ECSAT to compare our current policy and implementation of equitable health care to WHO standards, the current score for equity of eye care services coverage across disadvantaged population groups in New Zealand is level 2 – requires major strengthening.
Diabetic retinopathy is a leading cause of blindness and sight loss in New Zealanders under 50. Māori adults were about 1.5 times as likely as non-Māori adults to have been diagnosed with diabetes after 25 years of age in 2013/14; that is, the self-reported prevalence of type 2 diabetes for Māori was about 50 per cent higher than that for non-Māori (rate ratio 1.49, confidence interval (CI) 1.32–1.69).

At present, diabetic retinal screening across New Zealand is failing many patients because they are not engaged in the screening process. Patients are also losing vision because early treatment was not available to them as they were not identified as needing it. This particularly affects Māori and Pasifika people.

There was a lower incidence of strabismus surgery performed in Māori, compared to non-Māori. Māori presented on average 10 years earlier for cataract surgery than other ethnic groups with significantly worse visual acuity. Estimates suggest Māori under the age of 75 are at least twice as likely as non-Māori to have vision loss from cataract, diabetic retinopathy, refractive error, age-related macular degeneration or glaucoma.

Māori often experience slower pathways through healthcare and are less likely to visit their optometrist than non-Māori (7.7% vs 12.0%).

More culturally appropriate services with expedited pathways are essential in the New Zealand public health system to effectively address inequities in health for Māori. Development of frameworks, accreditation curricula and policy that focus on culturally safe clinical practice are ongoing. By enhancing patient experiences within ocular health services, we have an opportunity to contribute to healing the relationship between the Indigenous population of Aotearoa and the New Zealand health system, to enhance the vision of Māori and begin addressing ethnic ocular health inequities.

Te Tiriti o Waitangi Action Plan
RANZCO embarked on the journey to develop a Te Tiriti o Waitangi Action Plan focused on eye health care for Māori populations. Underpinning this work are three guiding principles:

- Genuine partnership with Māori.
- Cultural competence.
- Improving Māori representation within the ophthalmology workforce.

The Te Tiriti o Waitangi Action Plan has been developed in partnership with Kāpō Māori Aotearoa (the group representing Māori visually impaired) and establishes several strategic goals with specific actions and deliverables outlined to achieve the goals.

There are five main kaupapa:

a) Principles and governance;
b) Workforce;
c) Data;
d) Cultural safety; and
e) Equitable eye health outcomes.

Refer to Appendix C.

Pasifika Eye Health Action Plan
RANZCO has developed a Pasifika Eye Health Action Plan in partnership with the Pasifika Medical Association. Like the Te Tiriti o Waitangi Action Plan, it sets out specific goals and actions for which RANZCO will be accountable.

Refer to Appendix D.
Focus on Global Eye Health

New Zealand has good relationships with countries in the South Pacific region. RANZCO has a long history of providing support to leadership at a local and international level in eye care and blindness prevention, prioritising capacity building, infrastructure and leadership development in the South Pacific region and beyond. RANZCO has collaborated with international governmental and non-governmental partner organisations in the health and development sector to achieve their aims in this regard. Our work included raising the standard of eye health education by facilitating teaching, access to conferences and examinations, and research, observership and fellowship opportunities.

RANZCO is well situated to assist with the relatively small but high-profile eye health sector. Restoring sight to a blind person may be considered the high point of global health diplomacy given its remarkable impact on the life of the patient and modest cost to the donor.

The Global Prevalence and Distribution of Blindness and Visual Impairment

The Lancet Global Health Commission on Global Eye Health Report[62] revealed that 1.1 billion people were living with untreated vision impairment in 2020, and this number is expected to grow to 1.8 billion by 2050. Despite progress in recent years against certain infectious diseases, millions continue to live with impaired vision and blindness unnecessarily. Ninety per cent of people living with these conditions live in low and middle-income countries, and vision impairment disproportionately affects women, rural populations and ethnic minority groups.

Improvements in Eye Healthcare Contribute to Sustainable Development

Increasing the provision and quality of eye health services globally will contribute to the United Nations Sustainable Development Goals (SDG), including those related to overall health, poverty, economic productivity, education and equality.[62]

The International Agency for Prevention of Blindness has outlined the direct connections between eye health services and the SDGs that were included in the findings of the Lancet Global Health Commission on Global Eye Health.[62, 63]

“Improved eye health reduces poverty (SDG 1) and improves productivity (SDG 8)

Several studies have shown increases in productivity, household expenditure and household income following the introduction of eye health interventions. For example, in the Philippines, household per capita expenditure increased by 88% over one year in people who underwent cataract surgery.

Improved eye health advances general health and well-being (SDG 3)

Reviews complementary to this study have shown associations between vision impairment and mortality, falls, quality of life, dementia, mental health, cardiovascular disease, respiratory disease and cancer.

Improved eye health advances educational outcomes (SDG 4)

Good vision is associated with improved educational outcomes. The provision of spectacles can improve academic test scores, with one study in China showing that the provision of spectacles reduced the odds of failing a class by 44%.”
**Improved eye health advances equality (SDGs 5 and 10)**

Interventions such as training rural community eye health volunteers and provision for cataract surgery can reduce gender inequality in relation to attendance and treatment. Similarly, income equality has been shown to be improved through cataract surgery.

**Improved eye health reduces road traffic accidents (SDG 11)**

Cataract has been found to increase the odds of being involved in a collision by 2.5x. Studies have shown that cataract surgery can reduce driving-related difficulties and motor vehicle crashes.

Overall, 27 studies reported that eye health services had a positive effect on advancing one or more SDG targets, with indirect effects proposed for all further goals. Cataract surgery and spectacles were the interventions with the largest number of reported beneficial effects on an SDG.

The 73\textsuperscript{rd} World Health Assembly Resolution on “integrated, people-centred eye care, including preventable blindness and vision impairment”\[64]\[65]\[66]\[13]\[8]\[11\]

In 2020, the 73\textsuperscript{rd} World Health Assembly adopted the resolution on “integrated, people-centred eye care, including preventable blindness and vision impairment”. The introduction of this resolution was led by Australia and Indonesia and it has since been adopted by more than 45 countries.\[65]\[66]\ The key proposal of the report and resolution is to make integrated people-centred eye care the care model of choice and to ensure its widespread implementation.

The resolution sets the global agenda for eye health for the decade to 2030, committing to a plan to make eye care an integral part of universal health coverage to eliminate preventable blindness and impaired vision.

**Why Assistance for Eye Healthcare Programs is Important**

As outlined on the Fred Hollows Foundation website, sight, and its restoration, matter:

> "With good vision, children can go to school, teenagers can pursue higher education, adults can work, and families can raise children. People can also start businesses, make art, take part in commerce, science, and technology or go into medicine and restore sight themselves.

> Ending avoidable blindness improves the economy, equality, skills and development of a country while reducing its financial and social burden. For every $1 invested in eye health, there’s at least a $4 return to the economy.

> If more people can see then more people get the opportunity to be productive, take part in economic activities, and live life on their terms. And that is why sight matters."

The global initiative for the elimination of avoidable blindness, “Vision 2020: The Right to Sight”\[66]\ was jointly launched in 1999 by the WHO and the International Agency for the Prevention of Blindness (IAPB) to intensify and accelerate activities for the prevention of blindness to eliminate avoidable blindness by 2020. This initiative was pivotal in achieving unified and coordinated advocacy for key priorities for action in the field of eye care at a global, regional and national level.\[11\]

However, the WHO’s World Report on Vision\[8\] notes there remains a large unmet need for eye healthcare services and the global need for eye care is projected to increase dramatically in the coming decades posing a considerable challenge to health systems.
Health systems face significant challenges in meeting the current and projected eye care needs of the world's population. There is no choice but to take on these challenges. The premise of the WHO’s World Report on Vision is that integrated people-centred eye care has the potential to accelerate action and meet these challenges. For this to become a reality, this report recommends five important actions:

1. **Make eye care an integral part of universal health coverage.**
2. **Implement integrated people-centred eye care in health systems.**
3. **Promote high-quality implementation and health systems research complementing existing evidence for effective eye care interventions.**
4. **Monitor trends and evaluate progress towards implementing integrated people-centred eye care.**
5. **Raise awareness and engage and empower people and communities about eye care.**


**Leveraging an Available Ophthalmology Workforce**

RANZCO Fellows have a longstanding track record in providing their time and expertise to tackle avoidable blindness in the Indo-Pacific region and beyond. For many decades, RANZCO Fellows have supported disadvantaged communities in overseas countries to access much needed but otherwise unavailable eye care services, including eye surgery to prevent avoidable blindness. These Fellows continue to do this through a range of assistance models, in response to the requested and identified needs of each community. This has ranged from leading visiting medical teams to provide direct ophthalmic clinical services in those communities, to teaching, training, supervising and mentoring national eye health personnel to provide those services, supporting national and regional training institutions that are setting and maintaining standards and training national eye care personnel to a tertiary level. Much of this work has been possible because of the passion, determination and remarkable commitment of individual Fellows offering their time pro bono through many charities and institutions. Some examples are included in Table 1.

<table>
<thead>
<tr>
<th>Program</th>
<th>Program location</th>
<th>Supporting charity</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Islands Eye Health Support Program</td>
<td>Pacific Island countries</td>
<td>Fred Hollows Foundation New Zealand</td>
<td>Training, service provision, infrastructure development</td>
</tr>
<tr>
<td>Gifting Sight to the Pacific</td>
<td>Fiji, Tonga and Samoa</td>
<td>Volunteer Ophthalmic Services Overseas</td>
<td>Service provision – surgery and glasses</td>
</tr>
<tr>
<td>Foresight Australia</td>
<td>Solomon Islands</td>
<td>Foresight Australia - Royal Australasian College of Surgeons</td>
<td>Service provision and training</td>
</tr>
<tr>
<td>East Timor Eye Program</td>
<td>Timor-Leste</td>
<td>Royal Australasian College of Surgeons</td>
<td>Development of eye care service</td>
</tr>
<tr>
<td>Sight for All</td>
<td>Fiji</td>
<td>Sight for All</td>
<td>Service provision, research and training</td>
</tr>
</tbody>
</table>

**Table 1: Examples of Eye Care Initiatives supported by RANZCO fellows**
RANZCO has celebrated these achievements and the significant impact of this work on the communities helped through its publications and at college meetings and by providing travel grants to ophthalmologists from lower- or middle-income countries to participate in RANZCO meetings. Many communities in our nearest neighbouring states have limited access to optimal eye care services. The efforts of RANZCO fellows working closely with their regional and local counterparts in-country in these communities continue to be pivotal to ensuring ongoing access to appropriate treatment and care. This work is supported by RANZCO to ensure that the standards and values of RANZCO regarding sustainable development are upheld.

**The Philosophy of a Successful Eye Health Aid Program**

RANZCO’s philosophy of a successful eye health program is derived from the Royal Australasian College of Surgeons’ approach.

**Global eye health program aim:** That safe, affordable eye care is available and accessible to everyone. It should effect changes in one or more of the following domains of change.

<table>
<thead>
<tr>
<th>Domain of Change 1:</th>
<th>Improve access to eye health services by supporting the delivery of vital health services that contribute to improved access, inclusion and agency.</th>
</tr>
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<tbody>
<tr>
<td>Domain of Change 2:</td>
<td>Develop the capacity of the eye health workforce by supporting clinical and surgical training, mentorship, education and essential equipment.</td>
</tr>
<tr>
<td>Domain of Change 3:</td>
<td>Strengthen health systems by working with services and decision-makers to improve service coordination and priority setting, and support workforce planning and investment.</td>
</tr>
<tr>
<td>Domain of Change 4:</td>
<td>Advocate for sustainable surgical and health care by building partnerships for action at a global, regional and national level.</td>
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</tbody>
</table>

**Strategic Directions**

RANZCO seeks to work with other stakeholders and calls for:

- An increase in the financial support for building resilience for Pacific Island nations who are suffering from increasingly worsening weather events resulting from climate change affecting not only the health and wellbeing of their citizens but also their livelihoods.

- An increase in the financial support for building in-country capacity, including infrastructure and training, to provide sustainable medical and eye health services in New Zealand’s neighbouring countries including the Pacific Islands, harnessing the large number of New Zealand medical and allied health volunteers to build hospital-to-hospital links and exchange programs that facilitate mutual learning.

- Provision of financial support for the development and implementation of a comprehensive regional (eye) health strategy to support local solutions that involve multiple stakeholders and support partnership development (government representatives, non-government organisations, community organisations etc).

- The utilisation of established collaboration with IAPB and WHO to create partnerships, enhance networks and set standards for the local context.

- A national coordinator for Pacific ophthalmology work to enable shared learning, shared equipment and potentially increased IT infrastructure.

- Consideration of implementation of IT infrastructure in the Pacific Islands that can link to imaging and reporting systems in New Zealand to enable telemedicine and screening.
At an Operational Level

RANZCO has established a Global Eye Health Committee to oversee RANZCO’s mission for sustainable and equitable eye healthcare in the region. RANZCO’s philanthropic arm, the Australian and New Zealand Eye Foundation, will work closely with the Global Eye Health Committee to:

→ Ensure that sight restoration and blindness initiatives are a part of any comprehensive health aid program.
→ Advocate for regional eye health initiatives at a government level including encouraging increasing the overseas aid budget, particularly in health.
→ Ensure that aid programs work towards the overarching aim of ensuring self-sufficiency and independence in eye care.
→ Ensure appropriate practice and training standards are maintained by creating a framework and setting minimum standards for aid programs.
→ Better support Fellows working in these areas and reduce duplication of efforts by Fellows by creating a registry of overseas aid programs and interested eye care personnel across the sector to create eye care teams to be deployed in aid initiatives.
→ Encourage advanced trainees to participate in overseas aid initiatives.
→ Work proactively with Fred Hollows Foundation New Zealand and others to avoid duplication and create one ‘point of contact’ for the government to refer to for comprehensive overseas health aid programs.

Amongst the medical colleges, there is much expertise and established structures to deliver appropriate ‘health development assistance and aid’. RANZCO can utilise its membership in the Council of Medical Colleges to ensure that overseas aid is delivered in an integrated, comprehensive and holistic way, rather than being single-organ or disease-focused.

For example, putting in place a program for the management of diabetes requires a coordinated multidisciplinary approach that includes the design and implementation of preventative health measures, screening programs and active disease management strategies.

In practical terms, areas of cooperation should include the four pillars of:

1. Education;
2. Service delivery;
3. Infrastructure development and ultimate independence in eye care; and
4. Research;

In Summary

A coordinated strategy that prioritises the diplomatic goals of the New Zealand government and involves key governmental and non-governmental stakeholders across the sector is likely to have the maximum impact. This system-level approach has not been used before and RANZCO believes that now is the time for it to happen. RANZCO, as part of its strategic plan, seeks to play an important part in the development and implementation of this strategy.

RANZCO is strategically placed through its association with other medical colleges, and partnerships with other national and international bodies and institutions, such as WHO and IAPB, to move things forward and facilitate the development of sustainable Eye Health Care Systems by optimising cooperation across governmental and non-government organisation sectors.
Focus on Preventive Healthcare

Introduction
Today’s challenge is chronic disease prevention, diagnosis, and management. The idea that health policy now requires a strong focus on chronic disease burden is not new, and it has been a focus of both current and previous Australian governments who have acknowledged it as a significant challenge. There is broad consensus that unless we make fundamental changes, the costs of preventable illness and resulting health care demand will continue to be a major issue for governments and individuals alike.

What is Prevention?
Prevention or preventive health is any action taken to protect or promote the health of populations. Prevention aims to prevent poor health, illness, injury and death from occurring and increase the likelihood that people will stay healthy and well for as long as possible.[64]

For preventive health strategies to have an impact on changing health behaviour, they require governments, organisations, and individuals to collaborate. Broad-scale preventive health strategies that have proven to be effective have involved one or more of the following:

→ Systems thinking to inform interventions that target infrastructure change – addressing factors that impact psychological, social and physical environments.[68-70]
→ Extensive stakeholder collaboration to identify shared interests and champions.
→ The collaborative development of evidence-based, patient-centred, collaborative models of care, (e.g. patient screening and referral pathways for AMD,[71] diabetic retinopathy,[72] and glaucoma).[73]
→ The implementation of education targeting an at-risk population to improve health literacy. Risk profiling is used to identify vulnerable populations that are at increased risk and likely to have multiple risk factors.
→ Population screening to detect a condition early, ensure timely referral and prevent life-threatening outcomes.
→ Comprehensive evaluation to assess effectiveness and impact and establish reliable databases to inform decisions around scaling up interventions, considering sustainability.[69]
→ Legislation and policies aimed at modifying risk factors or behaviour – for example, cigarette warning labels and retail restrictions, food packaging labels, health star ratings and school canteen guidelines.

To deliver on the management of risk factors and ensure continuous improvement in access to timely referral and preventative care for major eye conditions, RANZCO prioritises prevention and early intervention strategies.
What elements should be considered in justifying a population screening program?

“The era of modern screening began in 1968 with a landmark publication by Wilson & Jungner[74] or WHO, which stated:

Screening is the presumptive identification of unrecognised disease or defect by the application of tests, examinations, or other procedures which can be applied rapidly.

Screening tests sort out apparently well persons who probably have a disease from those who probably do not.

A screening test is not intended to be diagnostic.

Persons with positive or suspicious findings must be referred to their physicians for diagnosis and necessary treatment.

Wilson & Jungner stated 10 principles that should be used to assess whether screening is an appropriate course of action to improve public health. See Table 2.

These principles laid the foundation for a scientific debate about the benefits, harm, costs and ethics of screening programmes.”[75]

<table>
<thead>
<tr>
<th>Table 2: Wilson &amp; Jungner’s principles of screening[74]</th>
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</thead>
<tbody>
<tr>
<td>1. The condition should be an important health problem.</td>
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<tr>
<td>2. There should be an accepted treatment for patients with recognised disease.</td>
</tr>
<tr>
<td>3. Facilities for diagnosis and treatment should be available.</td>
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<tr>
<td>4. There should be a recognisable latent or early symptomatic phase.</td>
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<tr>
<td>5. There should be a suitable test or examination.</td>
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<td>6. The test should be acceptable to the population.</td>
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<tr>
<td>7. The natural history of the condition, including development from latent to declared disease, should be adequately understood.</td>
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<tr>
<td>8. There should be an agreed policy on whom to treat as patients.</td>
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<tr>
<td>9. The cost of case-finding (including a diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole.</td>
</tr>
<tr>
<td>10. Case-finding should be a continuous process and not a ‘once and for all’ project.</td>
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</tbody>
</table>

“Screening is a rough sorting process. It operates like a sieve, separating the people who probably do have the condition from those who probably do not. A screening test is never 100% accurate; it does not provide certainty but only a probability that a person is at risk (or risk-free) from the condition of interest.

The purpose of screening is to identify people in an apparently healthy population who are at higher risk of a health problem or a condition, so that an early treatment or intervention can be offered. This, in turn, may lead to better health outcomes for some of the screened individuals.”[75]

“Screening is not the same as early diagnosis. Screening invites people who do not have symptoms to undergo testing, whereas early diagnosis is intended to detect conditions as early as possible among people with symptoms.

An early diagnosis program identifies and addresses barriers to diagnostic and treatment services in the population and among service providers. It builds service capacity and quality and establishes referral pathways. These are all essential preparatory steps before starting a screening program.
Screening programs test large numbers of people. This requires considerable investment in equipment, personnel, and information technology, which can put strain on a health system. In contrast, early diagnosis is a strategy focusing just on the people with symptoms, which is a much smaller number and therefore uses fewer resources. In essence, the WHO recommendations for discerning the case for a population-based screening program rests on whether:

→ There is sufficient prevalence of a condition causing significant health concerns to the individual, for example, diabetic retinopathy, to justify screening for the condition.
→ An acceptable mass screening test is available, for example, retinal photographic screening to detect diabetic retinopathy.
→ An acceptable and effective treatment is available, for example, anti-VEGF injections and laser treatments for diabetic retinopathy.
→ The cost of case-finding using screening is cost-effective when balanced against possible expenditure on healthcare for when the condition presents at a later stage in the disease process.

Vision screening programs have a role in ensuring continuous improvement in equity of access to timely referral and preventative care for major eye conditions – facilitating high-value care and maximising access for high-priority referrals – those referrals for patients with sight-threatening disease.

**Diabetes and diabetic retinopathy**

**Disease prevalence**

In New Zealand prevalence estimates show diabetes is present in 7 per cent, and prediabetes in 26 per cent of the population. Of those with diabetes, it is estimated that approximately 20-25 per cent have diabetic retinopathy.

Diabetic retinopathy is a leading cause of blindness and sight loss in New Zealanders under 50.

→ In New Zealand, in 2018, an estimated 253,480 people were living with diabetes. In 2018/19 the prevalence of diabetes in Māori was 7.1 per cent (n = 33,000) in Pasifika peoples 11.2 per cent (n=29,000). Māori were 1.85 times (95% CI 1.55-2.21) more likely to have diabetes compared to non-Māori (age- and gender-adjusted). Pasifika were 3.18 times (95% CI 2.52-4.01) more likely to have diabetes compared to non-Pasifika (age- and gender-adjusted).

→ Incidence of diabetes over 3 years.

• Māori males 7.50 per cent (95% CI 5.46–10.30) vs females 4.96 (3.52–6.98)
• Pasifika males 7.55 per cent (95% CI 5.87–9.69) vs females 5.47 per cent (95% CI 4.12–7.24)

At 65 years, more than half of all Pasifika peoples are living with diabetes.

Diabetic retinopathy is one of the more serious complications of poorly controlled diabetes and is likely to be the leading cause of vision loss in New Zealand’s working age population. Diabetic retinal screening aims to detect diabetic retinopathy before it becomes sight threatening in order to reduce the risk of vision loss with intervention by ophthalmologists, as well as working with the person to help control their diabetes.

At present, diabetic retinal screening across New Zealand is failing many patients because they are not engaged in the screening process. Patients are also losing vision because early treatment was not available to them as they were not identified as needing it. This particularly affects Māori and Pasifika people.
The cost of diabetes

Twelve per cent of global health expenditure is spent on diabetes.[81]

Diabetic retinopathy from a preventative healthcare perspective

Prospective trials have shown that control of diabetes, and the control of hypertension in patients with diabetes, will reduce the risk of visual loss from diabetic eye disease.[82]

Screening for diabetic retinopathy is necessary to detect referable cases that need timely full ophthalmic examination and treatment to avoid permanent visual loss.[28, 82]

The International Council of Ophthalmology Recommendations for Screening, Follow-up, Referral, and Treatment Based on Resource Settings[27] finds that “from a public health perspective, vision loss resulting from DR [diabetic retinopathy] can be prevented with a broad-based systems-level approach: first, by increasing public knowledge with targeted health care education; second, by well-implemented community-level or national screening programs for all persons with diabetes mellitus; third, with timely referral for more severe levels of DR; and finally, with appropriate treatment for advanced DR such as PDR [proliferative diabetic retinopathy] and DME [diabetic macular oedema].”

People with diabetes should be encouraged to participate in an organised retinal screening service because there is good evidence that retinal screening and subsequent treatment reduces preventable blindness. The Diabetic Retinal Screening, Grading, Monitoring and Referral Guidance 2016 outlines the key components of an organised DR screening service with the aim of providing high-quality, equitable screening for those at risk of diabetic eye disease.[83] The guidance represents a statement of best practice, based on evidence and expert consensus (at the time of publishing), and is intended to inform and guide the delivery of a nationally consistent retinal screening program.

Evidence highlights screening programs targeted at diabetic retinopathy are not only highly cost-effective but are cost-saving.[82]

Tele-medicine and non-mydriatic retinal photography may be cheaper than conventional examinations (ophthalmoscopy) reaching higher patient numbers, but these technologies have been hampered by relatively high technical failure rates (around 10% or higher) and difficulties in reliably detecting macular oedema.[82] However new technologies are changing screening strategies and improving cost-effectiveness.[28]

RANZCO sees value in the development and implementation of a universal national screening program that utilises newer and more cost-effective technology. Such a screening initiative has the potential to increase the rate of early detection of vision-threatening complications of diabetic retinopathy, particularly in vulnerable patient groups and therefore is likely to be a cost-effective investment by government.

Prevention of Myopia

The prevalence of myopia is increasing worldwide.[30] Pathological myopia and is expected to become the leading cause of permanent blindness worldwide. The prevalence of pathological myopia is as high as 8 per cent in the young adult Asian population. Recent review studies noted that approximately half of the individuals with high myopia could develop pathological myopia.

RANZCO’s position statement, Progressive Myopia in Childhood[84] and the World Society of Paediatric Ophthalmology and Strabismus’ Myopia Consensus Statement 2023[85] summarise the current evidence of the causes, management and prevention of progressive myopia.

There is still much to be determined regarding factors that bring about progressive myopia and the optimal interventions to minimise progression. However, it is well-accepted that if children are not spending time outdoors, it is more likely they will develop myopia. Exposure to the brightness of sunlight is important to reduce the development and progression of myopia, it is recommended that children spend at least two to three sun-protected hours outdoors, per day.

Near work is also a risk factor for myopia, however managing this risk factor has inherent difficulties given the role near tasks play in education. Taking regular breaks from near work and using a viewing distance of >20cm may be protective.
There is clear evidence that along with environmental modifications, pharmacological (atropine eyedrops) and optical treatments (specialised glasses and contact lenses) are effective in controlling progressive myopia. While these treatments are all effective, they are all expensive, with the patient currently bearing that cost. This means they are inaccessible to a number of people who could benefit.

With the prevalence of myopia and consequently pathological myopia increasing, it is important to ensure these treatments are available and accessible to those who will benefit from them.

Public awareness of the increasing incidence and lifelong visual complications of myopia is currently limited. Parental understanding of the factors contributing to myopia and its risks are poor. Increasing public and parental awareness is important in improving myopia control.

We need a national strategy to deal with this problem. RANZCO is well placed to engage with public health clinicians to ensure that well-evidenced strategies for the prevention and control of progressive myopia are embedded in public health frameworks across New Zealand. This is important to ensure there are ongoing public awareness campaigns, and that prevention strategy are implemented uniformly and are responsive to the evidence as it develops. RANZCO also aims to support improved access to interventions proven to help myopia control.

**Keratoconus**

Keratoconus is a serious issue in New Zealand, particularly amongst Māori and Pasifika youth. Corneal graft rates for keratoconus in Aotearoa are higher than other countries, suggesting severe disease is more common here than elsewhere.

Corneal cross-linking is an effective treatment for early keratoconus and can prevent severe visual loss associated with the disease. Early detection is therefore key and RANZCO considers the development of a screening program for keratoconus essential.

In the early stages of the disease people can be unaware they are affected (in the Wellington Keratoconus Study, 8 out of 10 with keratoconus were not aware they had it). Therefore, relying on people to present when they are symptomatic can mean the opportunity for effective treatment to prevent disease progression is missed.

RANZCO supports the development of a screening program for keratoconus. Introducing a national community-focused screening program involving optometry and targeting at risk populations (Māori, Pasifika, lower decile schools) aiming to detect keratoconus early would allow the opportunity for early intervention with corneal cross-linking. Utilising collaborative care models to facilitate most of this being done in the community would be ideal. An effective screening program would ultimately be beneficial in decreasing the significant visual, social and economic burden associated with keratoconus.

**Promoting Health Literacy – Education on Modifiable Risk Factors for Disease**

RANZCO endorses the use of evidence-based advocacy strategies to promote health literacy and leverage broader public health initiatives to:

- Increase awareness of modifiable risk factors for disease.
- Target at-risk audiences where there is potential for greater impact.
RANZCO’s Public Health Campaign Advocacy strategy involves the development of relevant evidence-based position statements on modifiable risk factors for major eye diseases. For example:

→ Smoking cessation and its impact on eye health, in particular AMD and vision – Smoking Cessation as a Protective Factor against Eye Disease.
→ RANZCO’s Position Statement on Diabetes and Diabetic Eye Disease.
→ The Impact of Health and Lifestyle on Age-related Cataract (ARC) and other age-related eye conditions.
→ The use of UV protective eyewear when sun exposure is frequent and regular is an evidenced modifiable risk factor for the prevention of age-related eye conditions - UV-Eye-Protection.

RANZCO identifies windows of opportunity to time media communications, to align with broader national public health initiatives. For example, JulEYE, Macular Month and World Sight Day all serve as opportunities to promote the significant role of ophthalmology in preventing avoidable disease progression and loss of vision through accurate diagnosis and early detection and treatment of eye health conditions.

RANZCO’s advocacy strategy involves extensive collaboration with optometrists, GPs and other health care professionals as well as peak patient advocacy organisations to ensure buy-in from these organisations, signifying their role in collaborative models of care. Such advocacy is aimed at ultimately ensuring patient safety and access to best-practice, evidence-based care.

**Low Vision Services – Essential in Preventing Falls and Other Consequences of Vision Impairment and Blindness**

Despite advances in eye healthcare, it is unavoidable that some New Zealanders will continue to suffer permanent visual impairment and blindness. Visual impairment and blindness have many effects on individuals including a higher risk of physical injury and mortality, emotional and psychological distress, an increased risk of dementia, loss of independence and self-esteem and isolation and vulnerability.

Many of these effects can be ameliorated, or prevented in part, by low vision services, which include orientation and mobility training. These services are essential for vision-impaired individuals to learn how to use their remaining vision and/or other senses such as hearing and touch to compensate for reduced visual information and require greater engagement with optometry and other collaborative care arrangements.

Unfortunately in New Zealand there is limited or no access to low vision services in many areas. Funding of low vision services in the community should be considered.

**Prevention of Ocular Trauma**

Ocular trauma is a leading cause of visual impairment and blindness most often affecting people under the age of 46.

“Beyond the direct financial cost, the consequences of ocular trauma are devastating and costly to an individual, their families and the community. Lifelong implications associated with vision loss include increased mortality, morbidity, anxiety and depression.”

A recent study concludes that up to 90% of ocular trauma is preventable, and preventative efforts should be based on an understanding of why, when and where ocular trauma occurs. Prevention strategies, such as policies, legislation and the introduction of eye protection, are effective in reducing the incidence of ocular trauma.

RANZCO recommends the development and implementation of a national strategy and awareness campaign for the prevention of ocular trauma.
Focus on Sustainability

The Scope of Sustainability
Sustainability encompasses a range of environmental concerns including pollution and environmental degradation, preserving healthy water systems, agriculture and food systems, biodiversity preservation and climate change.

While many environmental issues are of concern, climate change is distinct because it is a major public health issue, and this empowers doctors to have a strong voice in this area. The WHO acknowledges climate change to be a major threat to public health in the 21st century, and there are already effects observable in the New Zealand health context.

Leaders across medicine and science have called for doctors to become climate activists as this threat becomes emergent. Interventions to mitigate climate change are predicted to result in many co-benefits to human health and equity, as well as addressing many other environmental concerns at the same time, so prioritising climate change is an appropriate environmental issue for doctors to address.

Climate change is an even more urgent and growing concern, and the response will require reducing greenhouse gas emissions to mitigate temperature rises, while also adapting health systems for a modified climate.

Ophthalmologists and Colleges as Climate Advocates
Ophthalmologists generally agree that climate change is an urgent issue in need of mitigation, and yet the proportion who deny the importance of climate change is greater than in the general population. Medical colleges in New Zealand and Australia are moving to embrace their roles as advocates, leaders, educators and communicators in this domain of climate and health.

It is the position of RANZCO that climate change is an important public health problem and thus an issue on which doctors should have a voice, and this is supported by a majority of fellows and trainees. Doctors as individuals make their own choices to act, or remain silent, on these societal health issues such as obesity, smoking, road safety and eye protection. It is common for individuals to feel futility or despair if they do not see climate leadership from their organisations, and thus RANZCO is leading and supporting its members in advocacy on this issue.

In a current assessment of multiple college activities in this area, common recommendations were:
1. taking corporate responsibility to show leadership to members;
2. engagement with and education of members, and empowering them with resources and tools; and
3. advocacy to higher organisations and governments, as well as support for members engaged with regional and local governance.

Advocacy on Sustainability
Decarbonisation of society will require major strategic high-level changes internationally, from national governments, jurisdictions and regional authorities, as well as practical changes made in organisations and by individuals.
RANZCO supports bold and aggressive policy to support international action on funding the decarbonisation challenge and to meet strong national emission reduction targets. In this broader effort, RANZCO has participated in multi-college and pan-professional projects and statements, with Doctors for the Environment Australia and Ora Taiao, and with medical organisations such as the Australian Medical Association and the Council of Medical Colleges (NZ). These policy statements support the work of the Global Alliance for Climate and Health, which is the peak body for medical advocacy to combat the negative health effects of climate change. RANZCO will continue to support high-level policy for climate action through collaboration and support of pan-professional bodies.

Through participation in the Climate Action Working Group of the IAPB, RANZCO has contributed to the development of a Call to Action on Climate Change and a toolkit for eye health sector organisations guiding them on activities that support adaptation and mitigation and continues to participate in awareness-raising events and conferences.

**Decarbonising Healthcare**

Doctors recognise the need for reducing emissions from the health system, which contributes around 5% of national emissions, more than aviation. Governments will need to regulate emission reductions to achieve decarbonisation of the health system. Offsetting is not a viable solution for the long term, and emissions themselves will need to reduce drastically.

The greatest impact will come from changing energy use within hospital systems (renewable sources for heating and electricity supply) and changes to transport systems (ambulances, staff commutes, shipping, patient travel), but every part of the health system will need to change. Larger state-level and regional projects to address energy and transport around healthcare are supported by organisations like Doctors for the Environment Australia and Ora Taiao. RANZCO will continue to support this advocacy for urgent and large-scale upgrades.

Healthcare decarbonisation specific to the delivery of eye healthcare will require multiple actions by ophthalmologists as leaders and advocates in the complex health system. Examples that will be important in reducing emissions include:

1. **Travel emissions**

   Reducing emissions from travel in ophthalmology involves eliminating low-value care and unnecessary visits, and this can make use of telehealth methods such as phone and video calls. Community delivery of services closer to patients’ homes, particularly for the delivery of ongoing routine care for chronic diseases such as diabetic retinopathy, AMD and glaucoma will also be important. Increasing the availability of local and mobile clinics will be helpful for this. Modelling the distribution of services to population distribution and transport networks would optimise this. Shared care models facilitated by the sharing of patient health records may also reduce travel and unnecessary investigations.

   Bilateral cataract surgery is now becoming more mainstream and is more sustainable – requiring one journey to theatre not two as well as a reduction in the number of appointments. This may require a funding change to ensure the appropriate price is paid for both cataracts as each eye is performed as a separate case and there are no savings of disposables and sets.
2) Procurement and consumption

Consumption of disposable and single-use supplies in surgery and minor procedures is the greatest source of emissions in ophthalmology. Large amounts of pharmaceuticals are also wasted. Reducing consumption of single-use supplies can be achieved through a combination of:

• Industry collaboration, developing re-usable devices, such as blades or gowns, and cataract surgery tubing and cassettes.
• Minimising the disposal of unused items (‘don’t open what you won’t use’) and reviewing surgical packs and set lists to eliminate any unnecessary items from the surgical set-up.
• The selection of cheaper, less packaged and lower emission options for items such as viscoelastic, gloves and drapes.
• The use of multi-use topical perioperative medications.

Ophthalmologists will need to show leadership in their health services and advocate for bold policy within their organisations and local governments to progress these service changes. Thankfully, most changes that reduce greenhouse gas emissions from healthcare delivery also reduce the cost, which has benefits to society, improving access and equity.

In the first part of this decade, the carbon footprint of cataract surgery in developed countries is around 150 kgCO₂e. At the same moment in time, the footprint in India is around 6 kgCO₂e, with much lower cost and equivalent safety outcomes, indicating there exists affordable technology for low-carbon ophthalmology. It is interesting to reflect on the barriers that prevent RANZCO ophthalmologists from immediately operating like colleagues in India, such as the habits of training, prevailing practice patterns, convenience and supply chain issues. Ophthalmologists do have an appetite to make bold changes to practice for sustainability if safety is maintained.

Looking forward, RANZCO aims to support fellows in making changes to improve sustainability at a clinical practice level while maintaining quality and safety. This strategy includes a preferred practice guideline that recommends against wasteful consumption and offers evidence for practice changes to reduce resource consumption and carbon emissions. RANZCO aims to continue developing these guides to facilitate clinical practice decision-making.

Corporate Responsibility

The offices and staff of RANZCO will help to demonstrate RANZCO’s commitment to sustainability. Sustainability will be an important consideration for RANZCO affairs into the future. Recent major renovations at RANZCO have incorporated sustainable building concepts and greatly reduced energy consumption in the corporate activities of RANZCO.

The financial investments of RANZCO are rated to an A level or better by the Environmental, Social and Governance reporting systems, and yet several major industries that consume and contribute large quantities of greenhouse gas emissions are still included in this rating level and therefore in RANZCO investments. There is some debate about how divestment from emitting industries can impact the behaviour of those industries (as there will be other investors who will take up the shares), but RANZCO must demonstrate that it is not profiting from environmentally and socially harmful industries to be a trusted professional advocate.

RANZCO undertakes to measure the emissions attributable to corporate activities (carbon footprinting) and put in place an appropriate strategy for emission reduction and offsetting to reach net-zero emissions within this decade.
**Engagement and Education on Sustainability**

Sustainability will become part of the training curriculum for future ophthalmologists. For current RANZCO members, sustainability will be encouraged as a topic for CPD. This will require the provision of tools and information for fellows to measure their carbon footprints, offering inspiration for opportunities to reduce the footprint, and encouragement to connect with those members of the surgical facility who can enact change. Regular RANZCO communications and presentations will continue to signal the importance of sustainability for the College and its members. Initiatives such as development of sustainable practise guidelines for cataract surgery and intravitreal injections have already been developed based on international best practise standards.
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Appendices

Appendix A: Collaborative Care Models

Glaucoma collaborative care models currently used or that would be considered by some ophthalmology departments

‘In the department’ is defined as within a facility run by the department and may be a hospital outpatient clinic, an ophthalmology local community clinic or a mobile clinic.

‘In their practice’ is defined as within an optometry private practice.

a. Optometrists working concurrently with ophthalmologists in glaucoma clinics.

b. Optometrists working autonomously in the department seeing follow-up glaucoma patients with each case subsequently reviewed by an ophthalmologist.

c. Optometrists working autonomously in the department seeing follow-up glaucoma patients and requesting review with an ophthalmologist for any concerning cases.

d. Optometrists running autonomous virtual glaucoma clinics in the department for new patients reviewing history, intraocular pressure (IOP), photos, VFs and OCTs and ranking patients by priority: e.g. discharge back to community optometrists, see ophthalmologist but non-urgent, see ophthalmologist more promptly.

e. Optometrists running autonomous virtual glaucoma clinics in the department for routine follow-up patients reviewing history, IOPs, photos, VFs and OCTs and deciding on any treatment changes and follow-up interval.

f. Optometrists reviewing follow-up glaucoma cases in their practice at intervals while the patient remains under hospital care. For each visit a report is sent to an overseeing ophthalmologist for review. May be managed long term in the community.

g. Optometrists reviewing follow-up glaucoma cases in their practice at specific intervals while the patient remains under regular hospital review as well. For example, alternate visits with a community optometrist.

h. Optometrists seeing follow-up glaucoma cases independently in their practice with hospital review only if concerned but funded by the department and still nominally under the department’s care and with the follow-up schedule defined by the hospital.

i. Optometrists seeing follow-up glaucoma cases in their practice with review only if concerned. Self-funded and discharged from hospital care. This includes patients having treatment and not just normal tension glaucoma suspects or ocular hypertension.

j. Optometrists seeing follow-up glaucoma cases in their practice with review only if concerned. Self-funded and discharged from hospital care. This does not include patients having active treatment.

k. Optometrists independently seeing patients in their practice who are deemed low enough risk based on the initial referral information that they do not need to see a hospital ophthalmologist. They do still require regular review and would otherwise have been seen in the hospital system. Visits to the optometrist are funded according to the follow-up schedule recommended by the hospital. This is to be distinguished from a declined referral.

l. Glaucoma nurse specialists working concurrently with ophthalmologists in glaucoma clinics.

m. Glaucoma nurse specialists working autonomously in the department seeing follow-up glaucoma patients with each case subsequently reviewed by an ophthalmologist.

n. Glaucoma nurse specialists working autonomously in the department seeing follow-up glaucoma patients and requesting review with an ophthalmologist for any concerning cases.

o. Glaucoma nurse specialists running autonomous virtual glaucoma clinics in the department for new patients reviewing history, IOPs, photos, VFs and OCTs and ranking patients by priority: e.g. discharge back to community optometrist, see ophthalmologist but non-urgent, see ophthalmologist more promptly.
p. Glaucoma nurse specialists running autonomous virtual glaucoma clinics in the department for routine follow-up patients reviewing history, IOPs, photos, VFIs and OCTs and deciding on any treatment changes and follow-up interval.

**AMD Collaborative Care Models for assessment either currently used or that would be considered by some ophthalmology departments.**

‘In the department’ is defined as within a facility run by the department and may be a hospital outpatient clinic, an ophthalmology local community clinic or a mobile clinic.

‘In their practice’ is defined as within an optometry private practice.

a. Optometrists working concurrently with ophthalmologists in AMD clinics.

b. Optometrists working autonomously in the department seeing follow-up AMD patients with each case subsequently reviewed by an ophthalmologist.

c. Optometrists working autonomously in the department seeing follow-up AMD patients and requesting review with an ophthalmologist for any concerning cases.

d. Optometrists running autonomous virtual AMD clinics in the department for new patients reviewing history and OCTs and ranking patients by priority: e.g. discharge back to community optometrist, see ophthalmologist but non-urgent, see ophthalmologist more promptly.

e. Optometrists running autonomous virtual AMD clinics in the department for routine follow-up patients reviewing history and OCTs and deciding on any treatment changes and follow-up interval.

f. Optometrists reviewing stable follow-up AMD cases (not having IVIs) in their practice at intervals while the patient remains under hospital care. For each visit a report is sent to an overseeing ophthalmologist for review. May be managed long term in the community.

g. Optometrists reviewing stable follow-up AMD cases (not having IVIs) in their practice at specific intervals while the patient remains under regular hospital review as well. For example, alternate visits with a community optometrist.

h. Optometrists seeing follow-up AMD cases independently (not having IVIs) in their practice with hospital review only if concerned but funded by the department and still nominally under the department’s care with the follow-up schedule defined by the hospital.

i. Optometrists independently seeing AMD patients in their practice deemed low enough risk based on the initial referral information that they do not need to see a hospital ophthalmologist. They do still require regular review and would otherwise have been seen in the hospital system. Visits to the optometrist are funded according to the follow-up schedule recommended by the hospital. This is to be distinguished from a declined referral.

j. AMD nurse specialists working concurrently with ophthalmologists in AMD clinics.

k. AMD nurse specialists working autonomously in the department seeing follow-up AMD patients with each case subsequently reviewed by an ophthalmologist.

l. AMD nurse specialists working autonomously in the department seeing follow-up AMD patients and requesting review with an ophthalmologist for any concerning cases.

m. AMD nurse specialists running autonomous virtual AMD clinics in the department for new patients reviewing history, photos and OCTs and ranking patients by priority: e.g. discharge back to community optometrist, see ophthalmologist but non-urgent, see ophthalmologist more promptly.

n. AMD nurse specialists running autonomous virtual AMD clinics in the department for routine follow-up patients reviewing history, IOPs, photos, OCTs and deciding on any treatment changes and follow-up interval.
Diabetic retinopathy monitoring collaborative care models currently used or that would be considered by some ophthalmology departments.

‘In the department’ is defined as within a facility run by the department and may be a hospital outpatient clinic, an ophthalmology local community clinic or a mobile clinic.

‘In their practice’ is defined as within an optometry private practice.

a. Hospital optometrists working concurrently with ophthalmologists in DR clinics in the department.

b. Hospital optometrists working autonomously in the department seeing follow-up or photo-monitoring DR patients with each case subsequently reviewed by an ophthalmologist.

c. Hospital optometrists working autonomously in the department seeing follow-up or monitoring DR patients and requesting review with an ophthalmologist for any concerning cases.

d. Hospital optometrists assessing new patients autonomously in virtual/photo-screening DR clinics in the department reviewing history photos + OCTs and ranking patients by priority: e.g. discharge back to community optometrist, see ophthalmologist but non-urgent, see ophthalmologist more promptly.

e. Optometrists in their practice reviewing/photo-monitoring stable follow-up DR cases at intervals while the patient remains under hospital care. For each visit a report is sent to an overseeing ophthalmologist for review. May be managed long term in the community.

f. Optometrists in their practice reviewing/photo-monitoring stable or treated follow-up DR cases at specific intervals while the patient remains under regular hospital review as well. For example, alternate visits with a community optometrist.

g. Optometrists in their practice reviewing/photo-monitoring stable or treated follow-up DR cases independently with hospital review only if concerned but funded by the department and still nominally under the department’s care with the follow-up schedule defined by the hospital.

h. Optometrists in their practice independently assessing and photographing new and follow-up DR patients as part of a screening program with distant oversight by an ophthalmologist and hospital referral only if deemed necessary.

i. Optometrists in their practice independently assessing and photographing new and follow-up DR patients as part of a screening program with no oversight by an ophthalmologist and hospital referral only if deemed necessary.

j. DR nurse specialists working concurrently with ophthalmologists in DR clinics.

k. DR nurse specialists working autonomously in the department seeing follow-up/photo-monitoring DR patients with each case subsequently reviewed by an ophthalmologist.

l. DR nurse specialists reviewing/photo-monitoring follow-up DR patients autonomously in the department and requesting review with an ophthalmologist for any concerning cases.

m. DR nurse specialists assessing new DR patients autonomously in virtual/photo-screening DR clinics in the department reviewing history, photos + OCTs and ranking patients by priority: e.g. discharge back to community optometrists, see ophthalmologist but non-urgent, see ophthalmologist more promptly.

n. Photo-screening/monitoring in the community with review by other trained medical staff (e.g. GPs) with ophthalmic review only if abnormal.

o. Photo-screening/monitoring in the community with review by other trained non-medical staff (e.g. trained technicians) with ophthalmic review only if abnormal.
Models of collaborative care that are currently used or that some departments would consider for the provision of intravitreal injections.

a) Trained nurses giving intravitreal injections in the department or outreach/mobile clinic.

b) Trained nurses giving intravitreal injections in a community facility (not a hospital outreach clinic but perhaps an appropriate GP or urgent care facility)

c) Trained community medical staff (e.g.: GPs) giving intravitreal injections in the department or outreach/mobile clinic.

d) Trained community medical staff (e.g.: GPs) giving intravitreal injections in a community facility (not a hospital outreach clinic but perhaps an appropriate GP or urgent care facility)
Appendix B: Implementation of National Eye Health Survey
Appendix C: Te Tiriti o Waitangi Action Plan

Te Tiriti o Waitangi
Action Plan
The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) is the medical college responsible for the training and professional development of ophthalmologists in Aotearoa/New Zealand and Australia. We seek to improve eye health across Aotearoa/New Zealand and Australia, as well as further afield, by providing best quality education, training, and continuing professional development; by promoting eye health care and the work of ophthalmologists; and through collaboration with others involved in the delivery of eye health care.

Kāpō Māori Aotearoa (KMA) is a national Indigenous, member-based and led society open to all people: disabled, able-bodied, Māori and non-Māori. Through utilising ngā taonga tuku iho o Te Ao Māori (the treasures of the Māori world), we seek to educate, inform and support tangata whaihika (people with disabilities), whānau (extended family) and tangata whenua (Indigenous people) generally, to thrive and prosper. We offer hope, self-determination, independence, and individual and whānau well-being.

Mā te whakapono, mā te tūmanako me te aroha mātou e whakatūtuki ai i ngā moemoea kia puta ki te whai ao ki te ao mārama.

With truth, hope and love we will realise our dreams and bring them to the world of enlightenment.

RANZCO’s Te Tiriti o Waitangi Action Plan aims to address eye health inequities for Māori in Aotearoa.

It has been carefully considered by RANZCO’s Māori and Pasifika Eye Health Committee in partnership with KMA representing Māori vision impaired and in consultation with other key stakeholders.

**There are 5 kaupapa:**

1. Governance
2. Workforce
3. Data collection and management
4. Cultural safety
5. Service delivery

RANZCO and KMA understand the need to work with others to turn this plan into reality. The support of Te Aka Whai Ora and Te Whatu Ora will be particularly crucial but so will help from our colleagues in optometry and nursing and the assistance of our Māori patients and their whānau. The plan is ambitious but also clearly articulates the steps we believe need to be taken in order to achieve equity. By working together we can make a difference.
Foreword

Karanga, karanga, karanga rā
Nau mai e te atahapara e kawea mai te rangi hou! Me maumahara tonu ki a rātou mā, e moe nei i te moenga roa, nō reira, moe mai, moe mai, moe mai rā.
Ka rere tonu ra ngā kupu whakamihi ki tēnā, ki tēnā, ki tēnā o tātou ngā ringa raupaa e tautoko kaha nei ki tēnei kaupapa whakahihara.
Ma te whakaaro ko te korero, ma te korero ko te wānanga, ma te wānanga ka tau mai te matauranga hei oranga mā tātou katoa.
As we call to the dawning of a new day, we acknowledge those whom have gone before us and now are at rest in heavenly slumber. Rest on in love and peace.
The words of gratitude and appreciation will forever flow to the many whom supported this significant collaboration! From thought comes language, from language comes learning, from learning comes knowledge for one and all!
Kāpō Maori Aotearoa (KMA) is honoured to write the Foreword for the Te Tiriti o Waitangi Action Plan. We start with acknowledging the courage of the New Zealand RANZCO Māori and Pasifika Eye Health Committee members, who in 2018 announced their intent to initiate change to Māori eye health in Aotearoa. In January 2021, they shared their vision with Kāpō Māori Aotearoa and in July 2022 representatives from our respective organisations came together in Auckland. Together we confirmed our collective commitment to each other and our ongoing relationship through the signing of Te Tatau Pounamu/Memorandum of Understanding.
Te Tiriti o Waitangi Action Plan is the child of this relationship, a road map of how KMA and RANZCO aim to change the trajectory of Māori eye health care in Aotearoa. KMA is very proud of this document because the foundation upon which it is built is the doctrine that our tupuna envisioned when they signed Te Tiriti o Waitangi. This Action Plan is rangatiratanga, kawangatanga and orintenga in action!
KMA and RANZCO equally share the helm of our waka, paddling towards a transformational future. Te Tiriti o Waitangi Action Plan offers practical solutions. As a ‘living’ document it is fluid and responsive because we understand that we live in an ever changing world. This document will stand us in good stead when we encounter challenges on our journey to realise our vision and arrive at the shores of Rangiatea,
The whakatau-a-ki we have chosen to conclude with illustrates our partnership, our commitment to Te Tiriti o Waitangi, the RANZCO/KMA Action Plan and our future to create transformational change. This whakatau-a-ki was spoken by Kingi Tawhiao Potatau Te Whero-whero to rally his people and encourage unity and forward thinking.
Ki te kahore he whakakitenga ka ngaro te iwi
Without vision the people will be lost.
Christina (Chrissie) Cowan
Kāpō Māori Aotearoa New Zealand Inc.

Christina (Chrissie) Cowan
- Ngāti Kahungunu, Ngāti Kahungunu ki Rangitane, Ngāti Porou

Chrissie is the Chief Executive for Kāpō Māori Aotearoa, a national kāpō led member based society that provides Indigenous health and disability support services to kāpō Māori and their whānau and has strong relational links with disabled Māori and their whānau across Aotearoa. Firmly embedded within te Ao Māori, Chrissie has extensive experience working with community organisations and in advocating for the need for health, education, and social service sectors to prioritise kāpō Māori voices. She has research experience with qualitative methods and applying Kaupapa Māori principles in research practice, as well as expertise about regional, national and global Indigenous and disability human rights.
Māori Eye Health
Inequity in Aotearoa

More data is required on the prevalence of eye disease among Māori; hence the emphasis on data acquisition and management in the Te Tiriti Action Plan. However, the information that is available paints a clear picture of inequity.

Type 2 diabetes is experienced disproportionately by Māori and Pasifika peoples who are up to three times more likely to have diabetes compared to other New Zealanders[1] and develop the disease at a younger age. A review of nine studies that included reporting by ethnicity found that Māori had higher rates of sight-threatening disease and lower rates of screening attendance compared to Europeans.[2]

There is increasing evidence that Māori face barriers in access to primary and secondary health services.[3, 4]

Māori are less likely to have strabismus surgery.[5] They are both more likely to have keratoconus and to have more severe disease.[6]

Cataract-related vision loss is 1.5 to 2 times more prevalent in Māori in comparison to non-Māori up to age 84.[7] Māori develop cataracts on average 10 years earlier than Pakeha New Zealanders and have worse vision at presentation.[8]
In July 2021, the RANZCO Board endorsed the Te Tiriti o Waitangi (Treaty of Waitangi) principles following earlier endorsement by the New Zealand Branch:

- **Tino rangatiratanga**: The guarantee of tino rangatiratanga, which provides for Māori self-determination and mana motuhake in the design, delivery and monitoring of health and disability services.
- **Equity**: The principle of equity, which requires the Crown to commit to achieving equitable health outcomes for Māori.
- **Active protection**: The principle of active protection, which requires the Crown to act, to the fullest extent practicable, to achieve equitable health outcomes for Māori. This includes ensuring that it, its agents and its Treaty partner are well informed on the extent and nature of both Māori health outcomes and efforts to achieve Māori health equity.
- **Options**: The principle of options which requires the Crown to provide for and properly resource kaupapa Māori health and disability services. Furthermore, the Crown is obliged to ensure that all health and disability services are provided in a culturally appropriate way that recognises and supports the expression of hauora Māori models of care.
- **Partnership**: The principle of partnership which requires the Crown and Māori to work in partnership in the governance, design, delivery and monitoring of health and disability services. Māori must be co-designers, with the Crown, of the primary health system for Māori.

In July 2022, RANZCO signed an Tatau Pounamu/Memorandum of Understanding with Kāpō Māori Aotearoa New Zealand, a national Indigenous, member-based and led society, to work collaboratively to improve Indigenous eye health in Aotearoa New Zealand.

The partnership requires Kāpō Māori and RANZCO to work constructively in developing, implementing, monitoring and evaluating a Te Tiriti o Waitangi Action Plan (aka ‘Māori Action Plan’) focused on eye health care. Underpinning this work are three guiding principles:

- Genuine partnership with Māori
- Cultural competence
- Improving Māori representation within the eye care workforce.

**Tē tōia, tē haumatia**
Nothing can be achieved without a plan, workforce and way of doing things

**Dr Justin Mora, FRANZCO** – Ngāi tahu
Chair of the RANZCO Māori and Pasifika Eye Health Committee, Justin is an ophthalmologist in Auckland with a particular interest in paediatric eye disorders. He is a past chief examiner, head of education and RANZCO Board member. He is leading the development and implementation of RANZCO’s Vision 2030 and beyond – Aotearoa strategy.
The Partnership

The Te Tiriti o Waitangi Action Plan is symbolic of the partnership between Kāpō Māori Aotearoa and RANZCO. The partnership itself reflects each organization’s desire to be a united voice and work together on the governance, design, delivery and monitoring processes that will help ensure Māori eye health equity in the future.

The image was created by blending the koha exchanged between KMA and the MPEHC to celebrate the signing of the memorandum of understanding between us.

The pounamu koru resembles the unfurling frond of the native silver fern where the spiral represents new beginnings, life and hope and the outer coil symbolizes growth and conveys perpetual movement and everlastingness.

The 100-year-old ophthalmoscope is an antique from the RANZCO museum. An ophthalmoscope is used to see inside the eyes and allows us to visualize things that would otherwise remain hidden. This device is therefore a symbol of both our past, where RANZCO has come from, and also represents our expectation of a brighter future together with KMA than we could have envisaged alone.
Acknowledgements

We acknowledge the hard work from members of the Māori and Pasifika Eye Health Committee (MPEHC), and the Te Tiriti Action Plan Working Group into developing this Te Tiriti Action Plan (TAP) and their ongoing advocacy efforts in advancing eye health equities for Māori in Aotearoa.

Kāpō Māori Aotearoa

- Ms Christina (Chrissie) Cowan: Ngāti Kahungunu, Ngāti Kahungunu ki Rangitane, Ngāti Porou
- Ms Natasha Swann: Ngāti Maniapoto
- Ms Tarewa Cowan: Tahitian/Cook Island, Ngāti Kahungunu, Ngāti Kahungunu ki Rangitane, Ngāti Porou
- Mr Wiremu Kohere: Ngāti Porou

RANZCO:

- Dr Alistair Papali’i-Curtin - Samoan
- Dr Derek Sherwood
- Dr Edward Hutchins - Ngāi tahu, Waitaha
- Dr Harris Ansari
- Dr John Rawstron
- Dr Justin Mora - Ngāi tahu
- Dr Rachael Niederer
- Dr Simone Freundlich – Ngāti Whatua, Ngāpuhi, Tainui
- Dr Will Cunningham (past Chair of MPHC) - Samoan
- Dr Eugene Michael (past MPHC member) – Ngāti Kahu

We are grateful for ideas and feedback received from the RANZCO membership and external stakeholders and the guidance from Te Ururoa Flavell and his team during the development of the TAP.

We look forward to ongoing engagement and collaboration in implementing the TAP.
The following strategic goals were set under the TAP, with specific actions and deliverables outlined to achieve the goals.

**Kaupapa 1: Te Tiriti is activated in our relationships and our organisation**
- RANZCO is committed to building and formalising Tiriti based relationships with tangata whenua and has established the partnership through a Memorandum of Understanding with Kāpō Māori Aotearoa, a national Māori visually impaired member-based and led society. The two organisations are working collaboratively to improve Māori eye health in Aotearoa New Zealand.
- RANZCO is incorporating Tiriti o Waitangi guiding principles into the College governance, processes and protocols that are relevant to Aotearoa.
- RANZCO will further engage our membership and stakeholders, to raise internal and external awareness of our TAP across the College and eye sector.

**Kaupapa 2: Expand the Māori Eye Care Workforce**
- To encourage more Māori doctors into a career in ophthalmology, RANZCO has adopted a centralised recruitment process that targets and offers additional selection points to Māori applicants and automatically allocates an interview to qualified applicants who identify as Māori.
- RANZCO provides multiple scholarships and other grants for Māori medical students or junior doctors who wish to pursue a career in ophthalmology.
- RANZCO will continue the efforts to increase the number of ophthalmologists who identify as Māori through existing and new measures.
- RANZCO recognises the additional challenges Māori trainees face and is committed to provide additional flexibility and culturally safe support as appropriate, whilst continuing to maintain standards. We will develop a whanaungatanga care program to support Māori trainees.
- RANZCO supports the training of more Māori optometrists, nurses, technicians and kaiahwana and will offer assistance and resources to our eye care partners to assist them with this.

**Kaupapa 3: Ensure adequate data on Māori eye health**
- In New Zealand, the extent of inequity in eye health is largely unknown. However, New Zealand has never had a population-based eye health survey.

In collaboration with Eye Health Aotearoa (which represents all eye health related organizations within Aotearoa New Zealand), RANZCO has been advocating for our first National Eye Health Survey. This aim to collect national data on the prevalence of vision impairment and its main causes, as well as information on the access to eye care services for Māori, Pacific People, and all other New Zealanders. This information will guide future policy formulation, eye health service delivery planning and economic analysis.
- RANZCO will advocate for a long-term program for ongoing data acquisition and analysis and dissemination to support Māori health equity.
Kaupapa 4: RANZCO trainees and Fellows embrace Te Tiriti o Waitangi principles and are culturally safe

- RANZCO has taken the following measures to increase cultural safety amongst RANZCO fellows and trainees:
  - Cultural safety training is embedded at multiple points in the RANZCO training program.
  - RANZCO Fellows have access to the RANZCO Cultural Safety Module as a component of CPD for ophthalmologists.
  - A number of Māori specific cultural safety training courses, e.g., MIHI 501 and Te Ao Māori training were provided to RANZCO Board members, New Zealand Branch Executives, Committee members and College staff.
  - Cultural safety training courses will become mandatory for all branch executive and education committee members and will be encouraged for all trainee supervisors and Fellows on an ongoing basis.
  - RANZCO is committed to continuous improvement and evaluation of the cultural safety learning modules in the RANZCO curriculum.
  - RANZCO will continue to introduce measures, i.e., training course and resources, that enhance and maintain cultural competency in the healthcare workforce.

Kaupapa 5: Equitable access to eye health and outcomes for Māori

- RANZCO will collaborate with stakeholders to develop a Māori model of eye health care and will advocate for the government to adopt the model.
- RANZCO supports a Te Tiriti o Waitangi based eye health wellbeing plan for New Zealand.
- RANZCO will, through its workforce and services committee, lobby for more equitable geographical access to eye assessments and care by encouraging the development of satellite and mobile clinics to take services to the locations where they are needed.
The timeline in this table is as of March 2023, and will be regularly reviewed and updated.

<table>
<thead>
<tr>
<th>Kaupapa 1: Tikanga and Te Tiriti o Waitangi principles are activated in our relationships and our organization</th>
<th>Deliverables</th>
<th>Timeline</th>
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<tbody>
<tr>
<td><strong>1.1</strong> Build and formalise Tiriti based partnerships with tangata whenua.</td>
<td>1.1.1 Explore formalized partnership with Kāpō Māori Aotearoa (KMA).</td>
<td>Complete</td>
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<td></td>
<td>1.1.2 Establish a Tiriti o Waitangi Action Plan Working Group (TAPWG) with Kāpō Māori Aotearoa and consult with relevant stakeholders representation on the TAPWG.</td>
<td>For completion by Q4 2023</td>
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<td></td>
<td>1.1.3 RANZCO acknowledge and participate in Te Tiriti o Waitangi (ToW) and Matariki celebrations and promotion.</td>
<td>Ongoing from Q4 2023</td>
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<td>1.1.4 Extend an invitation to tangata whenua in the health sector to share their Tiriti justice experiences or stories. Staff can then share them through print and digital media.</td>
<td>Ongoing from Q4 2023</td>
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<td>1.1.5 Encourage staff and senior leaders to participate in external events to recognise and celebrate ToW and Matariki.</td>
<td>Ongoing from Q4 2023</td>
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<td>1.1.6 Display the Tino Rangatiratanga flag in the Sydney College office.</td>
<td>Complete</td>
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<td></td>
<td>1.1.7 Ensure adequate resources to seek Māori cultural advice to provide a ToW perspective on relevant College policies and processes.</td>
<td>Ongoing with KMA</td>
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<tr>
<td><strong>1.2</strong> Develop and adopt a Tiriti o Waitangi Guiding Principles &amp; incorporate within RANZCO Governance</td>
<td>1.2.1 Co-develop guiding principles aligned with the articles of Te Tiriti o Waitangi, that inform the RANZCO Tiriti o Waitangi framework, in consultation with appropriate Māori advisors and relevant stakeholders.</td>
<td>Complete</td>
</tr>
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<td></td>
<td>1.2.2 Ratify the Tiriti o Waitangi principles related to health by the NZ Branch of RANZCO and by the RANZCO Board.</td>
<td>Complete</td>
</tr>
<tr>
<td></td>
<td>1.2.3 Consider incorporating Tiriti o Waitangi guiding principles in the constitution of Federal RANZCO.</td>
<td>For consideration by the RANZCO Board at the next constitutional review</td>
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<td></td>
<td>1.2.4 Tiriti o Waitangi articles and health related guiding principles reflected in organization processes, protocols as they are relevant to Aotearoa, e.g. Fellow application criteria, pathway, expectations.</td>
<td>Q1 2024</td>
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<td>1.2.5 Support Te Ohu Rata (Te Ora) and contribute to their meetings.</td>
<td>ongoing since 2022</td>
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<tr>
<td>Action</td>
<td>Deliverables</td>
<td>Timeline</td>
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<tr>
<td>1.3</td>
<td>Raise internal and external awareness of our TAP across our business and sector.</td>
<td></td>
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<tr>
<td>1.3.1</td>
<td>Develop and implement a strategy to communicate the RANZCO TAP to College members, staff, and external stakeholders.</td>
<td>Q4 2023</td>
</tr>
<tr>
<td>1.3.2</td>
<td>Communicate our commitment to Te Tiriti action publicly.</td>
<td>Q4 2023</td>
</tr>
<tr>
<td>1.3.3</td>
<td>Implement the Communications plan developed at 1.3.1, promoting collaboration through ongoing active engagement with all stakeholders.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>1.3.4</td>
<td>Develop culturally appropriate resources with involvement of Tangata Whenua to promote the TAP.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>1.3.5</td>
<td>Implement strategies to engage our staff and members in Te Tiriti o Waitangi, and in policy development, activities and events.</td>
<td>Ongoing from Q1 2024</td>
</tr>
<tr>
<td>1.3.6</td>
<td>Raise a ‘call to action’ among fellows and staff to work towards addressing eye health inequities.</td>
<td>Ongoing from Q1 2024</td>
</tr>
</tbody>
</table>

**Kaupapa 2: Whakatipu - Expanding the Māori Eye Care Workforce**

<table>
<thead>
<tr>
<th>2.1</th>
<th>Ensure more Māori ophthalmologists</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Recognize Māori applicants in selection with additional selection points and a guaranteed multiple mini-interviews.</td>
<td>Since 2020</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Ensure there is a member of the Māori and Pasifika Health Committee on the NZ Selection Panel.</td>
<td>Since 2020</td>
</tr>
<tr>
<td>2.1.3</td>
<td>Work with the medical schools’ Indigenous admissions schemes, careers events and education sessions to promote ophthalmology as a career.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>2.1.4</td>
<td>Offer scholarships to Māori medical students.</td>
<td>Ongoing since 2020</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Offer scholarships to Māori junior doctors.</td>
<td>Ongoing since 2020</td>
</tr>
<tr>
<td>2.1.6</td>
<td>Develop with our partners a mentorship and whanaungatanga program for medical students and junior doctors considering a career in ophthalmology.</td>
<td>Ongoing since 2022</td>
</tr>
<tr>
<td>2.1.7</td>
<td>Develop with our partners a mentorship and whanaungatanga care program to support Māori trainees once they are on the program.</td>
<td>Q2 2024</td>
</tr>
<tr>
<td>2.1.8</td>
<td>Undertake regular progress reviews of the above programs and update them as required.</td>
<td>Ongoing from Q1 2024</td>
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<tr>
<td>Action</td>
<td>Deliverables</td>
<td>Timeline</td>
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</tr>
<tr>
<td>2.2 Support the training of more Māori optometrists</td>
<td>2.2.1 Share resources with New Zealand Association of Optometrists (NZAO) and the University of Auckland Optometry School to facilitate similar access pathways and whanaungatanga for Māori optometrists.</td>
<td>Q2 2024</td>
</tr>
<tr>
<td></td>
<td>2.2.2 Make available to NZ Optometry any RANZCO resources that might facilitate inclusion of tikanga into their training program.</td>
<td>Q2 2024</td>
</tr>
<tr>
<td>2.3 Support the recruitment of more Māori nurses and technicians</td>
<td>2.3.1 Through RANZCO Fellows encourage ophthalmology departments to establish access pathways and whanaungatanga for Māori nurses and technicians.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>2.4 Support kaiāwhina</td>
<td>2.4.1 RANZCO recognise and support the involvement and contribution of the kaiāwhina workforce in the eye health.</td>
<td>Q1 2024</td>
</tr>
</tbody>
</table>

**Kaupapa 3: Rangahau Māori – Ensuring there is adequate data on Māori eye health**

<table>
<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Facilitate the collection of data to support Māori health equity</td>
<td>3.1.1 Facilitate the establishment of a Māori Eye Health Data Working Group (DWG) with relevant stakeholders.</td>
<td>Q2 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.2 Prepare a scoping paper on what data is required and how it might best be collected, how it will be managed and propagated and data sovereignty - kaitiakitanga.</td>
<td>Q3 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.3 Consider data security and management in line with Te Tiriti o Waitangi articles and health principles.</td>
<td>Q3 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.4 Encourage and support preparation for funding applications for data acquisition and analysis in identified areas of needs.</td>
<td>Q3 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.5 Encourage data to be published data in formats that can be accessed by all relevant stakeholders</td>
<td>Q3 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.6 RANZCO and KMA together advocate for the National Eye Health Survey (NEHS) with the support of Eye Health Aotearoa (EHA).</td>
<td>Ongoing since 2022</td>
</tr>
<tr>
<td></td>
<td>3.1.7 Advocate for a long-term program for ongoing data acquisition and analysis and dissemination.</td>
<td>Q3 2024</td>
</tr>
<tr>
<td></td>
<td>3.1.8 Provide data support to the Māori Model of Care Eye Health Working Group (MoCWG).</td>
<td>Ongoing once data is available</td>
</tr>
<tr>
<td>Kaupapa 4: Te Ao Māori - RANZCO trainees and Fellows embrace Te Ao Maori and are culturally safe</td>
<td>Action</td>
<td>Deliverables</td>
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</tr>
<tr>
<td><strong>4.1</strong> Cultural safety in training</td>
<td>4.1.1</td>
<td>Cultural safety training prior to induction and in the RANZCO trainee induction program.</td>
</tr>
<tr>
<td></td>
<td>4.1.2</td>
<td>Mandatory on-line cultural safety modules during training.</td>
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<td></td>
<td>4.1.3</td>
<td>Mandatory trainee attendance at a cultural safety course approved by the Māori and Pasifika Eye Health Committee (MPEHC) within the first two years of training.</td>
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<td></td>
<td>4.1.4</td>
<td>A mandatory cultural safety critical reflection task in 4th year.</td>
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<td></td>
<td>4.1.5</td>
<td>Mandate that all training supervisors must attend a cultural safety course approved by the MPEHC within the first 3 years of commencing supervisor role.</td>
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<td></td>
<td>4.1.6</td>
<td>Encourage all NZ RANZCO Trainees to use the kaupapa Māori framework in eye examination settings to enhance Māori experience</td>
</tr>
<tr>
<td><strong>4.2</strong> Cultural safety for Fellows and RANZCO staff</td>
<td>4.2.1</td>
<td>With our partners develop and make available a ToW and tikanga learning module for RANZCO staff and Fellows.</td>
</tr>
<tr>
<td></td>
<td>4.2.2</td>
<td>Facilitate opportunities for and encourage introduction level Te Reo Māori me ngā tikanga Māori wānanga for all trainees, Fellows and staff.</td>
</tr>
<tr>
<td></td>
<td>4.2.3</td>
<td>Facilitate access to and encourage more advanced level Te Reo Māori me ngā tikanga Māori wānanga for those wishing to extend their skills.</td>
</tr>
<tr>
<td></td>
<td>4.2.4</td>
<td>Mandate that all NZ Branch executive members must have already attended the approved cultural safety course approved by the MPEHC or are scheduled to attend within 12 months of joining the executive.</td>
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<td></td>
<td>4.2.5</td>
<td>Mandate that all NZ QEC members must have attended a cultural safety course approved by the MPEHC or are scheduled to attend within 12 months of joining the committee.</td>
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<td></td>
<td>4.2.6</td>
<td>Encourage all federal RANZCO Board members to attend a cultural safety course approved by the MPEHC.</td>
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<td></td>
<td>4.2.7</td>
<td>Encourage all NZ RANZCO Fellows and interested Australian Fellows to attend a cultural safety course approved by the MPEHC with appropriate CPD credits.</td>
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<tr>
<td>Action</td>
<td>Deliverables</td>
<td>Timeline</td>
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<tr>
<td>4.2.8</td>
<td>Encourage relevant RANZCO office staff to attend a cultural safety course approved by the MPEHC.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>4.2.9</td>
<td>Encourage all NZ RANZCO Fellows to use the kaupapa Māori framework in eye examination settings, to enhance Māori experiences</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>4.2.10</td>
<td>Establish a Māori health session as a regular component of the annual NZ Branch conference.</td>
<td>Q2 2024</td>
</tr>
<tr>
<td>4.2.11</td>
<td>Include an acknowledgement of ToW at the beginning of all College meetings whether on-line or live.</td>
<td>Ongoing since 2021</td>
</tr>
<tr>
<td>4.2.12</td>
<td>For NZ-based meetings, on-line or live, include karakia whakatimatanga and karakia whakamutunga at all meetings in addition to an acknowledgement of ToW.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>4.2.13</td>
<td>To facilitate the development of RANZCO Tikanga Māori resources that explains practices of karakia, mihi whakatau, powhiri etc. and include waiata.</td>
<td>Q1 2024</td>
</tr>
<tr>
<td>4.2.14</td>
<td>Include a mihi whakatau in the annual NZ branch meeting and any bi-national Congress held in NZ.</td>
<td>Q2 2023</td>
</tr>
<tr>
<td>4.2.15</td>
<td>Seek regular feedback from relevant stakeholders on our Fellow’s cultural safety.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

**Kaupapa 5: Pae ora - Equitable access to eye health and outcomes for Māori**

| 5.1 Advocate for improved Māori eye health care | 5.1.1 Advocate for Māori participation at the senior management/planning level in public ophthalmology | Q3 2023      |
| 5.1.2 Advocate for improved access to and service delivery of ophthalmic care for Māori. | | Q3 2023      |

<p>| 5.2 Support the development of a Māori model of eye health care | 5.2.1 Facilitate the establishment of a Māori Model of Care Eye Health Working Group (MoCWG) with relevant stakeholders.                                                                 | Q2 2024      |
| 5.2.2 The MoCWG to create a scoping paper considering potential models and how they might be established. | | Q4 2024      |
| 5.2.3 Develop strategic equity goals in the areas of care delivery (eg. Did Not Attend (DNA) policies to provide equitable access to services) and the following key conditions: Cataract Surgery, Diabetic Retinopathy and Keratoconus. | | |</p>
<table>
<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Timeline</th>
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<tbody>
<tr>
<td>5.2.4</td>
<td>Develop Māori and Pasifika Ophthalmic Centres in the community dedicated to providing equitable surgery and clinical care for Māori and Pasifika (eg. dedicated surgical units with public contracts for Māori and Pasifika patients delivering high-volume cataract surgery, diabetic intravitreal injections and Panretinal Photocoagulation (PRP) laser, and Corneal Cross-linking; dedicated Multidisciplinary clinics for Māori and Pasifika patients.)</td>
<td>Q4 2025 – dependent on NEHS</td>
</tr>
<tr>
<td>5.2.5</td>
<td>Collaborate with DWG to make recommendations to relevant stakeholders including RANZCO on how eye health equity for Māori can be achieved.</td>
<td>Q4 2025</td>
</tr>
<tr>
<td>5.2.6</td>
<td>Recommend a ToW-based Model of Care to the Government.</td>
<td>Q4 2025</td>
</tr>
<tr>
<td>5.3</td>
<td>Support a ToW based eye health wellbeing plan for NZ</td>
<td></td>
</tr>
<tr>
<td>5.3.1</td>
<td>Utilize data from the DWG to determine the important factors beyond immediate eye care that contribute to or detract from eye health in NZ.</td>
<td>Q4 2025 – dependent on NEHS</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Collaborate with relevant stakeholders to address the issues identified under 5.2.1.</td>
<td>Q4 2025</td>
</tr>
<tr>
<td>5.3.3</td>
<td>Provide advice to relevant stakeholders including the Māori Health Authority on an eye health wellbeing plan for NZ.</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
Glossary of abbreviations:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DWG</td>
<td>Data Working Group for Māori Eye Health</td>
</tr>
<tr>
<td>EHA</td>
<td>Eye Health Aotearoa (represents all eye care stakeholder in Aotearoa New Zealand including KMA, RANZCO, Blind and Low Vision New Zealand, NZAO, Macular Degeneration New Zealand, Glaucoma New Zealand, Vision Impairment Charitable Trust, School of Vision Science)</td>
</tr>
<tr>
<td>KMA</td>
<td>Kapo Māori Aotearoa</td>
</tr>
<tr>
<td>MoCWG</td>
<td>Māori Model of Care Eye Health Working Group</td>
</tr>
<tr>
<td>MPEHC</td>
<td>RANZCO Māori and Pasifika Eye Health Committee</td>
</tr>
<tr>
<td>NEHS</td>
<td>National Eye Health Survey</td>
</tr>
<tr>
<td>NZAO</td>
<td>New Zealand Association of Optometrists</td>
</tr>
<tr>
<td>RANZCO</td>
<td>Royal Australian and New Zealand College of Ophthalmologists</td>
</tr>
<tr>
<td>TAPWG</td>
<td>Tiriti o Waitangi Action Plan Working Group</td>
</tr>
<tr>
<td>Te Ohu Rata</td>
<td>(Te Ora – Māori medical doctors association)</td>
</tr>
<tr>
<td>ToW</td>
<td>Tiriti o Waitangi</td>
</tr>
</tbody>
</table>

References


RANZCO Pasifika Eye Health Action Plan (PAP) – April 2023
The Royal Australian and New Zealand College of Ophthalmologists (RANZCO) is the medical college responsible for the training and professional development of ophthalmologists in Aotearoa/New Zealand and Australia. We seek to improve eye health across Aotearoa/New Zealand and Australia, as well as further afield, by providing best quality education, training, and continuing professional development; by promoting eye health care and the work of ophthalmologists; and through collaboration with others involved in the delivery of eye health care.

RANZCO’s Pasifika Eye Health Action Plan is developed with careful consideration by the Māori and Pasifika Eye Health Committee in collaboration with the Pasifika Medical Association (PMA) and aims to address eye health inequities for Pasifika Peoples in Aotearoa.

There are 5 key areas of focus:
1. Governance
2. Workforce
3. Data collection and management
4. Cultural safety
5. Service delivery

The plan is ambitious but also clearly articulates the steps we believe need to be taken in order to achieve equity. By working together we can make a difference.

Pasifika Eye Health Inequity in Aotearoa

Pasifika are still considered a minority ethnic group in Aotearoa, and Māori and Pacific populations in Aotearoa experience worse health outcomes compared to other New Zealanders.¹

Despite Pasifika making up only about 7% of the New Zealand population, 43% of corneal transplants for advanced keratoconus (those with hydrops) performed in the Auckland keratoconus study (2013) were Pasifika subjects.²

Pasifika also present 10 years earlier with cataracts and have more severe disease progression.³

A study conducted in South Auckland revealed that of those who have type II diabetes, the overall prevalence of retinopathy and macular disease was moderate or more severe by 2.80 fold in Māori, and 3.55 times more common in Pasifika compared to NZ Europeans.⁴

Currently there is no national eye health survey in New Zealand, therefore a true picture of inequity is unknown. More data is required on the prevalence of eye disease among Pasifika Peoples; hence the emphasis on data acquisition and management in the Pasifika Eye Health Action.
The following strategic goals were set under the PAP, with specific actions and deliverables outlined to achieve the goals.

Goal 1: Recognize Pasifika peoples in our relationships and our organization

- RANZCO is committed to building and formalizing Partnerships with key Pasifika professional and community stakeholders.
- RANZCO will develop a separate strategy to improve ophthalmic health in the Pacific Region, with a focus on sustainable teaching partnerships with established institutions in the region.
- RANZCO will further engage our membership and stakeholders, to raise internal and external awareness of our PAP across the College and eye sector.

Goal 2: Expand the Pasifika Eye Care Workforce

- To encourage more Pasifika doctors into a career in ophthalmology, RANZCO has adopted a centralised recruitment process that targets and offers additional selection points to Pasifika applicants and automatically allocates an interview to qualified applicants who identify as Pasifika.
  In addition, RANZCO provides multiple scholarships and other grants for Pasifika medical students or junior doctors who wish to pursue a career in ophthalmology.
- RANZCO will continue the efforts to increase the number of ophthalmologists who identify as Pasifika through existing and new measures.
- RANZCO recognises the additional challenges Pasifika trainees face and is committed to provide additional flexibility and culturally safe support as appropriate, whilst continuing to maintain standards.
- RANZCO supports the training of more Pasifika optometrists, nurses, and technicians and will offer assistance and resources to our eye care partners to assist them with this.

Goal 3: Ensure adequate insights and evidence on Pasifika eye health

- In New Zealand, the extent of inequity in eye health is largely unknown. However, New Zealand has never had a population-based eye health survey.
  In collaboration with Eye Health Aotearoa (which represents all eye health related organizations within Aotearoa New Zealand), RANZCO has been advocating for our first National Eye Health Survey. This aim to collect national data on the prevalence of vision impairment and its main causes, as well as information on the access to eye care services for Māori, Pacific People, and all other New Zealanders. This information will guide future policy formulation, eye health service delivery planning and economic analysis.
- RANZCO will advocate for a long-term program for ongoing data acquisition and analysis and dissemination to support Pasifika health equity.
Goal 4: RANZCO trainees and Fellows are culturally safe

- RANZCO has taken the following measures to increase cultural safety amongst RANZCO fellows and trainees:
  - Cultural safety training is embedded at multiple points in the RANZCO training program.
  - RANZCO Fellows have access to the RANZCO Cultural Safety Module as a component of CPD for ophthalmologists.
  - A number of Māori specific cultural safety training courses, e.g., MIHI 501 and Te Ao Māori training were provided to RANZCO Board members, New Zealand Branch Executives, Committee members and College staff.
  - Cultural safety training courses will become mandatory for all branch executive and education committee members and will be encouraged for all trainee supervisors and Fellows on an ongoing basis.
- RANZCO is committed to continuous improvement and evaluation of the cultural safety learning modules in the RANZCO curriculum.
- RANZCO will continue to introduce measures, i.e., training course and resources, that enhance and maintain cultural competency in the healthcare workforce.

Goal 5: Equitable access to eye health and outcomes for Pasifika

- RANZCO will collaborate with stakeholders to advocate for improved Pasifika eye health care.
- RANZCO supports the development of a Pasifika model of eye health care.
- RANZCO Supports a Te Tiriti o Waitangi based eye health wellbeing plan for New Zealand.
<table>
<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Build and formalize Partnerships with key Pasifika professional and community stakeholders.</strong></td>
<td>1.1.1 Establish a Pasifika Action Plan Working Group (PAPWG) that is based on the framework outlined in the 2020 NZ Ministry of Health document, “<em>Ola ManuiPasifika Pacific Health and Wellbeing Action Plan 2020-2025</em>”. Specific partners will be invited to have representation, including the Pasifika Medial Association Fred Hollows Foundation and Pacific Primary Care Providers in NZ.</td>
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<td></td>
<td>1.1.2 Develop a separate strategy to improve ophthalmic health in the Pacific Region, with a focus on the existing programs such as those at the Pacific Eye Institute to ensure sustainable teaching partnerships with established institutions in the region (eg PNG and Fiji).</td>
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<td>1.1.3 Extend an invitation to Pasifika people in the health sector to share their experiences or stories. Staff can then share them through print and digital media.</td>
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<td></td>
<td>1.1.4 Encourage staff and senior leaders to participate in external events to recognise and celebrate Pasifika events.</td>
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<tr>
<td><strong>1.2 Raise internal and external awareness of our PAP across our college and the sector</strong></td>
<td>1.2.1 Develop and implement a strategy to communicate the RANZCO PAP to College members, staff, and external stakeholders.</td>
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<td></td>
<td>1.2.2 Communicate our commitment to Pasifika action publicly, via the established PMA network and general media.</td>
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<td></td>
<td>1.2.3 Implement the communications plan developed at 1.2.1, promoting collaboration through ongoing active engagement with all stakeholders.</td>
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<td></td>
<td>1.2.4 Develop culturally appropriate resources with involvement of Pasifika stakeholders to promote the PAP.</td>
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<td></td>
<td>1.2.5 Raise a ‘call to action’ among fellows and staff to work towards addressing eye health inequities</td>
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<tr>
<td>2.1</td>
<td>Ensure more Pasifika ophthalmologists</td>
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<tr>
<td>2.1.1</td>
<td>Recognize Pasifika applicants in selection with additional selection points and a guaranteed multiple mini-interviews, with regular process reviews and updates as required.</td>
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<tr>
<td>2.1.2</td>
<td>Ensure there is a member of the Māori and Pasifika Health Committee on the NZ Selection Panel, with regular process reviews and updates as required.</td>
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<tr>
<td>2.1.3</td>
<td>Work with the medical schools' Indigenous and Pasifika admissions schemes, careers events and education sessions to promote ophthalmology as a career, with regular process reviews and updates as required.</td>
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</tr>
<tr>
<td>2.1.4</td>
<td>Offer scholarships to Pasifika medical students and junior doctors, and advertise these through our stakeholder partners such as the PMA scholarship network, with regular process reviews and updates as required.</td>
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</tr>
<tr>
<td>2.1.5</td>
<td>Develop mentorship and care program for high school students, medical students, junior doctors and Pasifika trainees once they are on the program. Partner with the PMA Pacific Academy in secondary schools, PMA Trainee Symposium for RMOs and webinars to attract Pasifika ophthalmologists and other eye health workers, with regular process reviews and updates as required.</td>
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<tr>
<td>2.2</td>
<td>Support the training of more Pasifika optometrists</td>
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<tr>
<td>2.2.1</td>
<td>Share resources with New Zealand Association of Optometrists (NZAO) and the University of Auckland Optometry School to facilitate similar access pathways and support for Pasifika optometrists.</td>
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<tr>
<td>2.2.2</td>
<td>Make available to NZ Optometry any RANZCO resources that might facilitate inclusion of Pasifika peoples into their training program.</td>
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<tr>
<td>2.3</td>
<td>Support the recruitment of more Pasifika nurses and technicians</td>
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</tr>
<tr>
<td>2.3.1</td>
<td>Through RANZCO Fellows encourage ophthalmology departments to establish access pathways and support for Pasifika nurses and technicians.</td>
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</table>

### Goal 3: Ensure adequate insights and evidence on Pasifika eye health

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<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1 Ensure adequate insights and evidence on Pasifika eye health</strong></td>
<td>3.1.1 RANZCO to advocate for the National Eye Health Survey with the support of Eye Health Aotearoa (EHA) to gather more data on the level and location of eye health need for Pasifika peoples.</td>
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<td>3.1.2 Advocate for a long-term program for ongoing data acquisition and analysis and dissemination.</td>
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<td>3.1.3 Partner with the Fred Hollows Foundation New Zealand and the University of Auckland agreement to gather data on Pasifika in the region.</td>
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<td></td>
<td>3.1.4 Partner with Te Whatu Ora to obtain ethnicity data for ophthalmic conditions throughout NZ.</td>
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<td></td>
<td>3.1.5 Provide data support to the Pasifika Model of Care Eye Health Working Group (PMoCWG).</td>
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### Goal 4: Cultural Safety

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<thead>
<tr>
<th>Action</th>
<th>Deliverables</th>
<th>Timeline</th>
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<tbody>
<tr>
<td><strong>4.1 Cultural safety in training</strong></td>
<td>4.1.1 Cultural safety in training</td>
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<td></td>
<td>4.1.2 Partner with established resource providers (eg PMA, RACS, MCNZ and college of GPs)</td>
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<td>4.1.3 Mandatory on-line cultural safety modules during training, including a mandatory cultural safety critical reflection task in 4th year.</td>
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<td></td>
<td>4.1.4 Mandate that all training supervisors must attend a cultural safety course approved by the MPHC within the first 3 years of commencing supervisor role.</td>
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<th>Action</th>
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<tbody>
<tr>
<td><strong>4.2 Cultural safety for Fellows and RANZCO staff</strong></td>
<td>4.2.1 With our partners develop and make available a Pasifika/Fonofale model learning module for RANZCO staff and Fellows.</td>
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<td>4.2.2 Facilitate opportunities for and encourage the acquisition of relevant Samoan and Tongan language for all trainees, Fellows and staff. (eg. Free language papers at the Manukau Institute of Technology; Language Courses via &quot;Drops&quot; Smartphone App). Facilitate access to and encourage more advanced Pasifika language skills for those wishing to extend their skills.</td>
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<td>Action</td>
<td>Deliverables</td>
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<td>4.2.3</td>
<td>Mandate that all NZ Branch executive and NZ QEC members must have already attended the approved cultural safety course approved by the MPEHC or are scheduled to attend within 12 months of joining the executive or QEC committee. Encourage all federal RANZCO Board members, NZ RANZCO Fellows, interested Australian Fellows and all RANZCO office staff to attend a cultural safety course approved by the MPEHC, with appropriate CPD credits where applicable.</td>
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<td>4.2.4</td>
<td>Require all NZ RANZCO Fellows to use a culturally safe approach in eye examination settings to enhance Pasifika peoples’ experiences</td>
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<td>4.2.5</td>
<td>Establish a Māori and Pasifika health session as a regular component of the annual NZ Branch conference.</td>
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<td>4.2.6</td>
<td>Seek regular feedback from relevant stakeholders on our Fellows’ cultural competence.</td>
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Goal 5: Equitable access to eye health and outcomes for Pasifika

5.1  Advocate for improved Pasifika eye health care

| 5.1.1 | Advocate for Pasifika participation at the senior management/planning level in public ophthalmology                                                                                                                                                                                                                                             |          |
| 5.1.2 | Advocate for improved access to and service delivery of ophthalmic care for Pasifika.                                                                                                                                                                                                                                                           |          |
| 5.1.3 | Advocate for a national diabetic retinopathy surveillance program with access to monitoring closer to home.                                                                                                                                                                                                                                      |          |
| 5.1.4 | Advocate for assessment for uncorrected refractive error in underserved locations by optometrists employed by hospitals.                                                                                                                                                                                                                      |          |
| 5.1.5 | Advocate for a funded biennial eye health checks for Māori and Pasifika with community services cards from age 55.                                                                                                                                                                                                                             |          |
| 5.1.6 | Advocate for funded screening for keratoconus for Māori and Pasifika youth.                                                                                                                                                                                                                                                                   |          |
5.2  **Support the development of a Pasifika model of eye health care**

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<tr>
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<tr>
<td>5.2.1 Facilitate the establishment of a Pasifika/Fonofale Model of Care Eye Health Working Group (PMoCWG) with relevant stakeholders and Government. Based the framework around the 2020 NZ Ministry of Health document, <em>Ola Manuia Pacific Health and Wellbeing Action Plan 2020-2025</em></td>
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<td>5.2.2 The PMoCWG to create a scoping paper on how they might be established within eye care.</td>
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<td>5.2.3 Develop strategic equity goals in the areas of Care delivery (eg. DNA policies to provide equitable access to services) and the following key conditions: Cataract Surgery, Diabetic Retinopathy and Keratoconus (see appendix 1).</td>
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<td>5.2.4 Make recommendations to relevant stakeholders including RANZCO on how eye health equity for Pasifika can be achieved.</td>
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**5.3  Support a ToW based eye health wellbeing plan for NZ**

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<tr>
<td>5.3.1 Utilize data to determine the important factors beyond immediate eye care that contribute to or detract from eye health in NZ.</td>
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<td>5.3.2 Collaborate with relevant stakeholders to address the issues identified under 5.2.1.</td>
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<tr>
<td>5.3.3 Provide advice to relevant stakeholders on an eye health wellbeing plan for NZ.</td>
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References


Glossary of abbreviations:

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>EHA</td>
<td>Eye Health Aotearoa (represents all eye care stakeholder in Aotearoa New Zealand including KMA, RANZCO, Blind and Low Vision New Zealand, NZAO, Macular Degeneration New Zealand, Glaucoma New Zealand, Vision Impairment Charitable Trust, School of Vision Science)</td>
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<tr>
<td>PMoCWG</td>
<td>Pasifika Model of Care Eye Health Working Group</td>
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<tr>
<td>MPEHC</td>
<td>RANZCO Māori and Pasifika Eye Health Committee</td>
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<tr>
<td>NZAO</td>
<td>New Zealand Association of Optometrists</td>
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<tr>
<td>RANZCO</td>
<td>Royal Australian and New Zealand College of Ophthalmologists</td>
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<tr>
<td>PAPWG</td>
<td>Pasifika Action Plan Working Group</td>
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<tr>
<td>PMA</td>
<td>Pasifika Medical Association (PMA)</td>
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</table>
1. **Equity in Cataract Surgery:**
   - Develop specific equity goals in the areas of Cataract Surgery.
   - Pasifika develop more severe cataracts at a younger age compared to non-Pasifika. NZ Surgical Intervention Rates for cataract surgery are one of the lowest in the developed world, ranked 28th of 32 OECD countries (both statistics from [article here](#)).
   - Create a dedicated [National Prioritisation Web Service](#) Category for Pasifika people to give automatic access to cataract surgery. Currently, automatic prioritisation pathway is used for patients with Diabetes, Glaucoma, Risk of Angle closure, Risk of worsening macular degeneration, or risk of complication.
   - Ring fence minimum numbers of cataract surgery for Pasifika (eg. 20% minimum Pasifika).

2. **Equity in Diabetic Retinopathy**
   - Develop specific equity goals in the areas of Diabetic Retinopathy.
   - Pasifika have high burden of Diabetes (23% in south Auckland study) and diabetic retinopathy (65%) – [article here](#).
   - Create multidisciplinary ophthalmology diabetic clinics with GPs or diabetes nurse specialists from Pacific Primary Care Service Providers to improve education and diabetic management for Pasifika.
   - (Joint MDT clinics are already established with ophthalmologists and endocrinologists for Thyroid Eye Disease; Neurologist and neurology nurses specialists for Neuroophthalmology; immunologists for Uveitis clinics etc).
   - Ensure a minimum number of Pasifika diabetic screening, intravitreal injection and laser clinic interventions.
   - Partner with GP and nursing staff from the Pasifika Primary Care Providers when staffing the procedural (eg injection clinics) and specialist ophthalmology clinics (eg uveitis).

3. **Equity in Keratoconus Care**
   - Develop specific equity goals in the areas of Keratoconus, with a nationwide secondary schools screening program and a minimum number of Corneal Cross-linking procedures. The prevalence of keratoconus appears up to 45x greater in Maori (1 in 45) and Pasifika compared to Pakeha (1 in 2000). Therefore consider prioritising 45x the number of crosslinking performed in Maori and Pasifika patients compared to Pakeha (see [study here](#))
Acknowledgement

Pasifika Medical Association:
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Abel Smith
Jitoko Cama
Dr Kiki Maoate

RANZCO Maori and Pasifika Eye Health Committee:
Dr Alistair Papali'i-Curtin - Samoan
Dr Derek Sherwood
Dr Edward Hutchins - Ngāi tahu, Waitaha
Dr Harris Ansari
Dr John Rawstron
Dr Justin Mora - Ngāi tahu
Dr Rachael Niederer
Dr Simone Freundlich – Ngāti Whatua, Ngāpuhi, Tainui