The Fred Hollows Foundation NZ

The State of Eye Health in the Pacific





Above: Atoifi Outreach, Solomon Islands,
Photo: Darren James/The Fred Hollows Foundation NZ

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Pacific Eye Institute, Suva, Fiji 2026
Photo: Darren James/The Fred Hollows Foundation NZ

Foreword

Every government must decide how to allocate limited resources to have the greatest impact on the health of its citizens, and those decisions depend on sound evidence. For eye health in the Pacific, that evidence has been missing for far too long.

This report begins to fill this gap. Drawing on surveys and health system assessments that The Fred Hollows Foundation NZ carried out with Pacific governments between 2023 and 2026, it shows that most vision loss in our region can be prevented or treated and identifies where each country can act first. This evidence belongs to the Pacific and reflects the commitment of Pacific health workers, survey teams and ministries of health, and we are grateful to everyone we worked with for the expertise and generosity that made this report possible.

A key message of the report is that avoidable blindness, caused by conditions that could have been prevented or can be treated, has large, long-term consequences for individuals, families and society, and unfortunately avoidable blindness is widely prevalent in many Pacific Island countries.

The report brings together the evidence Pacific governments and their partners need to address avoidable blindness: where the burden is greatest, how well health systems are equipped to respond, and what practical steps can be taken to reduce it.

Eye care in the Pacific depends on many people, including those who plan, fund, deliver and support health services, and I hope all of them will find something useful in these pages. The ten recommendations in Chapter 3 set out practical policy decisions governments can make. Their benefits extend beyond eye care to the wider health system, strengthening the screening, referral pathways, health workforce, medical supplies and information systems that also support the management of other conditions, including non-communicable diseases.

The Fred Hollows Foundation NZ offers this report in the spirit of partnership and in line with the vision of the *2050 Strategy for the Blue Pacific Continent.* I invite you to read it, discuss it with colleagues and use the evidence to guide decisions that bring quality eye care to everyone who needs it, wherever they live in the Pacific.

Dr Audrey Aumua
Chief Executive Officer
The Fred Hollows Foundation NZ



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Abbreviations and definitions

AI	Artificial intelligence
CSC	Cataract surgical coverage
DR	Diabetic retinopathy
ECSAT	Eye Care Situation Analysis Tool
eCSC	Effective cataract surgical coverage
eREC	Effective refractive error coverage
FNU	Fiji National University
NCD	Non-communicable disease
PacEYES	Pacific Eye Care Society
PEI	Pacific Eye Institute
RAAB	Rapid Assessment of Avoidable Blindness Survey
REC	Refractive error coverage
SISS	Small Island States Survey
US$	United States dollars
UV	Ultraviolet
WHO	World Health Organization

Causes

Cataract is the clouding of the eye's natural lens, which causes blurry vision and can lead to blindness if left untreated.

Refractive error is a common problem where the eye does not focus light correctly on the retina, causing blurred vision. It includes short-sightedness, long-sightedness and astigmatism and can usually be corrected with spectacles.

Diabetic retinopathy is damage to the blood vessels at the back of the eye caused by diabetes, which can lead to vision loss or blindness if left untreated. Regular eye screening and timely treatment can help prevent vision loss.

Presbyopia is an age-related change to the eye's ability to focus on close objects, making reading and other near tasks more difficult. It can usually be corrected with reading spectacles.

Severity of vision impairment

Vision impairment is classified by presenting visual acuity (vision measured with the person's usual spectacles if any) in the better-seeing eye.

Blindness (worse than 3/60): Very limited or no useful vision. The person must be closer than 3 metres to see what someone with normal vision can see at 60 metres.

Severe vision impairment (worse than 6/60 to 3/60): Major difficulty seeing, even when wearing usual spectacles. The person must be 3 to 6 metres away to see what someone with normal vision can see at 60 metres.

Moderate vision impairment (worse than 6/18 to 6/60): Difficulty seeing faces or objects clearly at distance, even when wearing usual spectacles. The person must be 6 to 20 metres away to see what someone with normal vision can see at 60 metres.

Mild vision impairment (worse than 6/12 to 6/18): Some difficulty seeing detail at distance, for example reading signs or recognising faces, even when wearing usual spectacles. The person must be at 20 to 30 metres to see what someone with normal vision can see at 60 metres.

Measures of service coverage and quality

Cataract surgical coverage measures the proportion of people who need cataract surgery who have already received it.

Effective cataract surgical coverage measures the proportion of people who need cataract surgery who have had it and now see well (visual acuity of 6/12 or better).

Refractive error coverage measures the proportion of people who need distance vision correction who have spectacles, regardless of how well these correct their vision.

Effective refractive error coverage measures the proportion of people who need vision correction, have spectacles and see well with them (visual acuity of 6/12 or better).

Relative quality gap measures the proportion of people who received cataract surgery or spectacles but did not achieve good vision (visual acuity of 6/12 or better) as a result.



Tavua Outreach, Fiji,
Photo: James Ensing-Trussell/The Fred Hollows Foundation NZ

Executive summary

Vision is fundamental to how people work, learn and participate in their communities, yet at least two billion people globally live with a vision impairment. At least one billion of them have vision loss that could have been prevented or can be treated. Without better access to eye care, this number is projected to reach 1.7 billion by 2050, driven largely by population growth and ageing, rising rates of non-communicable diseases (NCDs) and climate change.

Vision loss costs the global economy an estimated US$411 billion a year in lost productivity, while closing the global treatment gap for cataract and uncorrected refractive error would cost an estimated US$14.3 billion.[1]

Yet nine out of ten people in the Pacific who are blind do not need to be.[2] The burden falls hardest on women and girls, who are less likely to receive treatment and make up 55 per cent of people with vision loss globally.[3]

Although more than 400 Pacific eye care professionals have graduated from training programmes across 14 Pacific Island countries, there is still a critical shortage of trained staff to meet the population's eye care needs. Health systems already under considerable pressure must serve populations dispersed across vast areas, often with limited funding. Ageing populations, substantial emigration of health workers, rapidly rising rates of diabetes and diabetic retinopathy, and the growing impact of climate change on health care compound these challenges.[4]

An effective response requires reliable evidence on the eye health needs of Pacific populations and the capacity of each health system to meet them. The Fred Hollows Foundation NZ's State of Eye Health research programme has partnered with Pacific governments to conduct population-based surveys and eye health system assessments, giving governments reliable evidence on the scale and causes of vision loss, and on the strengths and gaps in their eye health systems.

In the four countries that have completed Rapid Assessment of Avoidable Blindness (RAAB) surveys, between 83 and 93 per cent of blindness was avoidable, and in the Cook Islands, 95 per cent of vision impairment was avoidable. The leading causes were cataract and uncorrected refractive error, both of which can be treated with surgery or an appropriate pair of spectacles.

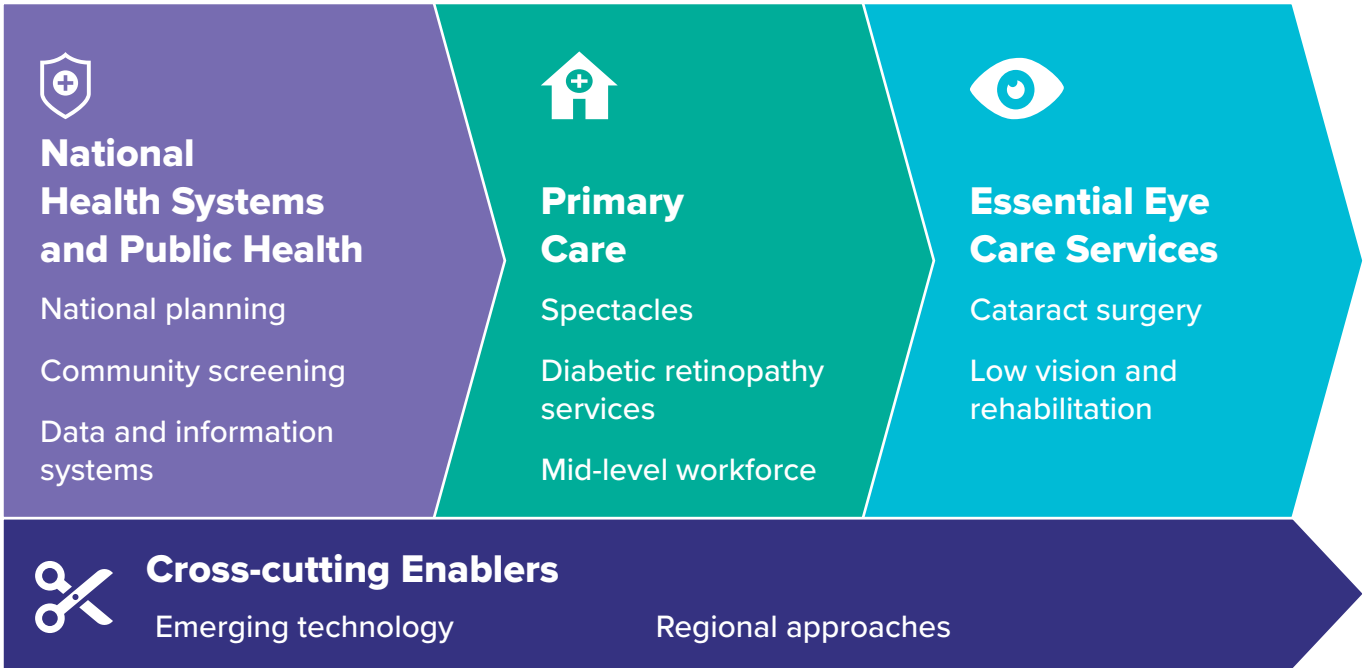
Cataract surgical coverage at the blindness threshold varied considerably, from 37.4 per cent in Papua New Guinea to 92.5 per cent in Tonga. Effective refractive error coverage – the proportion of people who have the spectacles they need to correct their vision – was low in every country surveyed, with the highest rate recorded in the Cook Islands at just 35 per cent.

Eye health system assessments identified similar challenges across the region, including significant gaps in the workforce and health information systems, and fragmented, donor-dependent financing.

Drawing on this evidence, the report presents ten recommendations focused on some of the most cost-effective ways to improve eye health and target investment where it can have the greatest impact. They are grouped into four areas of the health system: national health systems and public health, primary care, essential eye care services, and cross-cutting enablers.

[1] WHO, 2019
[2] Steinmetz et al., 2021
[3] International Agency for the Prevention of Blindness [IAPB], 2019
[4] IAPB, 2019

Ten recommendations for Pacific eye health



National health systems and public health

1. Embed eye care in national health planning, anchored by a national eye health plan, a dedicated budget line and a national eye care coordinator.
2. Invest in health promotion and community screening.
3. Strengthen data collection and integrated national health information systems.

Primary care

4. Fund spectacles in primary care and enable nurses to dispense them.
5. Integrate diabetic retinopathy services into diabetes and NCD care.
6. Invest in the mid-level eye health workforce and formally recognise eye health cadres within national health systems.

Essential eye care services

7. Prioritise cataract surgery and invest in both surgical quality and access.
8. Expand low vision and rehabilitation services as part of eye care within the health system.

Cross-cutting enablers

9. Use emerging technologies, from portable retinal cameras to artificial intelligence (AI) grading and simulation-based surgical training, to expand eye care delivery and training.
10. Strengthen regional approaches to workforce training, equipment procurement and specialist eye care.

The recommendations reinforce one another and become more achievable and sustainable when Pacific governments and their partners pursue them together. Eye health should not be treated as a health issue alone; it is vital to the economic and social wellbeing of Pacific communities, and the evidence in this report provides a roadmap for action.

About the State of Eye Health research programme

Eye health has not been a public health priority for Pacific governments in recent decades. Health systems already contending with the combined burden of communicable and non-communicable diseases and the health impacts of climate change face difficult decisions about how to allocate limited resources.[5] Although vision loss was recognised as a significant challenge, the region lacked the population-level evidence needed to show its scale, underlying causes and the gaps in service provision.

Development of the State of Eye Health research programme began in 2022, with funding from the New Zealand Ministry of Foreign Affairs and Trade and other partners. The Fred Hollows Foundation NZ leads the programme in partnership with Pacific Ministries of Health and the University of Auckland's Centre for Pacific and Global Health, Te Poutoko Ora a Kiwa, and School of Optometry and Vision Science, with support from the International Centre for Eye Health at the London School of Hygiene & Tropical Medicine.

The programme was established with four objectives:

1. **To measure met and unmet eye care needs** across Pacific populations.
2. **To provide Pacific governments with robust evidence** to guide the planning, development and delivery of equitable eye health services.
3. **To inform The Fred Hollows Foundation NZ's future investment** in Pacific eye health and direct resources to the areas of greatest need and potential impact.
4. **To support the vision of the *2050 Strategy for the Blue Pacific Continent*** by generating evidence that advances people-centred development, improves health and wellbeing, and promotes equitable access to essential eye care.

The programme uses three complementary research tools:

1. **Rapid Assessment of Avoidable Blindness (RAAB):** a population-based eye health survey used in countries with populations of 100,000 or more. RAABs have been completed in Vanuatu (2023), Samoa (2024) and Tonga (2025), and an earlier RAAB was conducted in Papua New Guinea (2017).
2. **Small Island States Survey (SISS):** a purpose-designed eye health survey for small island states with populations below 100,000, and the first of its kind in the world. It was piloted in the Cook Islands in 2026.
3. **Eye Care Situation Analysis Tool (ECSAT):** built around six areas adapted from the World Health Organization's (WHO) health system building blocks, the ECSAT assesses eye health system capacity. ECSATs have been completed in Solomon Islands (2023) and Vanuatu (2025).

The findings provide an evidence base for eye health planning and decision-making at national and regional levels. They support the integration of eye health into national health planning, guide the development of policies, plans, budgets, and monitoring and evaluation frameworks, and inform advocacy and donor investment.

This report presents the key findings in an accessible form for Pacific governments and other decision-makers to use in addressing the growing burden of blindness and vision impairment in their countries.

[5] WHO/WPRO, 2012

Chapter 1

Why eye health matters



Simbu outreach, Papua New Guinea
Photo: Darren James/The Fred Hollows Foundation NZ

Chapter 1
Why eye health matters

The global burden and cost of vision loss

Vision shapes how we work, learn, interact with others, and participate in society. Yet the profound impact of blindness and vision loss on the quality of life of individuals, families and communities is often overlooked.

Globally, at least two billion people live with a vision impairment.[6] At least one billion of them have vision loss that could have been prevented or could be addressed with access to essential eye care services.[7] Without urgent action, the number of people with unaddressed vision loss is projected to reach 1.7 billion by 2050 driven by population growth and ageing, the rising incidence of non-communicable diseases (NCDs) and the effects of climate change.[8] Timely and ongoing access to appropriate eye care can prevent avoidable vision loss, help people manage existing vision impairment, and improve their health, wellbeing and quality of life.[9]

Eye health has historically received limited attention and investment in Pacific health systems, despite the significant impact of vision loss on individuals, families and communities. In 2021, only one Pacific Island country, Solomon Islands, had a dedicated eye health budget line.

Vision loss can affect a person's ability to engage in meaningful work and earn a living for themselves and their family, learn at school, remain independent and interact with friends and family.[10] It can also affect mental wellbeing and increase the need for support and caregiving. Its impact therefore extends to families, communities and the wider economy, and the benefits of treatment reach well beyond the individual.

Vision loss is estimated to cost the global economy US$411 billion a year in lost productivity.[11] Treating avoidable vision impairment can improve employment opportunities and workplace productivity, allow family caregivers to return to paid work, and support better educational outcomes for children with uncorrected vision problems. Closing the global treatment gap for cataract and uncorrected refractive error is estimated to cost health systems US$14.3 billion.[12] This makes eye health one of the most cost-effective investments available to economies and health systems.



Dr Valeria, a teaching ophthalmologist
Photo: Sam Murray/The Fred Hollows Foundation NZ

[6] IAPB, Seva Foundation, & The Fred Hollows Foundation, 2025
[7] WHO, 2019
[8] Bourne et al., 2021
[9] WHO, 2019
[10] Burton et al., 2021
[11] Burton et al., 2021
[12] WHO, 2019



Eye nurse Asenaca conducts a visual acuity test in Tavua, Fiji, Photo: James Ensing-Trussell/The Fred Hollows Foundation NZ

The Pacific burden and the case for investment

Investment in eye health is particularly important in the Pacific, where the burden of eye disease is disproportionately high and eye care is challenging to deliver. High rates of NCDs, ageing populations, remote communities with limited access to health services, an overburdened and under-resourced workforce, and vulnerability to climate change place growing pressure on eye health services across the region.

Most vision loss is preventable or treatable: in the Pacific, nine out of ten people who are blind do not need to be. With timely access to relatively simple interventions such as cataract surgery and spectacles, much of the region's vision impairment could be avoided.

The growing burden of NCDs has important implications for eye health in the Pacific. Diabetes rates in the region are among the highest in the world, with the Pacific accounting for 10 of the 20 countries with the highest prevalence.[13] Diabetic retinopathy, a complication of diabetes that can cause blindness, is a growing concern. A study in three Pacific Island countries found high rates of diabetic retinopathy among people attending diabetes clinics, with prevalence reaching 69 per cent in Nauru.[14]

The burden of vision loss is not shared equally. In Papua New Guinea's 2017 survey, an estimated 5.6 per cent of people aged 50 and over were blind – women made up 61 per cent of this group and were less likely than men to receive treatment.[15] Women also generally provide unpaid care for family members with vision impairment, which can affect their participation in education and employment.[16]

Vision loss can have particularly serious consequences in Pacific communities where livelihoods depend on activities such as fishing and farming, and where family members often provide care and support. Addressing avoidable vision loss therefore offers important opportunities to strengthen both individual wellbeing and local economies. The International Agency for the Prevention of Blindness (IAPB) estimates that investing US$3.27 million in Pacific eye health over five years (2026 to 2030) could deliver US$69 million in economic benefits.[17]

Eye health can no longer be treated as merely a health issue. The impact of blindness and vision impairment on Pacific communities is far-reaching.

[13] World Population Review, 2026
[14] Tin et al., 2014
[15] Lee et al., 2019
[16] Hennessy, 2025
[17] D'Esposito, 2025

From visiting teams to a Pacific workforce

Before 2006, there were very few ophthalmic nurses, ophthalmologists and optometrists in the Pacific region, partly because of the absence of appropriate training facilities and sufficient postgraduate ophthalmology training programmes.[18] Eye care relied heavily on visiting surgical teams from Australia, New Zealand and the United States, many of which provided care through annual outreach visits.[19]

Eye health challenges were growing at the time, compounded by limited government funding, shortages of eye doctors and nurses, and inadequate facilities and equipment. Geographically dispersed populations faced significant barriers to care, and eye health was not yet integrated into national health systems which were fragile and unable to meet growing health needs.

To build sustainable eye health capacity in the Pacific, the Pacific Eye Institute (PEI) began training Pacific eye doctors and nurses in Honiara, Solomon Islands, in 2006, and relocated to Suva, Fiji, in 2007. As a regional training facility, PEI has since trained 227 eye care professionals across 14 Pacific Island countries, working in close partnership with Pacific ministries of health, including Fiji's Ministry of Health and Medical Services, local institutions such as Fiji National University (FNU), and many other eye health partners.

As regional capacity developed, services also evolved in response to emerging health needs. A 2009 study found that more than 40 per cent of adults aged 40 and older in Fiji had diabetes, highlighting the urgent need for targeted diabetes eye care services.[20] In response, PEI opened Fiji's first Diabetes Eye Clinic in 2011. Located on site, the clinic provides specialist diabetes eye care and supports the training of eye doctors and nurses. Its establishment responded to the World Health Organization's identification of diabetes-related vision loss as a growing challenge in the Pacific, alongside increasing regional recognition of the need to integrate eye health into diabetes care.[21]

These developments have contributed to substantial growth in the Pacific eye health workforce over the past two decades. Graduates of the FNU-PEI ophthalmology programme have gone on to lead eye care services in several Pacific countries, and in some countries individual specialists provide care to populations dispersed across many islands. Despite this progress, the region has continued to face a critical evidence gap, with limited data on the scale and distribution of vision loss, where needs are greatest and the capacity of eye health systems to respond.[22] Better eye health data is needed to guide investment in training the right people, from the right places, with the skills to deliver the services their communities need.



Samoa, RAAB survey team 2024

[18] Baral, 2020
[19] Keeffe et al., 2002
[20] Brian et al., 2010
[21] WHO/WPRO, 2014
[22] Hamm et al., 2024

Chapter 2

The state of eye health in the Pacific



Patients and clinicians at the Tokelau surgical outreach at TTM Hospital in Apia, Samoa.
Photo: Darren James/The Fred Hollows Foundation NZ

Chapter 2
The state of eye health in the Pacific

Drawing on the available evidence, this chapter addresses three key questions to help health decision-makers progress towards eliminating avoidable blindness and vision impairment in the Pacific: What is the scale of the problem? How well equipped are eye health systems to respond? And what wider factors affect eye health across the region?

The burden of avoidable blindness

In 2022, the State of Eye Health research programme set out to develop baseline evidence to help Pacific governments and policymakers understand the burden of vision loss and the strength of eye health systems in their countries.[23]

National population-based RAAB surveys have been completed in Vanuatu (2023), Samoa (2024) and Tonga (2025), and a RAAB was completed in Papua New Guinea in 2017, before the programme was established. In 2026, the Cook Islands completed a Small Island States Survey (SISS), an approach adapted for small island populations that surveys adults aged 40 and older.

Survey methods, age ranges and timing differ between countries and should be considered when comparing results, although the patterns across countries are often consistent. These surveys provide the most reliable picture of vision loss and eye care needs in these countries. Full results for each country are set out in the Appendix.

Prevalence of blindness and vision impairment

Blindness among adults aged 50 and older varied across the four RAAB surveyed countries, from 0.7 per cent in Tonga to 5.6 per cent in Papua New Guinea. Severe vision impairment ranged from 0.8 per cent in Tonga to 3.5 per cent in Samoa. In Papua New Guinea, blindness was significantly more common in women than in men (7.0 per cent compared with 4.4 per cent).

Less severe vision impairment affected a larger proportion of the population, with moderate vision impairment ranging from 5.1 to 10.9 per cent and mild vision impairment from 5.2 to 7.7 per cent. In the Cook Islands, 26 per cent of adults aged 40 and older had vision impairment.

Causes of vision impairment

Cataract and uncorrected refractive error were the two main causes of vision impairment in the countries surveyed. Cataract can be treated with surgery, and refractive error corrected with spectacles.

Refractive error is particularly prominent in the earlier stages of vision impairment, while cataract becomes increasingly prominent as vision loss becomes more severe. Cataract was the leading cause of blindness in all four RAAB surveyed countries, accounting for 62.1 per cent in Tonga, 70.8 per cent in Samoa, 82.4 per cent of blindness in Vanuatu, and 88.6 per cent in Papua New Guinea.

Avoidable blindness

Most vision loss identified in the surveys was avoidable, often resulting from conditions that had gone untreated. The proportion of blindness that could have been prevented or treated was 82.7 per cent in Tonga, 83.4 per cent in Samoa, 92 per cent in Vanuatu, and 92.6 per cent in Papua New Guinea. In the Cook Islands, 95 per cent of vision impairment was avoidable.

[23] Unless otherwise cited, figures in this report are drawn from the national survey reports and are summarised in the Appendix: Lee et al., 2019; Samoa Ministry of Health & The Fred Hollows Foundation NZ, 2024; Te Marae Ora Cook Islands Ministry of Health et al., 2026; Tonga Ministry of Health & The Fred Hollows Foundation NZ, 2025; Vanuatu Ministry of Health & The Fred Hollows Foundation NZ, 2024



Nurse Monica Manas at Kerema Outreach
Photo: Darren James/The Fred Hollows Foundation NZ

Access to and quality of services

Cataract surgical coverage

Cataract surgical coverage measures how well services meet the need for cataract surgery. Several Pacific countries have achieved high coverage among people affected by cataract-related blindness including Vanuatu (79.2 per cent), Samoa (90.1 per cent) and Tonga (92.5 per cent), which indicates that services reached many of the people with the greatest need for surgery.

Coverage was lower when people with less severe vision impairment were included, ranging from approximately 26.5 per cent in Vanuatu to 56.2 per cent in Tonga at the 6/12 threshold. This may reflect the prioritisation of people with more advanced vision loss where surgical capacity is limited.

Cataract surgical outcomes

Effective cataract surgical coverage reflects both the quality of surgery and the condition of patients' eyes. Outcomes are worse when people present late with advanced cataract or have other eye conditions that affect their vision. Effective cataract surgical coverage is generally lower, reflecting that some people who received surgery did not achieve a good visual outcome. At the threshold of cataract-related blindness, effective coverage was 54.3 per cent in Vanuatu, 67.9 per cent in Samoa and 79.3 per cent in Tonga. In the Cook Islands, where there are no local ophthalmologists, almost one-third of people who had cataract surgery did not achieve good functional vision (6/12 or better, as defined by WHO).

Barriers to cataract surgery

Barriers to cataract surgery differed across the four RAAB surveyed countries. Not knowing that cataract can be treated was the leading barrier in Vanuatu and Papua New Guinea, each reported by around 30 per cent of people, while feeling that treatment was not needed was most common in Samoa and Tonga. Access to services was a barrier in all four countries, cost was a further barrier in Tonga and Papua New Guinea, and a smaller proportion of people reported fear of surgery. These findings highlight the need to strengthen community awareness, address barriers to accessing care, and improve surgical capacity and quality to ensure more people can benefit from cataract surgery.

Refractive error coverage

Effective refractive error coverage measures the proportion of people who need vision correction and have received spectacles that provide good vision. Across the countries surveyed, many people lacked appropriate spectacles. Coverage varied from 8.1 per cent in Samoa and 10.3 per cent in Vanuatu to 21.9 per cent in Tonga, and was well below both the global average of 66 per cent and the regional average of 55 per cent (Asia, East Asia and Oceania).[24] Of those who did have spectacles, only a minority did not see well with them - 9.9 per cent in Tonga and 19.8 per cent in Samoa - indicating that spectacles are generally effective when prescribed.

[24] Bourne et al., 2025

Diabetic retinopathy

Retinopathy was common in people with diabetes, ranging from 21.2 per cent in Vanuatu, to 44.0 per cent in the National Capital District of Papua New Guinea and 45.2 per cent in Tonga. The severity of diabetic retinopathy varied, with 5 to 13 per cent of cases being sight-threatening.

In the Papua New Guinea National Capital District, Samoa and Vanuatu, three-quarters or more of people with diabetes had never had an eye examination. However in Tonga eye examinations were more common, with only a quarter (24.7 per cent) never having had an exam.

Integrating routine retinal screening into diabetes and NCD services can improve early detection of diabetic eye disease. Early detection of diabetic retinopathy enables timely referral and treatment, helping to prevent irreversible vision loss.



Remote community screenings for diabetes and diabetic retinopathy, Solomon Islands
Photo: Darren James/The Fred Hollows Foundation NZ

Key RAAB findings

While the findings highlight important differences between countries, they indicate that most vision loss in the Pacific is avoidable. Eye health services lack the reach and capacity to meet the need for cataract surgery and refractive error correction, and those who receive care do not always achieve good visual outcomes.

In several countries, cataract surgical coverage is high among people who are already blind but lower among those with less severe vision loss, suggesting that surgical capacity is directed to people with the most advanced cataract. Reaching people with cataract earlier enables timely assessment and surgery, supporting better visual outcomes. Many people are unaware that cataract is treatable, while cost and travel barriers can prevent those seeking care from accessing services. Increasing community awareness and screening, strengthening referral pathways and expanding surgical capacity can improve cataract surgical coverage. Earlier treatment, routine monitoring of surgical outcomes and ongoing training for surgical teams can help ensure that more people receive care that restores their vision.

Spectacles generally correct vision effectively, but most people who need them lack access. The priority is therefore to expand access to refraction and affordable spectacles through primary eye care.

Differences in the burden of vision impairment, workforce availability, geography, health system capacity and barriers to care across Pacific countries highlight why no single model of eye care will work everywhere, and why national responses need to be shaped by local evidence and priorities. Integrating findings from regular population-based assessments into health information systems and national planning will help guide service development and track progress in detecting vision loss and delivering effective eye care.

Avoidable blindness and vision impairment can profoundly affect a person's productivity and quality of life. A health economics analysis conducted as part of Tonga's 2025 RAAB survey found that vision impairment was associated with lower quality of life, and that women with vision impairment needed help with unpaid work for an average of 20 days a month.[25]

[25] Hennessy, 2025

Eye health system capacity

The burden of vision loss in the Pacific is substantial, largely avoidable and growing under the pressure of demographic change, rising NCDs and climate change. Pacific governments are working to address these challenges while navigating structural gaps, workforce shortages and limited resources. Understanding the capacity of existing eye health systems is essential to identifying gaps in services, prioritising improvements and directing resources where they can have the greatest impact.

The Eye Care Situation Analysis Tool (ECSAT) provides a structured basis for examining the health system building blocks needed to deliver eye care effectively and sustainably. WHO identifies six building blocks of strong health systems: leadership and governance; service delivery (access); service delivery (quality); workforce and infrastructure; health financing; and health information systems.

Completing an ECSAT reflects a government's willingness to review its own eye health system and identify its strengths and areas for improvement. The assessments show the stage of development of each country's eye health system and identify areas for strengthening. ECSATs have been conducted in two Pacific countries, Solomon Islands and Vanuatu.

The Solomon Islands ECSAT identified several strengths in the system, including the integration of eye health into national health and NCD strategies and a dedicated budget line.[26] While health financing, leadership and governance still require minor strengthening, the greatest priorities should be workforce, infrastructure and health information systems.

Although Vanuatu's eye health system is relatively new, eye health is already integrated into national legislation, policies and planning, and only minor strengthening is needed in leadership and governance.[27] However, service delivery, workforce, infrastructure, financing and health information systems all require more focused development to improve access, strengthen referral pathways, enhance quality of care and support planning that responds to population needs.

As these ECSATs assessed eye health systems at different stages of development, they are not directly comparable. However, the results are valuable for identifying next steps. Both countries share a strength in leadership and governance, with eye health reflected in national policy and planning and supported by clear coordination. This highlights the important role of political commitment in strengthening eye health systems.

Evidence from Solomon Islands, Vanuatu and other Pacific countries highlights the need to strengthen the eye health workforce and health information systems, including establishing these systems where they are absent. Across the region, the need for eye care far exceeds the capacity of the available specialist workforce.

In Papua New Guinea, for example, a population of approximately 11 million would require 110 ophthalmologists to meet the WHO benchmark of one ophthalmologist per 100,000 people, yet the country has just 13 practising ophthalmologists.[28]

Eye nurses across the region are also concentrated in urban and peri-urban facilities, leaving many remote communities reliant on specialist outreach visits. These visits may take place annually, less frequently, or in some areas, not at all.

Health information systems also need strengthening, as routine data on eye conditions, service delivery and surgical outcomes are rarely collected systematically. Without reliable, up-to-date information, governments find it difficult to plan services, direct resources where they are most needed and build a strong case for investment.

Eye care financing across the Pacific remains fragmented and heavily dependent on external funding. Very few national budgets allocate dedicated resources to eye health, and where funding exists, it is often tied to donor programmes. Long-term sustainability depends on strengthening domestic funding and local eye health leadership to support locally led health systems.

Workforce, health information systems and financing are the areas where most work is needed for Pacific countries to respond to the growing burden of eye disease. Eye care relies on the same health system building blocks as other services. Strengthening these foundations is essential to reducing avoidable blindness and vision impairment, while also improving the delivery of other health services more broadly.

[26] Silwal et al., 2024
[27] Silwal et al., 2025
[28] Yusufu et al., 2021

Wider pressures on eye health

Demographic change, rising NCDs and climate change each influence the scale of blindness and vision impairment in the Pacific and the capacity of health systems to respond.

Ageing and migration

The risk of vision impairment increases with age – approximately 82 per cent of people who are blind worldwide are aged 50 and older.[29] Conditions such as cataract, refractive error, macular degeneration, glaucoma and diabetic retinopathy are the leading causes of vision impairment worldwide, and their prevalence rises steeply with age. As Pacific populations age, the health, economic and social challenges related to eye health are likely to intensify.

Migration also places significant pressure on eye health services. Skilled emigration rates in the Pacific are among the highest in the world, with many working-age Pacific Islanders moving to countries such as Australia, New Zealand and the United States for better employment and education opportunities.[30] The lack of formal recognition of eye care nurses' specialised skills within ministries of health contributes to nurses leaving the eye care workforce.

The loss of trained health professionals, particularly nurses, places further strain on already stretched health systems. In Fiji, 807 nurses, or 26.4 per cent of the government nursing workforce, reportedly left the government health system in 2022.[31] The main hospital in Tonga, Vaiola Hospital, is reported to have lost 45 per cent of its nursing workforce since the COVID-19 pandemic, largely to work opportunities overseas.[32] In Niue, where more than 90 per cent of people who identify as Niuean live outside the country, the Nursing Division reports emigration as a continuing challenge to retaining nurses.[33]

Together, ageing populations, emigration and workforce changes affect both who needs eye care and who is available to provide it. Eye health services rely heavily on nurses and allied health workers for screening, post-operative care and community outreach, and the loss of trained staff makes these essential services increasingly difficult to sustain. As working-age people leave, ageing communities face growing eye care needs with fewer health professionals and caregivers to support them and fewer taxpayers contributing to government revenue.



Pre-surgery eye measurement, Samoa
Photo: Darren James/The Fred Hollows Foundation NZ

[29] Pascolini & Mariotti, 2012
[30] Asian Development Bank, 2018
[31] Devi, 2023
[32] Latu, 2025
[33] Jackson-Siohane, 2026

Diabetes and non-communicable diseases

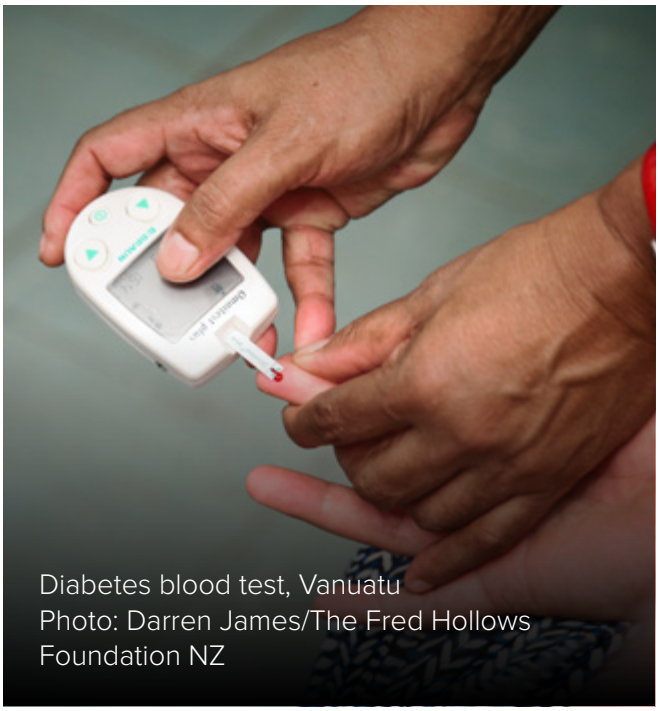
The Pacific has among the highest rates of diabetes in the world. In 2024, four of the ten countries and territories with the highest age-standardised diabetes prevalence were in the Pacific: French Polynesia, Kiribati, the Marshall Islands and Samoa.[34] This reflects profound changes in physical activity, food environments and diets over recent decades. Climate change has reduced local food production and increased reliance on imported, processed foods of low nutritional quality.[35]

Recent national STEPS surveys, which monitor risk factors for noncommunicable diseases such as diabetes, indicate that diabetes is becoming more prevalent. In the Cook Islands, the prevalence of diabetes increased from 23.5 per cent in 2013-2014 to 34 per cent in 2022. Most adults surveyed (84.7 per cent) reported eating less than the recommended quantities of fruit and vegetables.[36] Similarly in Fiji, the prevalence of diabetes increased from 14.6 per cent in 2011 to approximately 17 per cent in 2025, with only 21 per cent of adults reporting they ate the recommended daily amount of fruit and vegetables.[37]

The Small Island States Survey (SISS) in the Cook Islands, which included a random blood glucose test, found 36 per cent of adults, 40 years and over, met the clinical threshold for diabetes.

A direct consequence of the Pacific diabetes epidemic for eye health is a rise in diabetic retinopathy. Persistently uncontrolled blood glucose damages the small blood vessels of the retina, causing progressive vision loss that can lead to blindness if untreated. Because systematic screening is limited, diabetic retinopathy often progresses undetected until vision loss is already severe or irreversible.

Diabetic retinopathy has historically received limited attention in health system planning in low-income settings, and it remains the leading cause of blindness among working-age adults worldwide.[38] Without greater investment in prevention, screening and treatment, it is likely to become the defining cause of avoidable vision loss in the Pacific over the coming decades.



Diabetes blood test, Vanuatu
Photo: Darren James/The Fred Hollows Foundation NZ

The Solomon Islands has one of the highest rates of undiagnosed diabetes in the WHO Western Pacific Region — an estimated one in seven people have the condition and 80.6 per cent of them are unaware.[39]

A 2015 study found that diabetes care cost the Solomon Islands Government an average of AU$281 per person a year, or AU$12.8 million nationally, approximately 20 per cent of total government health expenditure.[40] Caregiving for people with diabetes — generally unpaid work for female family members — is estimated to have an additional economic cost of AU$7.8 million a year.

While 80.6 per cent of people with diabetes in Solomon Islands were undiagnosed, the Cook Islands survey found that approximately 80 per cent of people with diabetes were aware of their diagnosis, one of the higher rates of awareness in the region.

Across the Pacific, overstretched health systems and limited access to screening and treatment contribute to high rates of undiagnosed or poorly managed diabetes. By the time people seek eye care, their diabetic retinopathy is likely to be more advanced, placing further pressure on eye health services. These challenges are placing increasing pressure on eye health services and reinforce the need for earlier detection and treatment of diabetes-related eye conditions.

[34] International Diabetes Federation [IDF], 2025
[35] Georgeou et al., 2022
[36] Te Marae Ora Cook Islands Ministry of Health & WHO, 2022
[37] Rabulu, 2026
[38] Yau et al., 2012; Zheng et al., 2012
[39] WHO, 2023
[40] Win Tin et al., 2015

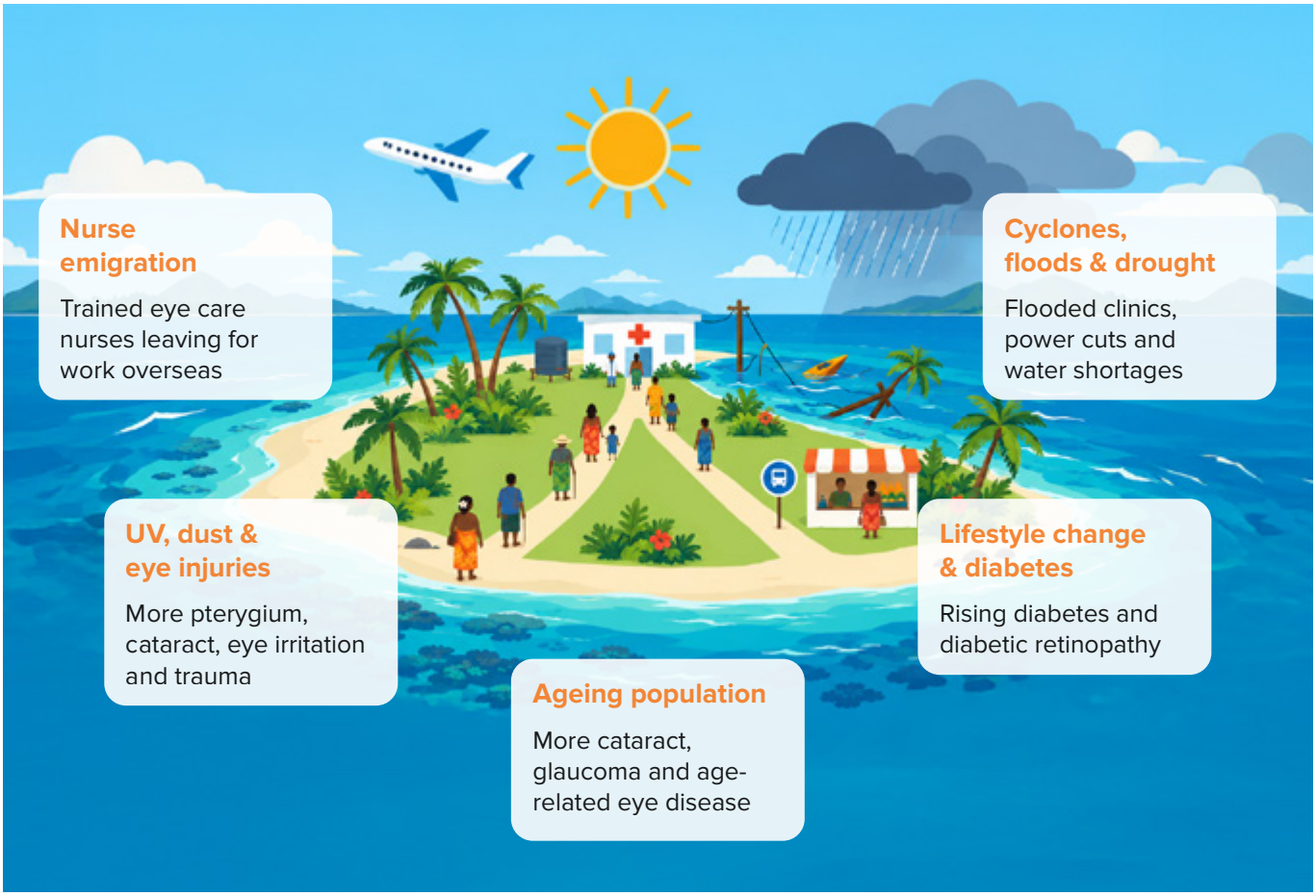
The climate crisis

Climate change is intensifying health risks and creating new challenges for Pacific Island countries, compounding existing pressures on health systems. The Pacific is among the regions most exposed to climate change, and extreme weather events and natural disasters are placing increasing pressure on health services and infrastructure. Disruptions to power, water and staffing can halt surgery and outreach, delaying or preventing people from receiving the care they need.

Extreme weather events, particularly cyclones, pose a direct risk to eye health through injuries caused by flying debris, shattered materials and structural damage. These injuries often require specialist care. Heavy rainfall and drought can also force health facilities to close or reduce services for extended periods, while damaged buildings, power outages and blocked roads make it difficult for staff, supplies and patients to reach or deliver care.[41] Dry, dusty conditions can contribute to eye problems, such as dry eye disease.[42]

Climate change is also altering the atmosphere above the Pacific in ways that directly threaten vision. Changes in cloud cover are projected to cause small increases in ultraviolet (UV) radiation across tropical and mid-latitude regions, including the Pacific, where baseline UV levels are already high.[43] Prolonged UV exposure is a well-established risk factor for eye conditions such as pterygium, cataract and other causes of avoidable vision loss, which develop gradually and lead to vision impairment if left untreated.[44]

The evidence in this chapter shows both the scale of avoidable blindness and vision impairment in the Pacific and the challenges health systems face in responding. The next question is how Pacific governments and their partners can use this evidence to strengthen eye health services and meet the needs of their communities.



[41] Pacific Community, Secretariat of the Pacific Regional Environment Programme, Pacific Islands Forum Secretariat, United Nations Development Programme, United Nations Office for Disaster Risk Reduction, & University of the South Pacific [SPC et al.], 2016
[42] Stapleton et al., 2017
[43] Bernhard et al., 2023
[44] Lucas et al., 2019

Chapter 3

Ten recommendations for decision-makers



The Mobile Eye Clinic team on outreach in Tavua, Fiji.
Photo: James Ensing-Trussell/The Fred Hollows Foundation NZ

Chapter 3
Ten recommendations for decision-makers

Blindness and vision impairment have significant health, social and economic consequences for individuals and communities across the Pacific, yet research shows that most of this burden is avoidable. Population-based surveys and health system assessments in Pacific countries have provided valuable evidence on the scale and causes of vision loss and the gaps in eye health systems. For the first time, Pacific governments and decision-makers can use this evidence to guide policy decisions and direct investment where it can have the greatest impact.

Eye health is among the most cost-effective areas in which Pacific governments can invest.[45] For governments managing constrained budgets and competing priorities, investing in eye health offers important health, economic and social benefits.

The ten recommendations in this chapter set out policy and practical actions that governments and decision-makers can take to strengthen eye health systems, improve access to essential services and help end avoidable blindness and vision impairment in the Pacific. Each draws on evidence and experience from across the region.

The recommendations cover three areas of the health system—national health systems and public health, primary care, and essential eye care services—and two cross-cutting enablers. Because Pacific countries are at different stages of developing their eye health systems, each country can prioritise actions based on its own needs, circumstances and available evidence.



Equipment used in the Tonga RAAB Survey

[45] Burton et al., 2021

National health systems and public health

Recommendation 1

Embed eye care in national health planning

Eye health has historically sat outside national health planning in the Pacific. Without formal integration into health systems, eye care remains dependent on donor funding and lacks the sustained investment and local leadership needed for long-term sustainability.

Embedding eye care in national health systems is an important foundation for strengthening services and meeting the eye health needs of Pacific communities, and underpins every other recommendation in this chapter.

A key step is to develop and implement a national eye health plan that identifies eye health needs, service delivery priorities, opportunities and challenges. The plan can also guide the inclusion of eye care in wider health sector strategies, support increased financing and strengthen integration within the health system.

Three practical mechanisms provide the structures needed to put a national eye health plan into action: a dedicated budget line for eye health, a national eye care coordinator and strong medical leadership.

A dedicated budget line allows governments to allocate and sustain funding for eye health services, reducing reliance on external support and enabling longer-term planning.

A national eye care coordinator within the government health system oversees implementation of the plan, ensuring it is translated into action and that eye health remains visible across budget cycles and changes of government. The role also supports greater accountability and a more coordinated approach to making inclusive, quality eye care accessible to all.

Strong medical leadership, usually provided by the head of the ophthalmology department, helps guide frontline eye care teams and build the political commitment needed to address avoidable blindness. Effective leaders can advocate for eye health with health executives and support their teams to deliver the national eye health plan.

Case study: Vanuatu

The findings of the Vanuatu ECSAT (2025) helped strengthen the integration of eye health into national health planning. Vanuatu has established a national eye care coordinator within the Ministry of Health and included three eye health indicators in its Ministry of Health Corporate Plan 2026 to 2030. The indicators focus particularly on cataract surgical quality and regular prevalence tracking, removing the need for costly surveys to obtain eye health data.

Integrating eye care into national health planning and budgeting also creates opportunities to strengthen links with other health services, including NCD programmes. The patients at greatest risk of diabetic retinopathy, for example, are the same patients seen in diabetes programmes, where retinopathy screening can be incorporated into existing services. Nurses who screen children for hearing loss, community workers conducting NCD outreach and facilities delivering maternal and primary care also offer opportunities to identify eye conditions and refer patients for further care.

Recommendation 2

Invest in health promotion and community screening

A significant barrier to eye care for many is not understanding that vision loss can be treated or where to access treatment. As a result, many people with avoidable vision impairment and blindness miss out on the potentially life changing eye care they desperately need. This indicates that current services are not identifying or reaching large numbers of people with treatable vision loss. Strengthening health promotion and community screening can help identify people with vision problems earlier and connect them to appropriate treatment.

Effective health promotion in the Pacific requires sustained, locally led communication in local

languages, delivered through trusted community networks. Churches, community health workers, village leaders, local radio and community-based organisations, particularly women's groups and organisations of persons with disabilities, can play an important role in reaching people who may otherwise face barriers to care. Messages should raise awareness of common eye conditions, explain available treatments and provide clear information on where and how to access services.

Community health workers offer a direct and cost-effective way to improve access to eye care. Many are based in local communities across the Pacific, operate within existing health structures, speak local languages and are trusted community members. With appropriate training, simple screening tools, clear messages and knowledge of referral pathways, they can support eye health promotion and screening.

Simple vision screening during existing community activities, such as NCD outreach visits, school health checks or church gatherings, can identify people with cataract, refractive error or signs of diabetic retinopathy, and WHO has developed screening tools that community health workers can use for this purpose.[46] People identified through screening should be connected to the care they need, at clinics or through surgical outreach teams, and screening should be introduced only where a referral pathway to treatment is in place.

Recommendation 3

Strengthen data collection and integrated national health information systems

Until recently, Pacific governments and development partners had limited evidence to guide eye health planning and investment. Without reliable data on the scale and causes of vision loss, it is difficult to determine where services are most needed and how resources should be prioritised.

The first priority is to commit to regular population-based surveys and health system assessments. The Pacific's emerging eye health evidence base draws on two tools, RAAB and ECSAT. Conducting a RAAB every 10 years and an ECSAT every five years would allow prevalence, coverage and outcomes to be tracked over time, inform investment decisions and help measure progress towards eliminating avoidable blindness.

The second priority, recommended by the ECSATs, is to strengthen national health information systems to routinely and systematically capture data on eye conditions and outcomes. Health facilities routinely generate valuable information on cataract surgery, spectacles dispensed, diabetic retinopathy screening and patient referrals, but this information rarely reaches national health information systems. Integrating these indicators would give governments a clearer picture of eye health service delivery, support resource allocation and ensure eye health is considered alongside other national health priorities.

Addressing these gaps requires broader investment in health information systems, including reliable digital record-keeping at facility level and connectivity between facilities and national data systems.

Evidence from surveys, assessments and eye health service data must inform policy, investment, service delivery and workforce planning decisions. Establishing measurable indicators and regularly reviewing progress can help Pacific governments and their partners identify where improvements are needed, strengthen accountability and make better-informed decisions about eye health services.

Case study: Cook Islands

Following presentation of the Cook Islands SISS (2026) findings, Te Marae Ora approved a new refraction services hub at Rarotonga Hospital, responding directly to the survey's main finding that refractive error is the leading cause of vision impairment. The survey has also laid the groundwork for ongoing monitoring: local eye care providers, working with The Fred Hollows Foundation NZ and the University of Auckland, have developed standardised Medtech health information system templates for eye screening, surgery and post-operative follow-up. These will allow the Cook Islands to move from one-off surveys towards continuous eye health monitoring based on routine clinical data.

[46] WHO, 2024

Primary Care

Recommendation 4

Fund spectacles in primary care and enable nurses to dispense them

Uncorrected refractive error is the leading cause of mild vision impairment in every Pacific country surveyed, yet effective refractive error coverage remains among the lowest in the world. Coverage ranges from just 8.1 per cent in Samoa to 35 per cent in the Cook Islands, leaving most people who need spectacles without adequate correction.

For many, the solution is a pair of spectacles — relatively inexpensive and straightforward to provide, without need for specialist surgery or complex equipment. Expanding access to spectacles can improve vision, support learning and employment, and enable fuller participation in society.[47] A policy commitment backed by investment to close this gap could deliver substantial social and economic returns.

A key recommendation is for governments to invest in providing spectacles as part of publicly funded primary health care. There is limited access to optometry and refraction services across the Pacific, and where they exist they are concentrated in urban centres. Public funding is limited or non-existent and the cost of spectacles from private providers can create further barriers for those who need vision correction.[48]

However, more affordable options are available for many. Ready-made spectacles offer a lower-cost alternative to custom-made spectacles, particularly for adults with presbyopia (age-related difficulty focusing on near objects), and ready-to-clip spectacles extend these benefits by allowing a different lens strength for each eye. Together, these options can make vision correction more affordable and accessible for many people.

Refraction services can be increased by training of primary care workers to provide vision assessment. With appropriate training and defined scopes of practice, they can prescribe spectacles or provide ready-made reading spectacles to adults with presbyopia.[49]

In many Pacific settings, eye care nurses are trained to perform refraction and prescribe custom-made or readymade spectacles. Expanding this training would improve access to vision correction. In addition, basic training for community health workers to assess near vision and provide suitable readymade reading spectacles to adults with presbyopia could extend access further, bringing care closer to communities.[50]

Expanding these capabilities in primary care could help more people obtain timely vision correction without travelling to specialist facilities. Countries can draw on tools and technical support from WHO's SPECS 2030 initiative, which aims to increase effective refractive error coverage by 40 percentage points by 2030.

Recommendation 5

Integrate diabetic retinopathy services into diabetes and NCD care

Diabetic retinopathy is a rapidly growing cause of avoidable vision loss in the Pacific. It can progress without noticeable symptoms until vision loss is severe and irreversible. However early detection and timely treatment can prevent 95 per cent of diabetes-related blindness.[51] Retinal screening can accurately detect diabetic retinopathy before symptoms develop and can be carried out by trained nurses without an ophthalmologist present.

Across the Pacific, diabetic retinopathy screening is not consistently integrated into routine diabetes care, and opportunities for early detection and treatment may be missed as a result, increasing the risk of avoidable vision loss.

In Vanuatu, Samoa and Papua New Guinea, most people with diabetes had never had an eye examination for diabetic retinopathy, so many cases are likely to be detected late. Research in Vanuatu has demonstrated the potential to expand screening in Pacific Island settings: a study on three islands found that portable retinal cameras could produce images of sufficient quality for diabetic retinopathy screening, and that 24 per cent of participants with diabetes had retinopathy requiring referral for further assessment or treatment.[52]

[47] IAPB, Seva Foundation, & The Fred Hollows Foundation, 2025
[48] WHO/WPRO, 2026
[49] Avikashni, 2018
[50] Fasawe et al., 2026
[51] Burton et al., 2021
[52] Caceres et al., 2023

The key recommendation is to make diabetic retinopathy screening a standard part of diabetes care. This requires clear screening protocols, established referral pathways for specialist assessment and treatment, and a monitoring system that tracks screening rates and outcomes over time.

Governments can support this by funding retinal screening through existing NCD programmes, and by equipping and authorising nurses in diabetes services to screen using portable retinal cameras. An integrated screening and referral process will ensure that cases that would otherwise have been missed are detected early and treated.

Diabetic retinopathy screening must be supported by accessible diabetes treatment and ongoing management. People living with diabetes need reliable access to medication, regular blood glucose monitoring and ongoing clinical care to reduce the risk of complications. Integrating these services can strengthen NCD services as a whole by connecting eye, diabetes and primary care teams around the same patients.

Recommendation 6

Invest in the mid-level eye health workforce and formally recognise eye health cadres

Workforce shortages across the Pacific extend beyond ophthalmologists to the nurses, ophthalmic assistants and other mid-level eye health workers who provide essential services, including screening, dispensing, post-operative care, community outreach and diabetic retinopathy screening. These shortages are compounded by the concentration of trained staff in urban and peri-urban centres, leaving many remote communities dependent on infrequent outreach visits.

Increasing the number of ophthalmologists remains essential, but training specialists takes time. Investing in mid-level eye health workers offers a more immediate opportunity to expand access to eye care, particularly in primary health care and community settings.

Since 2006, The Fred Hollows Foundation NZ has supported the training of more than 400 eye care professionals across 14 Pacific Island countries, including nurses with competencies in refraction, health promotion and diabetic retinopathy screening and grading.

This training model has contributed significantly to eye health workforce capacity in the region.

The first priority is to expand training capacity, broaden the range of competencies available at primary care level, and ensure training programmes keep pace with the growing need for services, particularly for diabetic retinopathy and age-related eye disease. Training general nurses already based in remote facilities to conduct basic eye health examinations would extend eye care to underserved communities.

Workforce retention is also vital: workers in a recognised, funded system with a clear career structure are more likely to stay, yet in many Pacific Island countries, mid-level eye health clinical cadres are not formally recognised in national health workforce frameworks.[53]

Nurses trained in ophthalmic screening or refraction, for example, may have no recognised professional title, defined salary band, career progression pathway or regulatory standing in the national health system. This limits motivation, undermines retention and makes it difficult for governments to plan and fund these roles systematically. Policymakers should formally recognise mid-level eye health roles and scopes of practice, in national health legislation and classification systems.

Together, expanded regional training pathways and formal recognition of mid-level eye health workers can help countries build a skilled, sustainable workforce capable of meeting the needs of communities across the Pacific.

[53] WHO/WPRO, 2026

Essential eye care services

Recommendation 7

Prioritise cataract surgery and invest in both surgical quality and access

Cataract is a leading cause of blindness across the Pacific, yet sight can often be restored through a relatively straightforward and highly cost-effective surgical procedure. A single operation can permanently restore sight, improving opportunities for employment, independence and quality of life. Investing in cataract surgery can therefore deliver significant health, social and economic benefits for individuals, families and communities.

Cataract surgical coverage for those who are blind varies considerably across the region, from 37.4 per cent in Papua New Guinea to 92.5 per cent in Tonga. These figures reflect differences in access to surgery.

However, coverage alone does not reflect how well people can see after treatment. In the Cook Islands, while 96 per cent of people with cataract-related visual impairment 6/60 or worse, received surgery, one in four did not achieve good functional vision (6/12 or better) after treatment. Improving surgical quality and visual outcomes is as important as expanding access, and the balance of investment should be guided by each country's needs.

Improving surgical quality starts with systematic outcome monitoring, which allows ophthalmologists and health systems to understand the reasons for suboptimal results and where to improve.

The quality of surgical training also determines surgical outcomes. Postgraduate ophthalmology trainees in the Pacific have limited opportunities to develop and maintain technical proficiency because of low surgical volumes in isolated settings. Investment is needed in structured surgical training, including simulation-based training, peer review and mentorship from experienced ophthalmologists.

Where coverage remains low, expanding access to cataract surgery is also a priority. In Papua New Guinea, for example, the scale of unmet need is substantial. Populations are dispersed across remote islands and highlands and often cannot access eye care unless they travel to larger cities or an outreach team visits. Surgical outreach brings services closer to remote communities, helping to reduce geographical barriers and address unmet need.

Improvements in surgical quality and access can help more people receive timely cataract surgery and achieve good vision, supporting progress towards reducing avoidable blindness across the Pacific.

Recommendation 8

Expand low vision and rehabilitation services as part of eye care

As Pacific populations age and the burden of chronic eye disease grows, the number of people living with irreversible vision loss will increase. Low vision and rehabilitation services are a significant and consistently underserved gap across the region, with very limited availability at primary and tertiary levels.[54]

Low vision and rehabilitation services give people who are blind or with residual vision the tools, resources and strategies they need to maintain some independence and continue taking part in daily life. Magnifiers, high-contrast materials, task lighting and adapted visual aids can restore functional independence. Rehabilitation services help people with severe vision loss continue to participate in work, education, family and community life, reducing the dependence and economic burden that vision loss places on households and caregivers.

For Pacific health systems already stretched by workforce shortages and funding constraints, expanding these services does not require separate infrastructure. Low vision assessments and basic assistive device provision can be integrated into existing eye care and community outreach, with referral pathways to more specialised rehabilitation support where needed.

[54] WHO/WPRO, 2026

The key recommendation is to explicitly include low vision and rehabilitation in national health plans and service delivery frameworks. This could involve training primary care nurses to conduct basic low vision assessments, making essential low vision devices available through public health services, and ensuring that referral pathways to rehabilitation services are defined and funded.

Services should also be developed in partnership with the disability sector, including organisations of persons with disabilities such as the Pacific Disability Forum, and linked to education systems so that children with low vision can access assistive devices and inclusive education.

Integrating these services into existing health systems can help ensure that people living with permanent vision impairment have access to appropriate support alongside prevention and treatment services.



The Mobile Eye Clinic team on outreach in Tavua, Fiji.
Photo: James Ensing-Trussell/The Fred Hollows Foundation NZ

Cross-cutting enablers

Recommendation 9

Use emerging technologies to expand eye care delivery and training

Emerging technologies can offer opportunities to expand access to eye care across the Pacific, particularly where geographical barriers and workforce shortages limit the availability of specialist services.

Portable retinal cameras and smartphone-based fundus imaging devices allow trained nurses or technicians to conduct retinal imaging in primary care clinics and community settings. Research has shown that some of these devices can achieve diagnostic performance comparable to conventional desktop retinal imaging systems.[55] Retinal images can now be graded automatically using artificial intelligence (AI), reducing clinicians' workload and increasing screening capacity. In one primary care trial, an AI system correctly identified 87 per cent of people with more than mild diabetic retinopathy, compared with specialist assessment.[56] Combined with appropriate training, retinal imaging equipment and referral pathways, AI can support nurses without specialist eye care training to deliver diabetic retinopathy screening.

Smartphones also offer tools for visual acuity and colour vision testing, visual field screening and photography of the front of the eye. Studies have shown that trained community health workers can reliably measure distance visual acuity using validated smartphone apps in community and outreach settings.[57]

Technology can also strengthen surgical training. Virtual reality simulation training allows trainee ophthalmologists to develop and refine surgical skills before operating on patients. Teleophthalmology platforms can support remote mentorship, allowing experienced ophthalmologists to observe, guide and review clinical cases and support trainees in geographically isolated settings.

Introducing new technologies requires careful planning and investment. To be effective, they must be supported by a trained workforce, reliable infrastructure, clear referral pathways and access to appropriate treatment, ensuring they strengthen existing eye care services and reach the communities most in need.

Recommendation 10

Strengthen regional approaches to workforce training, equipment procurement and specialist eye care

Pacific Island countries share many eye health challenges, including limited specialist workforces, geographical barriers and constrained health budgets. For countries with smaller populations and limited resources, maintaining the full range of specialist expertise, equipment and services needed for comprehensive eye care can be particularly challenging. Regional cooperation offers a sustainable approach to addressing avoidable blindness and vision impairment by enabling countries to share resources, strengthen eye health capacity and expand access to specialist services.

Shared training programmes that build on the PEI model can help countries pool the cost of developing a skilled local eye health workforce while ensuring graduates serve populations across the region. Regional procurement of equipment and consumables, including portable retinal cameras, surgical supplies and low vision devices, can reduce costs and simplify purchasing. Regional specialist capacity, whether through coordinated visiting specialist teams or specialty training, allows countries with limited eye health infrastructure to benefit from specialist expertise and meet the varied needs of their populations.

[55] Vaughan, 2024
[56] Abràmoff et al., 2018
[57] Bastawrous et al., 2015

The Pacific Eye Care Society (PacEYES) is an emerging regional eye health network with the potential to support greater coordination in these areas. Strengthening PacEYES and its links with existing regional health forums, such as the Pacific Heads of Health and Pacific Health Ministers meetings, could provide a platform for shared workforce planning, aligned procurement and coordinated specialist services, strengthening regional collaboration alongside national investment in eye health.

The ten recommendations in this chapter offer Pacific governments and their partners practical ways to address avoidable blindness and vision impairment. Countries will need to prioritise actions according to their own circumstances, and regional cooperation can help make these efforts more effective and sustainable. Progress on ending avoidable blindness in the Pacific will also directly contribute to strengthening health systems more broadly.



Samoa PacEYES, 2025

Conclusion

The evidence in this report confirms that most blindness in the Pacific is avoidable, and that proven, affordable and effective interventions are available. Avoidable vision loss limits people's ability to work and children's opportunities to learn. It also draws family members — most often women — away from paid employment to provide care. In Pacific Island countries, where many livelihoods depend on fishing, farming and other physical work, these impacts reduce household incomes, weaken communities and affect the wider economy.

The need will continue to grow as populations age, diabetes rates rise and the impacts of climate change place further pressure on health systems and communities. The longer action is delayed, the greater the cost.

Cataract surgery and spectacles are among the most cost-effective interventions available to governments. Investing in eye care also helps strengthen the workforce, referral pathways and information systems on which other health services depend.

The ten recommendations in this report set out how governments can act on this evidence. Eye health should be recognised as a national priority, supported by dedicated budget lines, national eye health plans and the involvement of health and finance ministries. Investing in eye care can deliver wider benefits for productivity, education and community wellbeing.



Dr Mundi at the Tokelau surgical outreach at TTM Hospital in Apia, Samoa.
Photo: Darren James/The Fred Hollows Foundation NZ

Appendix

	Vanuatu (n=4965)	Samoa (n=4440)	Tonga (n=4088)	Papua New Guinea (n=4818)	Cook Islands[6] (n=491)
Indicator					
Prevalence of vision impairment (%) [1]					
Mild VI (<6/12-6/18)	7.7	6.7	5.2	7.3	26% has vision impairment
Moderate VI (<6/18-6/60)	10.0	8.1	5.1	10.9	
Severe VI (<6/60 - 3/60)	1.7	3.5	0.8	2.9	
Blind (<3/60)	1.7	1.5	0.7	5.6	
Causes of vision Impairment (%) – top 3					
Mild VI	Refractive error (76.9) Cataract (20.9) Pterygium (0.5)	Refractive error (76.3) Cataract (17.1) Pterygium (3.1)	Refractive error (75.3) Cataract (19.6) DR[2] (2.1)	Refractive error (45.3) Cataract (43.6) OPSD[3] (7.4)	Refractive error (76.0) Cataract (20.0) Others (<5.0)
Moderate VI	Cataract (66.0) Refractive error (27.2) Pterygium (2.5)	Cataract (46.1) Refractive error (40.2) Pterygium (7.4)	Cataract (47.1) Refractive error (40.3) DR (8.1)	Cataract (76.2) Refractive error (16.1) OPSD (4.8)	
Severe VI	Cataract (91.0) Refractive error (5.6) Pterygium, AMD[4], OPSD (1.1)	Cataract (67.0) Pterygium (6.4) DR (4.3)	Cataract (58.1) DR (16.1) Refractive error (12.9)	Cataract (89.3) Non-trachoma corneal opacity (1.7) OGCA[5] (1.6)	
Blindness	Cataract (82.4) OPSD (4.7) DR (2.4)	Cataract (70.8) OPSD (11.1) OGCA (5.6)	Cataract (62.1) OGCA (17.2) DR (10.3)	Cataract (88.6) OPSD (3.9) OGCA (2.9)	
Proportion of blindness that is avoidable (%)					
(%)	92	83.4	82.7	92.6	95 – avoidable vision impairment

[1] Age and sex adjusted rates (other than PNG)
[2] DR — diabetic retinopathy
[3] OPSD — Other posterior segment disease
[4] AMD — age-related macular degeneration
[5] OGCA — Other globe/CNS abnormalities
[6] The Cook Islands used the Small Island States Survey (SISS) methodology, designed for populations under 100,000 and targeting adults aged 40 years and older, compared with 50 years and older in the four RAAB countries. Although not directly comparable, the findings provide additional evidence of similar patterns of eye health needs and service gaps across the Pacific.

	Vanuatu (n=4965)	Samoa (n=4440)	Tonga (n=4088)	Papua New Guinea (n=4818)	Cook Islands[6] (n=491)
Indicator					
Cataract surgical coverage (CSC) & effective cataract surgical coverage (eCSC) (%) [1]					
$CSC_{6/12}$	26.5	48.8	56.2	-	49
$eCSC_{6/12}$	16.3	34.1	46.8	-	34
Relative quality gap$_{6/12}$	**38.4**	**30.3**	**16.7**	**-**	**30.6**
$CSC_{6/18}$	38.9	60.2	71.3	22.2	66
$eCSC_{6/18}$	25.3	42.8	60.2	-	49
Relative quality gap$_{6/18}$	**34.9**	**29**	**15.6**	**-**	**25.8**
$CSC_{6/60}$	65.6	82.0	90.3	32.3	96
$eCSC_{6/60}$	44.3	61.4	77.8	-	72
Relative quality gap$_{6/60}$	**32.4**	**25.2**	**13.9**	**-**	**25.0**
$CSC_{3/60}$	79.2	90.1	92.5	37.4	n/a
$eCSC_{3/60}$	54.3	67.9	79.3	-	n/a
Relative quality gap$_{3/60}$	**31.1**	**24.7**	**14.3**	**-**	**n/a**
Barriers to cataract surgery (%) – top 3-4					
(%)	Unaware treatment possible (29.2) Felt not needed (29.2) Cannot access surgery (12.5)	Felt not needed (43.1) Unaware treatment possible (15.5) Cannot access surgery (8.6) Fear (6.9)	Felt not needed (53.8) Cannot access surgery (15.4) Cost (9.0) Unaware treatment possible (6.4) Fear (1.3)	Unaware treatment possible (30.5) Felt not needed (30.0) Cannot access surgery (~21.5) Cost (~16.5) Fear (~2.0)	
Refractive error – distance (%)[1]					
Distance $eREC_{6/12}$	10.3	8.1	21.9	-	35
Distance $REC_{6/12}$	12.6	10.1	24.3	27.3	42
Relative quality gap	17.9	19.8	9.9	-	16.7

	Vanuatu (n=4965)	Samoa (n=4440)	Tonga (n=4088)	Papua New Guinea (n=4818)	Cook Islands[6] (n=491)
Indicator					
Diabetes and diabetic retinopathy (DR) (%)					
Prevalence of Diabetes – known & suspected	13.3	23.9	37.3	8.1	36
Prevalence of any DR	21.2	36.7	45.2	44.0	33 (DR and/or maculopathy)
Prevalence of 'sight-threatening' DR	8.0	11.5	12.8	4.8	6
Self-reported time since last eye examination for DR among known diabetics (%)					
Never	85.9	76.5	24.7	~85	-
Within 1 year	8.6	17.5	55.7	11.4	-
1-2 years	2.4	1.4	7.5	0	44 (within 2yrs)
>2 years	3.1	4.6	12.1	~3.6	-

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Patient at home following surgery, Fiji
Photo: Darren James/The Fred Hollows Foundation NZ

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