Evaluation of the Pacific Eye Institute Training Programme 2016-2021

The Pacific Eye Institute, Fiji

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About Future Partners and team

Future Partners Limited is a Wellington-based consultancy firm, owned and managed by Kirsty Burnett. Future Partners has extensive international experience in designing activities, implementing, monitoring and reviewing development assistance, and providing institutional capacity building for public sector and economic reform programs primarily in Asia and the Pacific. Future Partners is a client focussed organisation and values its reputation and modus operandi. It sees its primary clients as the people and organisations who will be impacted by their interventions. To respond to specific Terms of References we assemble teams from amongst our associates, individuals and organisations we sub-contract.

Kirsty Burnett has over 25 years of experience as an international development practitioner, she joined MFAT in 2005 and since 2013, Kirsty has worked as an independent consultant, primarily in the Pacific for a range of clients and in based in Wellington.

Dr Elisabeth Poppelwell has over 20 years' experience in applied research and evaluation. Since 2014, Elisabeth has largely focused on researching and evaluating international development programmes in the Pacific. Her PhD examined the ways state-owned enterprises in Samoa and Tonga have enhanced their corporate governance practice by applying local cultural values and principles.

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List of abbreviations

ACR	Activity Completion Report
CWM	Colonial War Memorial Hospital, Fiji
CAC	College Admission Committee (of FNU)
CMNHS	College of Medicine, Nursing and Health Sciences (of FNU)
COVID 19	Corona virus disease of 2019
DAC	Development Assistance Committee
DR	Diabetic Retinopathy
FNU	Fiji National University
The Foundation	The Fred Hollows Foundation New Zealand
The Framework	Future Fred Regional Programme Framework
ICA	The International Council of Accreditation
IJCAHPO	International Joint Commission on Allied Health Personnel in Ophthalmology
KEQ	Key Evaluation Question
Low and middle-income countries	LMICs
MCEC	Masters of Community Eye Care
MEC	Mobile Eye Clinic
MMed	Master of Medicine in Ophthalmology
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
MHMS	Ministry of Health and Medical Services (MHMS) Fiji
MoA	Memorandum of Agreement
MOH	Ministry of Health
NCDs	Non-Communicable Diseases
OECD	Organization for Economic Co-operation and Development
PEC	Primary Eye Care
PEI	Pacific Eye Institute, Suva, Fiji
PGDEC	Postgraduate Diploma in Eye Care
PGDO	Postgraduate Diploma in Ophthalmology
PICs	Pacific Island Countries
PNG	Papua New Guinea
RANZCO	Royal Australian and New Zealand College of Ophthalmologists
SDGs	Sustainable Development Goals
SPECS	Strengthening Pacific Eye Care Systems
UPNG	University of Papua New Guinea
WHO	World Health Organization

Evaluation of the Pacific Eye Institute Training Programme 2016 - 2021

Executive Summary

The Fred Hollows Foundation NZ (The Foundation) works to reduce avoidable blindness and untreated vision impairment in the Pacific through the continual training of eye care workers to strengthen Pacific-led eye care services.

One of its initiatives is the Pacific Eye Institute (PEI) Training Programme in Suva, Fiji. Students come from various Pacific countries and must be nurses with bachelor's degrees or nursing diplomas, or qualified medical doctors. They are nominated to come to the PEI Training Programme by their Ministries of Health for either the 1-year or 4-year course.

Purpose of the Evaluation

The Foundation commissioned Future Partners Ltd to undertake an evaluation of the PEI Training Programme for the 2016-2021 period, to help The Foundation and its stakeholders better understand the influence of the Training Programme in enabling access to eye care training for doctors and nurses in the Pacific; localising the eye care training for doctors and nurses; and establishing a skilled and sustainable local eye care workforce in the Pacific. The evaluation also looked at how the Training Programme has progressed against the relevant outcomes identified in The Foundation 2016 - 2020 Programme Strategy.

Conduct of the Evaluation

This Evaluation was undertaken during October and December 2022 using a utilisation-focused evaluation approach to enhance the usability of the findings by decision-makers to inform the future development of the programme and to improve performance. Empirical information and data were collected and analysed using qualitative and quantitative methods in a mixed-method approach. This included using monitoring data gathered by The Foundation, relevant documentation, and key informant interviews conducted in person and by video conference. The Evaluation team interviewed 22 key informants from The Foundation, PEI (including staff, graduates, and students), Fiji National University (FNU), and CWM Hospital. The interviews were guided by three Key Evaluation Questions (KEQs) which aligned to the evaluation scope and evaluation objectives, and were approved by The Foundation:

KEQ1: To what extent has the role of the Training Programme been effective in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific?

KEQ2: What changes have been made to facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework?

KEQ3: What are the learnings and recommendations that can guide the design, development, and implementation of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, Papua New Guinea (PNG)?

Key findings

The Evaluation Team assessed the PEI Training Programme in Fiji from 2016-2020 against the KEQs, and for KEQ1 we examined progress against the proposed outcomes in The Foundation 2016 - 2020 Programme Strategy.

The PEI Training Programme has helped to establish a locally-led and a skilled eye care workforce in the Pacific. However, more work is needed to ensure eye care training and a skilled eye care workforce in the Pacific becomes sustainable.

Prior to the PEI Training Programme some countries in the Pacific would be dependent on ophthalmologists 'flying in and flying out'. This was seen by key informants as an opportunistic situation, where the ophthalmologists may come from outside the region, bring their own equipment, and use different procedures for treatments. They added that

for a sustainable eyecare health system to be built it needs to have a local workforce. It would not only reduce the burden of the patient to travel for eyecare treatment and the cost of travel, but it would mean that the focus could be on preventative eyecare, rather than remedial.

Key informants said that in the past there were hardly any eyecare health systems in place except for the general health system, and that these few eye clinics were very small. They added that the clinics had very little eye equipment and were staffed with a very small pool of nurses and doctors, with some countries not having any ophthalmologists or ophthalmic nurses at all. But now they have a local workforce who have been trained at PEI.

The short, medium, and long-term outcomes[1] are 'Increased eye health workforce', 'Improved access to quality, comprehensive eye care', and 'Contribution to reduced blindness and vision impairment in the Pacific'. The Evaluation Team finds that the PEI Training Programme has contributed to establishing a locally-led and a skilled eye care workforce in the Pacific. Data show that in 2016-2021 there were 73 graduates (13 doctors and 60 mid-level personnel (58 nurses and 2 technicians), in spite of the COVID-19 pandemic affecting training and patient care in the later years.

This was achieved with the 'wraparound approach' and providing the following outputs during this period: scholarships (110), student equipment (63), fit-for-purpose training courses (5), local training staff (from 2019), and regularly reviewed and accredited curricula (MMed reviewed every 5 years and accredited every 3 years; PGDEC reviewed and accredited every 5 years).

However, more work is needed to ensure PEI eye care training and local eye health workforce become sustainable. The issues include: the lack of formal recognition of the ophthalmic nursing scope as a specialisation; COVID-19's impact on Pacific governments' MoH budgets; and immigration of trained nurses due to the demand from Australia and New Zealand. These are contributing to a high attrition rate in the nursing profession.

The Foundation has transitioned PEI training to FNU, although it still pays staff salaries. All PEI trainers are from the Pacific. Students are supported by The Foundation's scholarships, and their salaries are still paid by their government while they are in the Training Programme. The PEI clinic has been transitioned to the Fiji Ministry of Health and Medical Services (MHMS), although The Foundation still pays PEI staff salaries, and provides its equipment, consumables, and maintenance. It is envisaged in the long-term that, as part of the Future Fred Regional Programme Framework (The Framework) which is an integral part of The Foundation's Future Fred Strategy 2022-2032, The Foundation will support and facilitate the transition of staff salaries to FNU and PEI.

Changes made to the PEI Training Programme will help meet outcomes outlined in Future Fred Regional Programme Framework.

KEQ2 examines what changes have been made to facilitate meeting the outcomes outlined in The Framework. It is evident that changes made during the 2016-21 period do not just relate to the training courses, but also 'after care' once the graduate has returned home.

As briefly discussed above, The Framework outlines the pathways to support the transition of sustainable quality eye care to locally-led ownership and leadership over the next ten years. This includes The Foundation's focus on supporting local eye health capabilities and systems, and enabling Pacific country partners to develop national health plans to strengthen their health systems.

While the previous strategy included The Foundation working with its MoH partners on policy and planning, budgeting, and developing information management and systems, The Framework prioritises these. It is part of health systems strengthening within the

[1] The medium and long-term outcomes are shared with other Foundation programmes, so we assessed the Training Programme as contributing towards these outcomes.

Pacific region to ensure The Foundation realises its goal for a locally-determined, resilient and sustainable quality eye care in the Pacific.

There were some changes to the training courses following a strategy review in 2017. It highlighted that the Postgraduate Diploma in Eye Care (PGDEC) and the Postgraduate Certificate in Diabetes Eye Care (PGCDEC) would benefit from a merger to provide a comprehensive and single one-year postgraduate nursing programme. This merged programme would put a stronger emphasis on diabetes and Diabetic Retinopathy (DR) management in addition to general eye care. The PGCDEC course was discontinued in 2017 and the Master of Community Eye Care (MCEC) was discontinued in 2019. The introduction of sub-specialities is part of professional development, and it will mean less reliance on specialists from outside the region.

The development of training for eye technicians will mean that they will be able to do more of the screening, which will help to alleviate the demands on nurses. However, although their training is formally recognised, their positions are not, just as the PGDEC graduates are also not formally recognised within the Fiji health system.

Workforce support and national eye health coordinators are aimed at building stronger links in each country to help The Foundation advocate for eye health to be part of each government's health budget and national health plans. Formal leadership and management courses as part of the non-clinical component of the Training Programme should be considered. Such courses could help graduates to be effective advocates.

The COVID-19 pandemic also presented unprecedented challenges to PEI and its training programme during the previous programme strategy period, creating a significant backlog of eye care cases and disrupting courses. However, The Foundation established a telemedicine platform at PEI to continue the provision of services to eye patients. Courses were moved online, with clinical placements suspended, and these online and remote learning and training processes now form a regular part of training programmes.

Learnings and Recommendations from the PEI Training Programme

KEQ3 identifies learnings and recommendations that can guide the design, development, and implementation of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby. Key informants identified several learnings, and some noted that the nursing programme in Madang Provincial Hospital Eye Clinic (in partnership with Divine Word University) provided opportunities for PEI in Fiji to learn from, such as the recognition of the nurses' scope of practice and the contract agreement that ensures graduates are obligated to supervise students in clinical care.

We are unsure how relevant or easily transferable some of the recommendations would be for a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby. This is because the Centre would be dealing with one country, while PEI is dealing with several countries. PNG is also a country with varied topography, complex cultures, multiple languages, public safety issues, and a decentralised health system. The Foundation would have to liaise with multiple provincial governments and hospitals. The University of PNG (UPNG) also has an established School of Medicine and Health Services.

To help ensure success in PNG, the following themes have been identified:

- Early engagement with partners in PNG is critical. The messaging by The Foundation needs to be one of partnership and support to increase the number of medical graduates in PNG to meet the growing backlog due to COVID-19.
- Ensuring formal recognition of any new qualifications prior to the training programme commencing.
- Ensure there is a respectful working culture at the Centre. This is a universal tenet for all organisations to perform effectively, efficiently, and sustainably.
- Ensure the building is fit-for-purpose. The Foundation has experience in facilitating the build of fit-for-purpose clinics in the Pacific. The maintenance in the short to

medium term should remain with The Foundation while working towards ensuring the partners are equipped with the necessary means to take over the maintenance in the longer term.

- Ensure that the doctors' curriculum is fit-for-purpose in PNG. This will take time working with UPNG to ensure it can be incorporated into the university's current programme. Working with a recognised university such as from Australia or New Zealand, and RANZCO, will help attract funders and ensure the courses are regularly reviewed and accredited.
- More incentives to attract doctors into ophthalmology. There is a shortage of health professionals in the region, and any incentives would need to be offered outside of PNG also. Incentives may also need to be offered to governments, and this could tie into paying the salaries of national eye health coordinators, HR advisers, and/or health policy planners. This would align with The Framework's focus on supporting local eye health capabilities and systems, and enabling Pacific Island Country partners to develop national health plans to strengthen their health systems.
- Wraparound approach increases the chance of success. This is evidenced by the outcomes achieved by the PEI Training Programme, and will increase the likelihood of meeting The Foundation's goal for a locally-determined resilient and sustainable quality eye care in the Pacific.
- Localisation at CWM/PEI suggests the concept of partnership should continue and be further strengthened, especially with regard to external clinical expertise, and finance. Localisation can still include outside support for professional development, including partnering with those who have experiences and knowledge but are outside of the specific partnership focus, most significantly management of the partnership. Localisation can mean that The Foundation eye clinics can be run by local ophthalmologists, and their training programmes can be taught and run by Pacific universities. The issue is whether Pacific government health budgets can provide the long-term funding that eye care services need. This means that at least in the medium-term, external funding is likely to be needed to support these programmes. What the programme may need is a form of 'hybrid localisation', where facilities are provided locally but some part of the operating budget comes from external sources, such as from The Foundation.

In summary, we conclude that the PEI Training Programme:

- has been effective in developing and enabling access to locally-led eye care training;
- has helped to establish eye health systems and is contributing to building a sustainable eye care workforce, but there are challenges (some of these are outlined above);
- is embedding the programme into a cultural background setting; and
- is playing an important role within the community, and the broader health system, in reducing the backlog of eye patients.

While some lessons are transferable, PNG is a complex and challenging country socially, geographically, culturally, and politically. Safety of staff and students will be paramount, and there are law and order issues.

In addition, the messaging that The Foundation is in PNG as a partner to provide financial support to increase the number of ophthalmologists, and provide access to professional development (which may include external academics and practitioners in the short-term) will be critical to get early buy-in from all stakeholders. This process may take time if other priorities for the provincial governments take precedence. A communication strategy will be key, messaging the long-term economic and social benefit of preventative eye care in PNG.

1. Introduction

Background

There are high rates of blindness and vision impairment across the Pacific, with considerable negative health, social and economic impacts on the individual, family, community, and country. Eye health is fundamental to achieving the Blue Pacific vision of increased Pacific prosperity and the Sustainable Development Goals (SDGs), and research shows that vision loss is responsible for a global economic productivity loss of USD410 billion annually.[2] Vision loss impacts health and wellbeing at all ages and considerably increases the risk of premature mortality. It negatively impacts educational outcomes and economic participation, social connection, and quality of life.[3] Women and girls in low and middle-income countries (LMICs) are disproportionately impacted by uncorrected vision impairment, untreated eye conditions, and blindness. They make up 55 percent of people globally who have an uncorrected vision impairment, with 89 percent of them living in LMICs. The higher prevalence among women of some infectious diseases is partly due to traditional roles. For example, caring for children exposes women to hygiene risks that increase the chance of contracting trachoma, as does eye irritation caused by cooking over a wood fire. Women's access to preventive care, diagnosis, and treatment or correction is also lower than for men, meaning eye conditions are more likely to deteriorate, sometimes into permanent disability.[4]

Around 90 percent of blindness and vision impairment is preventable or treatable.[5] The Fred Hollows Foundation NZ (The Foundation) works with governments and academic institutions across the Pacific to help achieve its goal of reducing avoidable blindness and vision impairment, and ensuring a resilient and sustainable eye care workforce in the Pacific. This goal includes increasing the number of ophthalmologists, eye care nurses, and other eye care workers in partnered Pacific countries.

The Evaluation

The Foundation commissioned Future Partners Ltd to undertake a focused evaluation of the Eye Care Training Programme (the Training Programme) at the Pacific Eye Institute (PEI) in Suva, Fiji which it established in 2007.[6] The aim of the evaluation is to help it better understand the influence of the Training Programme during the period 2016 to 2021, in enabling access to and localising eye care training for doctors and nurses in order to establish a skilled and sustainable local eye care workforce in the Pacific.

The learnings and recommendations from the evaluation will be used to strengthen the Training Programme to meet the relevant outcomes identified in the new Future Fred Regional Programme Framework. It will also inform the development of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, Papua New Guinea (PNG).

Overview of the PEI Training Programme

Training is a core focus for The Foundation and its goal is to ensure a highly trained workforce that is fit-for-purpose, with 100 percent of its trainers and trainees being Pasifika and working in the region. The Foundation's long-term outcome in its 2016-2020 Programme Strategy states that "training local eye doctors and nurses is the only way to eliminate avoidable blindness in a sustainable way" (p.15). PEI supports the Training

[2] https://www.thelancet.com/action/showPdf?pii=S2589-5370%2821%2900132-2
[3] Ibid.
[4] https://www.devex.com/news/vision-impairment-through-a-gender-lens-94529
[5] Burton MJ, Ramke J, Marques AP, Bourne RRA, Congdon N, Jones I, et al. The Lancet Global Health Commission on Global Eye Health: vision beyond 2020. Available from: https://www.thelancet.com/journals/langlo The /article/PIIS2214-109X(20)30488-5/abstract
[6] The Pacific Eye Institute and Eye Care Training first commenced in Solomon Islands in 2006 but was moved to Fiji in 2007 due to civil unrest in Solomon Islands.

Programme for local doctors and nurses from across the Pacific so they can take over the work that was previously carried out by external surgical teams visiting their respective countries.

Students come from various Pacific countries and must be nurses with bachelor's degrees, an equivalent nursing qualification, or qualified medical doctors. They are nominated to come to the PEI Training Programme by their Ministries of Health (MoH) for either the one-year or four-year course.

Currently, Fiji National University (FNU) is the tertiary education stakeholder that runs, accredits, and confers these training courses and degrees at PEI. The salaries of the academic staff teaching the Training Programme are still met by The Foundation. All training courses are delivered within a plan for the localisation of teaching. Training local teachers will (over time) limit the costs required to deliver courses, and enable local academic institutions to take on the management of the training programmes and the eventual staffing budget.

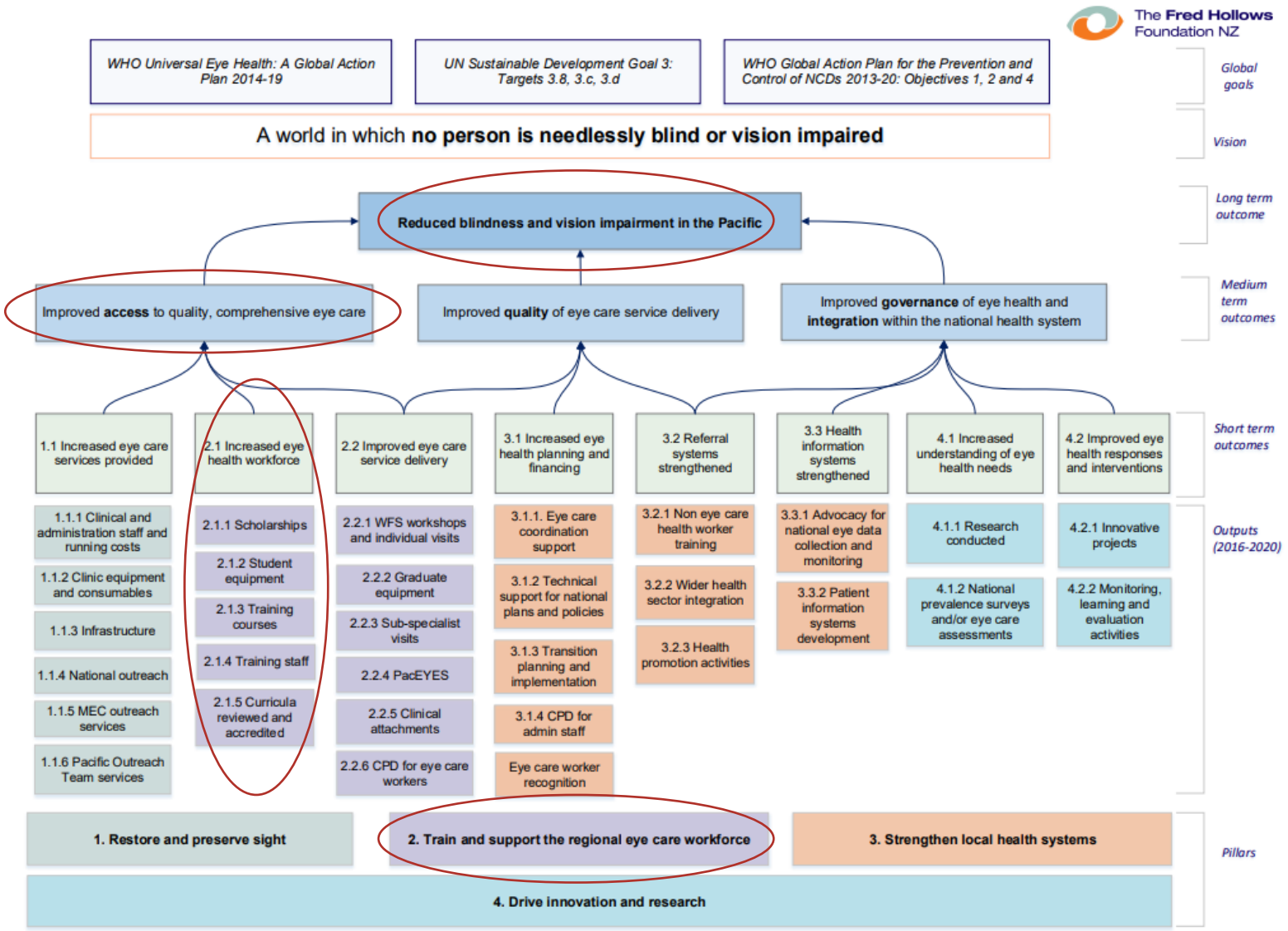
The Foundation and PEI liaise directly with FNU and provide ongoing support to ensure students are accommodated and have access to all course materials, teaching staff, and facilities. PEI and the CWM Hospital play a role in supporting clinical placements for these students at FNU. PEI is in the process of arranging short training courses for technicians to provide eye care support services such as diabetes screening, vision testing, and dispensing of spectacles.

The FNU Academic Committee (which comprises largely Pacific eye care workers and academics), Ministry of Health and Medical Services (MHMS) Training Committee (Heads of Department of Ophthalmology) and senior clinicians work with the MoH of prospective training candidates to ensure that once graduated, they are able to re-integrate into their health systems on their return. Before candidates start training, MoH employers provide written assurance that the candidates will be supported financially (have their salaries paid) during their training and institutionally on their return home to provide eye care. All graduates, on completion of their studies, return home to their respective countries to work for the MoH to improve the access to high quality eye care services.

The New Zealand Academic Committee provides oversight, guidance, and recommendations to all academic aspects of all training programmes and students that are funded by The Foundation. The Committee is a forum for discussion and making recommendations. The Chair passes these recommendations on to the appropriate party. The Committee includes the FNU Assistant Professor of Ophthalmology, PEI Chief Ophthalmologist, all other PEI ophthalmologists involved in training, the FNU Lecturer, and Assistant Lecturer in Eye Care.

The following diagram shows the 2016-2020 Programme Strategy Results Measurement Framework. The circled sections in red highlight the Training Programme Logic Model.

Diagram 1: 2016-2020 Programme Strategy Results Measurement Framework: this highlights the Training Programme Logic Model (circled in red)



2. Evaluation Purpose, Scope and Design

The Foundation identified the evaluation purpose, objectives, and scope. These are:

Evaluation Purpose

The purpose of the evaluation is to help The Foundation and its stakeholders understand the influence of the Training Programme in:

1. enabling access to eye care training for doctors and nurses in the Pacific
2. localising the eye care training for doctors and nurses
3. establishing a skilled and sustainable local eye care workforce in the Pacific.

Evaluation Objectives

The following objectives informed the development of the key evaluation questions (KEQs):

- To evaluate the Training Programme in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific.
- To identify changes that facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework (which are underpinned by health system strengthening principles).
- To identify learnings and recommendations that can guide the design, development, and implementation of similar eye care Training Programme at the Centre for Eye Health in Port Moresby, PNG.

Evaluation Scope

- The time period is 2016 - 2021
- Geographic location: Fiji

Out of scope

Activities related to service delivery and universal access (including support for equipment and infrastructure to help improve quality of eye care services at PEI), and activities related to eye health information, planning, and policy were outside the scope of this evaluation.

Evaluation Design

Effective evaluations are judged on their actual use by their commissioners and intended users – The Foundation and its partners (PEI, FNU, and CWM Hospital) – so the intended use of the evaluation guides all other decisions that are made about the evaluation process. Based on the terms of reference and meetings with The Foundation, Future Partners developed a fit-for-purpose evaluation plan. The evaluation was undertaken between August and December 2022 using a utilisation-focused approach[7] to enhance the usability of the findings by decision-makers, to inform the future development of the programme, and to improve performance. The evaluation used a systematic mixed

[7] Patton, M.Q. (2008). Utilization-focused evaluation, 4th edition. Thousand Oaks, CA: Sage.

methods approach (qualitative and quantitative) to answer the KEQs. This included using The Foundation's data, secondary-source data from relevant documents, and interviews (one-on-one and focus groups) either in person or via Zoom. This approach ensures there is rigour through triangulation, and that the findings are valid and credible. Before the evaluation report was completed, the findings were presented by the evaluation team on 6 December at The Foundation's HQ in Auckland. Feedback at this session was used to finalise the evaluation report.

Semi-structured interviews

Twenty-two interviews were undertaken either in person (at PEI) or via Zoom during October and November 2022. They included key informants from The Foundation, PEI (including staff, graduates, and students), FNU, and CWM Hospital. An interview guide was used as not all questions were relevant to all key informants.

Quantitative data

Initial discussions with The Foundation confirmed the importance of stakeholder consultations to answer the key evaluation questions as there is limited quantitative monitoring data specific to the PEI Training Programme 2016-2021. However, The Foundation was able to provide data they had received from PEI or Pacific MoH, and relevant secondary-sourced data from reports has also been used. The quantitative data is used in the report to either support qualitative responses, or to highlight any variances between key informant responses and the available data.

Limitations

There are some limitations to the quantitative data provided by The Foundation due to variations in how the data was gathered. Where data has been used, caveats have been added to provide context regarding how the data should be interpreted.

Key Evaluation Questions

Effectiveness, Sustainability, Impact[8]

KEQ1: To what extent has the role of the Training Programme been effective in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific?

KEQ2: What changes have been made to facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework?

Lessons learned and Recommendations

KEQ3: What are the learnings and recommendations that can guide the design, development, and implementation of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, PNG?

Analytical framework

An analytic framework based on the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) criteria was used for analysis and as an assessment tool to answer the KEQs. It provided a systematic approach to assess the findings against the evaluation's objectives, and thematic analysis was used

[8] In the OECD DAC Evaluation Criteria, *Effectiveness* relates to 'Is the intervention achieving its objectives?' *Impact* relates to 'What difference does the intervention make?' *Sustainability* relates to 'Will the benefits last?'

to identify insights emerging from the qualitative and quantitative data. Diagram 2 shows the five criteria for evaluating development assistance: relevance, effectiveness, efficiency, impact, and sustainability.

Diagram 2: OECD DAC evaluation criteria

Evaluation with integrity

The evaluation team relied on email introductions from The Foundation to the key informants. We provided an information sheet that outlined the evaluation objectives, names of the evaluators, and included a consent form and interview guide (see Appendix B). Participation was voluntary and consent was provided either in writing or verbally. Key informants were able to stop the interview at any time, and they did not have to respond to any questions asked. They were assured that they would not be identified in the report, and to illustrate a finding through a quotation, an identification number has been applied.

3. Key Findings

To achieve the evaluation's objectives, the evaluation focused on the three KEQs. In this section, we present our findings by each KEQ. KEQ1 is assessed under the DAC evaluation criteria *Effectiveness, Sustainability, and Impact* (see Chapter 2). KEQ2 examines what changes have occurred during the 2016-2021 period, and whether these changes facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework (The Framework). KEQ3 positions the evaluation in lessons learned, and provides recommendations that can guide the design, development, and implementation of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, PNG.

KEQ1: To what extent has the role of the Training Programme been effective in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific?

3.1 Effectiveness, Sustainability, and Impact

We break down KEQ1 into five findings, and then assess the level of effectiveness based on our interviews and available relevant data. The PEI Training Programme in Fiji:

- has been effective in developing and enabling access to locally-led eye care training,
- has helped eye health systems to be established,
- is contributing to building a sustainable eye care workforce, but there are challenges,
- is embedded into a cultural background setting, and
- is playing an important role within the community, and the broader health system, in reducing the backlog of eye patients.

3.1.1 The PEI Training Programme in Fiji has been effective in developing and enabling access to locally-led eye care training

The extent of effectiveness is due to The Foundation's focus on training to underpin the wider eye health agenda programme in the Pacific region, and this is evidenced in its 'wraparound' approach:

- pre-training arrangements. This involves engaging with partner governments to identify priorities of respective countries to suit their planning needs for eye health over an extended period. It also includes confirmation with governments to ensure their MoH staff who are attending the training are still paid their salary and will have a position when they return home,
- a package of support to enable students to attend the training at PEI. This involves scholarships, travel costs, textbooks, equipment and other allowances as required, along with pastoral care, and
- post-training to ensure graduates have the relevant equipment, consumables, and on-going workforce support when they return home to work in eye care, and access to further funding from The Foundation. All of this is framed by partnership agreements with each country's MoH to ensure activities take place within a strategic framework of ongoing partnership.

A functional training pathway needs to be in place for an active workforce to engage and develop. To have a locally-led eye care training workforce, there needs to firstly be local doctors and nurses having access to eye care training. From this workforce locally-led eye care trainers, tutors, and academics can be recruited. The Foundation's 'wraparound'

approach provides a degree of resilience as training should be a continuous process, and this is a crucial element to this programme.

Each year, targets for PEI training of eye health workers are set based on the number of students expected to graduate (generally between 10-13 each year). This provides the basis for locally-led training. The data in Table 1 shows that there were 73 PEI graduates (including 13 doctors) in 2016-2021 and Table 2 outlines what qualifications these 73 graduates received (51 female and 22 male).[9]

This confirms that the PEI Training Programme has achieved the short-term outcomes set out in the 2016-2021 Programme Strategy Results Measurement Framework for an increased eye health workforce through the provision of scholarships, student equipment, training courses, training staff, and 'a curricula reviewed and accredited'.

Table 1: Total number of graduates by year (2016-2021) and clinician type

Year	Doctor	Mid-level personnel[10]	Total
2016	3	9	12
2017	-	17	17
2018	4	10	14
2019	4	10	14
2020	-	9	9
2021	2	5	7
Total	**13**	**60**	**73**

Source: PEI data

Table 2: Total number of graduates by year and qualification

Country	PGDO	MMED3	PGCDEC	PGDEC	MCEC	Total
Federated States of Micronesia	-	-	-	1		1
Fiji	2	5	3	15	5	30
Kiribati	1	-	-	5	-	6
Marshall Islands	-	-	-	1	-	1
Nauru	-	-	-	1	-	1
Samoa	-	1	-	5	-	6
Solomon Islands	-	1	2	11	-	14
Timor-Leste	-	1	-	-	-	1
Tonga	-	1	-	6	-	7
Vanuatu	-	1	-	5	-	6
Total	**3**	**10**	**5**	**50**	**5**	**73**

Source: PEI data

[9] There is no available data for clinician type by gender.

[10] Two are technicians and 58 are nurses.

In this next section, we discuss these outputs and how each have enabled access to locally-led, sustainable eye care training, and have contributed to establishing a skilled eye care workforce in the Pacific.

Scholarships

The Foundation provides scholarships for doctors and nurses from across the Pacific region (excluding PNG where scholarships are only provided for nurse training) to train in the specialist eye care courses at PEI. It offers scholarships to students in the following programmes at FNU: PGDEC; PGDO; and MMed. The scholarship provides FNU tuition and registration fees for the duration of the scholarship period, and books and education material.

The scholarship includes one return trip from the student's country of residence to Suva, Fiji. This is arranged by The Foundation, for the duration of their Suva-based studies. It also includes a monthly living allowance of FJD1,300/month paid when away from their home clinic and studying in Suva. There is also an establishment allowance of FJD1,000 to help the student establish themselves in Suva.

During the 2016-2021 time period, 110 scholarships were provided, and from that 73 students have graduated in this time period.[11] Four students had yet to graduate (1 student was in their first year and three were in their second year of MMed); 6 PGDEC students had their training deferred to 2022 due to COVID-19. Fifteen students did not complete their study. Key informants we interviewed said that this was due to a number of factors, including being separated from their family or COVID-19 (deciding to leave the programme rather than defer).

Change to application and scholarship process in 2020

One challenge to the application and scholarship process during 2016-2020 was an attempt in 2020 to align with the FNU selection processes when selecting the 2021 students. The Foundation noted[12] that this was partially successful.

Before 2020 students would apply to PEI for scholarships and entry. PEI would then enrol these students into FNU, which The Foundation noted was not an ideal process as FNU never had a say in who was being selected for the programme. In 2020 (for 2021 applicants) PEI had applicants apply to The Foundation for scholarships but also to FNU for entry into the programme. This meant that FNU would carry out its selection process rather than PEI. PEI then checked with all scholarship applicants that they had also applied to FNU. If there were any issues these would be ironed out with the College of Medicine, Nursing and Health Sciences (CMNHS) academic office. This approach has taken time. In 2020, FNU created the CMNHS student admission guideline which outlined their processes, and a new committee was formed (College Admission Committee (CAC)). In 2020, it was slightly unclear to The Foundation as to how the College, Schools, and Departments fitted in with this committee and the process.[13]

Change to application and scholarship process for Fijian applicants

The Fiji MHMS Learning & Development Unit met with PEI and FNU staff in late 2020 to discuss better aligning their employer release process with FNU selection and The Foundation scholarship selection processes. They shared their Learning & Development

[11] There is no available disability data. This could mean no students with a disability received a scholarship, or that this data was not recorded.
[12] The Foundation Note *'Process of selection of applicants for FHFNZ scholarships to study eye care programmes'.*
[13] One key informant noted that this is a current issue for 2023 applicants in that it is possible for a student, who does not require funding, to apply to study and The Foundation has no input into this decision. This may result in Workforce/HR requirements in the Pacific to be unbalanced by this approach as there would be less positions available for The Foundation to sponsor students to train from identified locations.

Guidelines. In 2021 (for 2022 applicants), The Foundation had to clearly mark on its scholarship forms that all Fiji MHMS employees would need to apply to the Permanent Secretary of Health for pre-approval before applying for a scholarship and entry into the programme. It was noted that this would be one of the criteria that The Foundation will need to take into account when selecting Fijian students. Another factor in selecting Fijian students, which will be discussed later in the report, is the non-recognition of the nursing course (PGDEC) by Fiji's MoH in terms of nurse specialisation in eye care positions.

Student equipment

All students are provided with the necessary equipment and textbooks to use during the training. The Foundation also buys clinic equipment for the detection and treatment of eye conditions for graduates to take back to their local hospitals after graduation, to strengthen local eye care facilities in the Pacific. Without this equipment the newly graduated eye health practitioners would be unable to detect and treat their patients' eye conditions. This is because most doctors and nurses return to low-resource settings without the necessary facilities, equipment, and systems they need to apply their skills in their own communities, but it is a crucial component to get eye care services up and running in each context. In cases where equipment has been donated to a graduate, and indirectly to their MoH, The Foundation looks after the equipment for up to three years before it is expected that the MoH takes over the responsibility of maintenance. Sometimes this time period is extended if the MoH lacks funding to replace equipment or deal with maintenance. Table 3 shows the total number of graduates who were supplied with equipment sets. For MMed students, textbooks are issued in the first year, and equipment is purchased for doctors according to country needs. Students returning to clinics may not have been issued equipment sets for a number of reasons, and this could account for the variation between planned and actual number of equipment sets provided.

Table 3: Total number of graduates who were supplied equipment sets (excluding PNG)

	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**Total**
Planned indicators	13	14	11	12	5	13	**68**
Actual measurement	10	12	11	11	6	13	**63**

Source: MFAT SPECS Activity Completion Report, p.25

Training courses

A range of postgraduate training courses specialising in eye care are offered and delivered to doctors and nurses at PEI through FNU. Current courses include a MMed, PGDO, and PGDEC. The PGDO and MMed training courses are available for qualified doctors to specialise in ophthalmology. The PGDO course is the first year of the four-year MMed degree. The PGDEC course is a one-year degree available for qualified nurses looking to specialise in eye care.

As the courses have evolved over time, so has the increased ownership of FNU over the training. The 2014 Memorandum of Agreement (MoA) between The Foundation and FNU states that The Foundation is responsible for managing the development of curricula and assessment procedures on behalf of FNU. The responsibility and decision making relating to the curriculum review is to move to the FNU, and some key informants noted that a tripartite agreement is being developed to help with this process and other decisions affecting the key stakeholders.

In 2016, FNU standardised its programme documents, making comprehensive outlines of the structure and governance of each programme. FNU asked PEI to complete this for PEI

programmes, and during this process the PEI Training Programme and course codes were updated to match their appropriate level within the Fiji Qualifications Framework.[14]

There were some changes to the training courses following a strategy review in 2017. It highlighted that the PGDEC and the PGCDEC would benefit from a merger to provide a comprehensive and single one-year postgraduate nursing programme. This merged programme would put a stronger emphasis on diabetes and DR management in addition to general eye care. The PGCDEC course was discontinued in 2017 and the MCEC[15] was discontinued in 2019.

Training staff

The Foundation's objective is to localise the PEI training programme, and although it still funds the training staff, these training positions have transitioned to FNU. The Foundation has also transitioned coordination of workforce support and student administration to local staff. The Workforce and Academic Manager, alongside the Regional Education Manager, support students and graduates from the programme.

The approach by The Foundation of partnering with universities is to provide high-quality, comprehensive education and training to graduates who, on qualifying, become ophthalmologists or ophthalmic clinicians within their local health care systems. Key informants noted that there has slowly been an increase of ownership by FNU over the training, along with the responsibility and decision making related to the curriculum review. An example of this is the increasing ownership by FNU as evidenced by the 2016 standardisation of programmes noted above.

Curricula reviewed and accredited

The PEI Training Programme undergoes a regular educational accreditation process. This is a quality assurance process under which services and operations of educational institutions or programmes are evaluated and verified by an external body to determine whether applicable and recognised standards are met. The Foundation has used the International Council of Accreditation (ICA) for Programme and facility accreditation, RANZCO, and the International Joint Commission on Allied Health Personnel in Ophthalmology (IJCAHPO) for curriculum review of the PGDEC.

The MMed course is reviewed by RANZCO every five years and accredited every three years. The PGDEC course accreditation is led by ICA.[16] The last two PGDEC reviews were in 2017 and 2022, and the course is accredited every five years. If standards are met, accredited status is granted by the appropriate agency.

[14] Ibid.

[15] The Foundation Note: *'Masters in Community Eye Care - A brief History'* explained that the MCEC did not contain the required Level 9 credits or learning outcomes that are required for the Master's degree to meet the Fiji Qualifications Framework. A Master's Degree as defined by the Fiji Qualifications Framework "usually build on a Bachelor Degree, Graduate Diploma, Bachelor Honours Degree or a Postgraduate Diploma. It may also build on extensive professional experience of an appropriate kind. The outcomes are demonstrably in advance of undergraduate study, and require individuals to engage in research and/or advanced scholarship." (Pg. 13, Fiji Qualifications Framework). The FNU School of Public Health also updated their courses in 2017/2018 which would have made some of existing MCEC courses redundant by 2021. This meant the MCEC needed to not only develop Level 9 courses but also update its Level 8 courses. When the MCEC was originally designed it was appropriate for the setting. However, with the introduction of the Fiji Qualifications Framework and the amendment of the MCEC research project it was no longer relevant in its current structure.

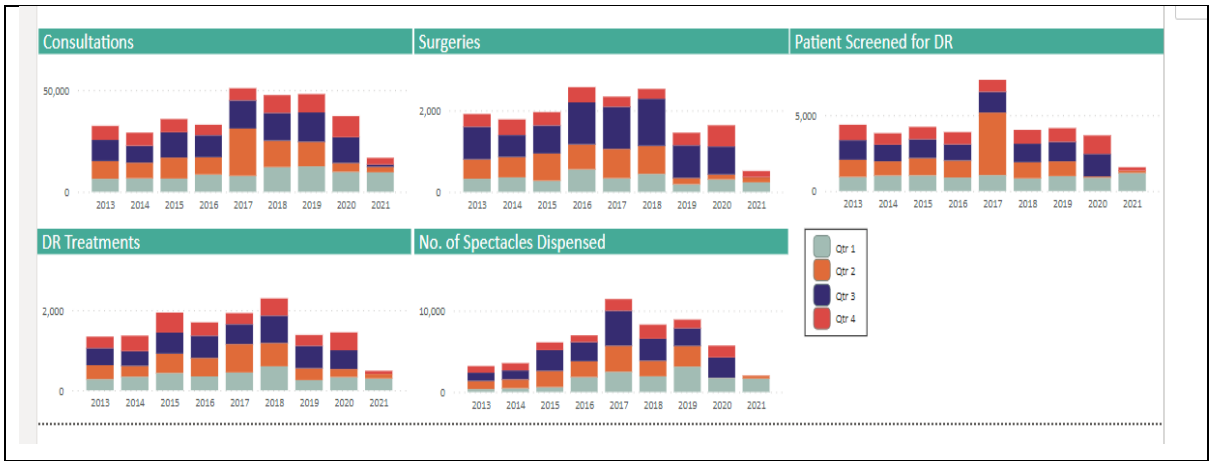
[16] IJCAHPO is a sponsor of ICA and conducted the accreditation process. ICA is based in USA.

3.1.2 The Training Programme has helped to establish eye health systems

One of the aims of the evaluation is to help The Foundation and its stakeholders understand the influence of the Training Programme in establishing a skilled and sustainable local eye care workforce in the Pacific, in particular looking carefully at the evidence that this has been achieved. Looking at Figure 1 below, we conclude that the Training Programme has helped to establish eye health systems. The data show that (although incomplete and there may be other factors that have also contributed to an increase in consultations and surgeries), there is an overall increase of consultations and surgeries in 2016-2019. COVID-19 may have had an impact on consultations and on surgeries in 2020 and 2021.[17]

Caveat: In 2016 The Foundation started counting CWM data and there could be far more surgeries across Fiji and the region, but it does not have this data. This means the data in Figure 1 is incomplete. We note again contribution not attribution of the Training Programme on helping establish eye health systems.

Figure 1: Pacific consultation and surgery data for 2016-2021



Source: PEI data

Key informants also said that the training programme underpinned the establishment of eye health systems in the Pacific.

> *"Yes of course, if there was no PEI Training Programme, we would still be where we were with expats training and working in the Pacific." (0190)*

> *"Yes it has through service delivery - well-trained specialty areas, HR, and leadership." (0100)*

Key informants said that in the past there were hardly any eye care systems in place except for the general health system, and that these few clinics were very small. They added that the clinics had very little eye equipment and were staffed with a small pool of nurses and doctors, with some countries not having any ophthalmologists or ophthalmic nurses at all. But now they have a workforce who have been trained at PEI.

[17] Further case study work could be undertaken by The Foundation to identify whether there are countries where the Training Programme has worked better than other countries.

Prior to the training, some countries like Samoa would be dependent on ophthalmologists 'flying in and flying out'. This was seen by key informants as an opportunistic situation, where the ophthalmologists may come from China or Korea, bring their own equipment, and they would have different procedures for treatments. They added that this approach is not an eye health system, and that the way you build a foundation for an eye health system is to have a local workforce. It not only reduces the burden of the patient to travel for eye care treatment, but the focus can now be on preventative eyecare, rather than remedial.

> *"I am an example of that. Before, always had expats looking after the training programme. Also look at Tonga and Vanuatu prior to the training programme, they never had an ophthalmologist. And countries where they previously had heavy reliance on overseas eye care teams, that has changed in the Pacific. Even in Fiji, one of the divisional hospitals used to be led by expats only, that has decreased over the years. That's a testament to how the training programme is helping to change that landscape." (0180)*

The WHO health systems framework is based on six building blocks that are essential for successful health systems. These include: 1) Good health service delivery; 2) A well performing health workforce; 3) A well-functioning health information system; 4) Equitable access to high-quality essential medical products, vaccines and technologies; 5) An adequate health financing system; and 6) Strategic and effective leadership and governance. The Foundation's Programme Strategy 2016-2020 aligns to these essential building blocks. What underpins the framework is a local training programme. Without it, these building blocks would also need to be 'imported by expats'.

> *"There are six building blocks but none of the others enable everything else to happen. Hard to progress any other areas until you have that local workforce." (0220)*

> *"We've got countries in the Pacific that have grabbed our training programmes, and taken their trained workforce and developed them, like Solomon Islands, and to some degree PNG." (0200)*

However, some key informants thought that not all countries have realised the potential of a local training programme on their health care system. They thought that the healthcare system had not changed much in Fiji as the graduates are not yet senior enough to have discussions with government about how to make changes to improve the healthcare system and incorporate eye health services. They also referred to the issue of the eye nurses' scope of practice not being formally recognised in Fiji, although it is 'informally' recognised in other countries. However, other key informants thought that even though Fiji has had eye health care for a very long time, and its MHMS had not recognised eye health as a priority in the past, they thought that in the last five years MHMS policy towards eye health has changed a lot, and the Ministry is becoming more aware of the importance of eye care.

> *"In the past they never used to have budget for this. But now, even though they're taking baby steps, at least it's moving ahead in some way. (018)*

Key informants provided examples from Tonga (Dr Duke's Story)[18] and Vanuatu to illustrate how the Training Programme has enabled eye health systems to be established, and that now more priority is being given to eyecare services, such as in Tonga where eye health has been integrated in to their diabetic hub. In Vanuatu, the government built an eye clinic at the main referral hospital after they sent one of their doctors for PEI training. Where there are already established eye health systems, key informant graduates referred to "feeling empowered" to help their community back home.

Key informants thought that the Training Programme had met the medium-term outcome of 'improved access to quality and comprehensive eye care', and the long-term objective of 'reduced blindness and vision impairment in the Pacific', and the data show its contribution as well. They also thought that The Foundation would still have a future role in the professional development of these graduates, as they see its core role and key strength as supporting the training of eyecare workers, including sub-specialties and professional development.

3.1.3 The Training Programme is contributing to building a sustainable eye care workforce, but there are challenges

Training targets are based on WHO standards on health practitioner to patient ratio, and also account for additional factors such as geography and consultation with local eye care teams. Data is gathered from PEI and eye clinic training staff and analysed by The Foundation's Development Effectiveness (now Programme Quality) team. Table 4 shows the health practitioner ratio of participating countries to patient ratio. From 2019, there is at least one trained local ophthalmologist and a team of ophthalmic clinicians delivering eye care services in every country of operation.[19] By these figures, Samoa will need two more ophthalmologists.

Table 4: Health practitioner to patient ratio

Country	Health practitioner to patient ratio	
	Doctor (MMED)	**Nurses (PGDEC/ADEC)**
Fiji	1:100,000	1:25,000
PNG	N/A	1:25,000
Solomon Islands	1:101,000	1:26,000
Kiribati	1:121,000	1:24,000
Samoa	1:99,000	1:25,000
Tonga	1:107,000	1:27,000
Vanuatu	1:105,000	1:26,000

Source: MFAT SPECS Activity Completion Report

Data from the MFAT SPECS Activity Completion Report (SPECS ACR) outlined the following relevant data based on increased local responsibility of eye clinics and training programmes. As of 2021:

[18] https://www.hollows.org.nz/longform/restoring-sight-restoring-lives

[19] The MFAT SPECS Activity Completion Report.

- 32 percent of PEI/CWMH clinic staff are employed by the MHMS[20]
- 60 percent of training staff are employed by FNU.[21]

However, while the numbers are not at a sustainable level, the Training Programme is contributing to building a sustainable eye care workforce. It has helped build a network of eye care specialists around the Pacific region and this is critical to strengthening the eye health system.

> *"It's now more sustainable. It's in the Pacific, trained by Pacific Islanders. Doctors and nurse graduates are from the Pacific, they come and train together. Training is looking at specific and similar diseases that are common in the Pacific, not those that are foreign to your country." (019)*

> *"In 2015 there were no local trainers in the nurse programmes, and two of the five trainers on the ophthalmologist programme were local. By 2021 all trainers on the nurse programme were local and four of the five on the ophthalmologist programme were local. Over this time there has been much better integration with FNU also". (040)*

Key informants thought that until such a time when governments can take over the aftercare support of graduates, building a sustainable and resilient eyecare workforce will rely on the ongoing financial support of The Foundation, through providing the necessary equipment, rooms where eye care can be carried out, and professional development. This is despite agreements by governments that they would support the graduate on their return home to deliver eye health care services.

Dr Duke Mataka is promoted on The Foundation's website[22] and in the SPECS ACR (p.13) as the first ophthalmologist trained by PEI from Tonga. This provides an example of an important development outcome. The eye care team in Tonga had previously been solely dependent on external outreach teams of ophthalmologists to provide treatment and surgical care. This changed once Dr Mataka graduated from PEI with a MMed in Ophthalmology and returned home to Tonga as the country's only permanent ophthalmologist. Eye care services are now more available and accessible for the Tongan population.

Maintaining and strengthening relationships with MHMS and FNU has also played a big role in increasing local responsibility for the training programme and eye clinic. During 2016-2020, The Foundation saw the transition of several local eye care graduates into leadership positions, including Dr Varanisese Naviri. Dr Naviri graduated in 2015 from PEI and she was subsequently employed by the Fiji MHMS as Head of Department for Ophthalmology at Labasa Hospital, before being recruited by FNU as Assistant Professor in Ophthalmology to lead the courses for the Master of Medicine in Ophthalmology and Postgraduate Diploma in Ophthalmology. Following the departure of expatriate Dr Harris Ansari, as Chief Consultant Ophthalmologist at PEI in 2020, leadership roles were taken up by existing senior local staff. The PEI training and service delivery programme, including clinical leadership, outreach, the Mobile Eye Clinic, and the Diabetes Eye Clinic is now fully led by Pasifika ophthalmologists instead of expatriates and external outreach teams of ophthalmologists (SPEC ACR, p.14).

[20] Transition agreement confirming the number of Foundation clinic staff to transition to MHMS employment had not been finalised with the MHMS, so targets are subject to change annually.
[21] Ibid.
[22] https://www.hollows.org.nz/longform/restoring-sight-restoring-lives

Challenges facing sustainability of the Training Programme and skilled eye care workforce

The data (Tables 1 and 2) show that The Foundation has met its short-term outcome for an increased eye health workforce (as set out in the 2016-2020 Programme Strategy Results Measurement Framework) where prior to the implementation of the Training Programme, there was none or very few (as discussed in Section 3.1.2). However, the Pacific region can find it challenging to retain specialist health-care workers. There was an overwhelming response from key informants that while the training programme is contributing to building a sustainable eye care workforce, there are challenges that could impact on the sustainability and resilience of the eye health system in the Pacific. While sustainability is relative in that a health care system can be sustainable despite high attrition rates, the health system needs to manage this and have planning in place to ensure there is an adequate number of eye health practitioners to maintain the service.

When it comes to localisation for the Pacific, ongoing training is necessary to replace staff that have retired, died, left the sector, or left the region. While The Framework is prioritising working with governments on policy and planning, key informants identified the following challenges that need to be considered as part of this strategic planning work.

- Embedding localisation into eye health care requires ongoing funding and support by The Foundation

The Training Programme extends to funding post-training support, equipment repairs, and clinic maintenance. Some key informants argued that localisation of eye health care in the Pacific should not mean a withdrawal of funding support for graduates and the provision of equipment by The Foundation after three years. The lack of appropriately maintained facilities in-country is also a risk to The Foundation's investment. Many countries in the Pacific lack infrastructure for eye health (if this were not the case, there would not be a need for The Foundation's support), which can be challenging for ophthalmologists. For instance, when there has been an agreement by an MoH to provide eye health care facilities, it can be little more than a room set aside in a health clinic or hospital. The MoH provides a position, but the graduate is often on their own.

To help prepare graduates, there are units in the training programme on how students can establish eye health systems and bid for further funding from their MoH. They are told they need to show evidence (data) to their MoH to help advocate for funding for eye care work within the health budget. However, these MoH's budgets are already stretched. This is another argument for The Foundation's financial support of eye care systems.

Ophthalmic equipment is expensive to buy and replace, and for these reasons, The Foundation continues to fund equipment, even when graduates are back home managing their eye clinics. Advocacy by the ophthalmologist to their MoH for equipment and consumables is important, but health budgets can only be divided into so many segments and more acute life-threatening ailments will take precedence over chronic eye diseases.

Some key informants said ongoing funding support by The Foundation would not compromise the localisation of eye health care in the Pacific. To the contrary, they believe that ongoing support from The Foundation is critical for the localisation of the training and eyecare service in the region.

- Attrition rates are BAU and need to be part of MoH HR planning

As discussed above, a sufficient and well-trained workforce in place is a key strategy for the Pacific region's MoH. Eye care workforce planning is a focus of The Framework to support governments in planning to address shortages and maldistribution of health workers, identifying areas of need for service and monitoring trends to increase service delivery to the most under-served.

Workforce data allow planners to formulate a capacity development response for strengthening national health systems and eye care delivery according to population needs. However, with the current available data, it is hard to capture attrition rates because it is not always clear whether staff have stayed in the sector, such as moving into private practice, or they do not stay in contact with The Foundation.

Because of the lack of formal recognition by Fiji of the eye nurse scope, Fiji nurses have moved to the Marshall Islands, Solomon Islands, Australia and New Zealand, as they can get better pay than they are getting at home. As a result, Fiji hospitals are facing severe nursing shortages.

The data shows there are more local ophthalmologists in the region, but it currently is not sustainable to have only one in the more densely populated countries. These eye care clinicians are a foundational component of strong eyecare systems, and a continual programme of training with inducements will help prevent 'burn out' and manage attrition to replace those who retire or leave their role or the sector. Succession plans need to be in place for ophthalmologists across the region. Policy setting and planning would need to consider continuity of care to cover attrition. This will include, for example, how the Fiji government can attract doctors and nurses in eye care.

> *"Need at least two* [ophthalmologists] *in each country, one is going to get burnt out very quickly." (0100)*

> *"We need to train more nurses. In Fiji, there's a big attrition issue. The qualification is not recognised, nurses are sent back to the general wards or community clinics, they are not remunerated. They are leaving the profession and moving into other careers such as aged care overseas." (0060)*

- The lack of formal recognition of the PEI Training Programme nurses' scope of practice once they receive their eye care qualification is impacting on attrition rates

Although The Foundation advocates for the recognition of the scope and accreditation of these training courses at both the MoH and tertiary level to ensure a clear pathway is secured for students who wish to practice eye care, the eye nurse scope is not formally recognised as a speciality across the Pacific region. The scope of practice may be 'informally' recognised in some countries such as Solomon Islands and Tonga, but in Fiji it is neither informally nor formally recognised, with some key informants querying whether it is worth continuing to train Fijian nurses until the matter is resolved.

> *"There are nursing qualification issues in Fiji – the Ministry of Health said that the qualification needs to be revised as it is not specialised enough. It needs other components in the curriculum for the nursing graduates to be eyecare nurse specialists." (0190)*

> *"The lack of formal recognition of the nurses' qualification is impacting on nurse morale and attrition rates in Fiji." (0200)*

Discussions to resolve this have been underway for some time between PEI, MoH, and CWM Hospital, and it is hoped that the Tripartite Agreement will help resolve the issue, such as additional units that nurses can undertake to upgrade their qualification.

- Separation from family is a challenge for some students

The Foundation operates on the premise that eyecare training should be accessible to all candidates who demonstrate excellence. Students living away from families for this intensive/immersive programme was identified by some key informants as a barrier to some doctors considering ophthalmology as a career, or for nurses to train as eye health specialists. Pacific cultures are very family oriented, with intergenerational care being a big responsibility. Key informants said that there have been students impacted by marriage break-ups, or leaving their study because of family issues back home. The Pacific seasonal worker programmes also have rates of marriage break-ups due to long absences away from home.[23]

> *"There's a challenge with being away from the family, I think every year we have a broken family, sadly…. We need to get the whole family across; it's only for one year". (0060)*

- Professional development of graduates needs to be formalised

Key informants said that there is a need to formalise sub-specialty training to ensure there is a career pathway. For graduates to stay in eye care, and to reduce the reliance on external surgeons, key informants thought further work is needed to formally offer sub-specialty training, and encourage more opportunities for research.

> *"Is it an effective programme? If looking at the graduates working alone in Samoa and Kiribati, there are still some significant gaps in their training. Have we trained them to be cataract surgeons? Yes, but for professional development I'm keen for them to go off to Nepal and India to become specialists beyond just cataracts." (0050)*

- Different priorities between the key stakeholders challenge the effectiveness of the Training Programme

The Training Programme requires clinical training in hospitals as well as academic training in universities. This interface between university and hospital is critical and there are sometimes challenges with different priorities. The hospital prioritises service delivery whereas the university prioritises academic training. Sometimes the institutions can work together, but not always. Several key informants said the relationship between FNU and MoH makes training at the CWM Hospital's Eye Department challenging. For example, during the COVID-19 pandemic, the Fiji MHMS did not want any trainees for a period of time as they were focused on doing the basics to treat a growing number of patients.

> *"Some decisions that get made do not always seem the most logical and can have large impacts on the programme. This has meant that at times Fred Hollows [The Foundation] has been reluctant to release its tight grip on governance and management of the programme. Fred Hollows [The Foundation] has to do a lot to broker and manage. If it is to move away from that, the risk is that the training programme may not work so well." (0400)*

The aim of the tripartite agreement is to help broker a stronger agreement between PEI, FNU, and MHMS/CWM hospital.

[23] https://devpolicy.org/making-the-rse-scheme-more-family-friendly-20201019-1/

3.1.4 Training is developed around a cultural background setting

Although the provision of scholarships, student equipment, training courses, training staff and a curricula that is regularly reviewed and accredited, are all very important in developing and enabling access to locally-led eye care training and establishing a skilled eye care workforce in the Pacific, embedding the Training Programme into a cultural background setting is also key to the programme's successful outcomes.

> *"Localisation of the training programme itself is a big part of it. From 2016 the programme was taught by mainly expat teaching staff, by 2021 it was being run by local Fijian or Pacific Island teaching staff including both nursing and doctor programmes. There are now some fantastic people in control at PEI". (004)*

A localised training programme and local workforce have multiple benefits because local clinicians understand cultural practices and can take these into consideration as part of their practice.

> *"The training programme has had an enormous impact on communities in the region. The way training is embedded culturally. Community is very important in the Pacific – 'community is part of your body'. Serving the community, the doctors and nurses take it to heart." (010)*

> *"The specialists understand their communities, speak the local languages and are able to organise with local authorities much more effectively in general than visiting teams. The care is provided year-round also, not just a week or two a year." (030)*

Local eye health professionals understand the context and understand the work, and most importantly understand the system. The delivery of culturally safe services is important to patients if a difference is to be made in health inequities.

3.1.5 The training programme is playing an important role within the community, and the broader health system, in reducing the backlog of eye patients

The Training Programme plays an important role within the community and the broader health system. Key informants provided many examples, and Box 1 below illustrates one of these stories and the impact it has on patients and their family, and PEI staff and students.

Note: Primary Eye Care (PEC) training is outside the scope of this evaluation. However, the Evaluation team was asked to include an additional question to the interview guide about the impact key informants thought PEC training had on the community. This discussion is in Appendix D.

Box 1: "Patients from the islands have been told their loss of eyesight is part of ageing, so they just sit at home and go blind. When patients do come, we take their blood pressure, and do cataract surgery for one eye, and you see the glow in their face when you remove the pad from their eye. They can recognise their family members by their voice and trying to connect the voice with the face, especially the children they've never seen before. Some of them burst out crying, the family is crying, the doctors are trying not to cry. It is very rewarding, and you see it everywhere, not just in the islands, but when the mobile eye clinic goes out to the regional hospitals…

There's the old man with white hair and unkempt clothes who comes in for surgery. One week after post op he comes back, he is wearing brightly coloured clothes, the hair is well kept, he is walking upright with a big smile. The quality of life greatly improves. There's a smile not just on the patients, but nurses as well, and the family members who have been looking after the patient. Some patients come back to say hi, bringing you food….

Outreach is a great part of the training; you pick up a lot of surgical skills as well, as we do more cases to perfect surgical techniques… The moment the patient can see, they re-enter the community they become a 'free man' walking around. Every year, there's demand and there's a big depth of support for Fred Hollows…. For paediatric eyecare, they have a life ahead of them and giving them a life they would otherwise not have. Doing those surgeries are quite rewarding …" (0130)

3.2 Changes made to the PEI Training Programme

KEQ2: What changes have been made to facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework?

The Future Fred Regional Programme Framework (The Framework) is an integral part of The Foundation's Future Fred Strategy 2022-2032, which outlines the pathways to support the transition of sustainable quality eye care to locally-led ownership and leadership over the next ten years.

The second KEQ relates to the evaluation objective to identify changes that facilitate meeting the outcomes outlined in The Framework (which are underpinned by health system strengthening principles). This includes The Foundation's focus on supporting local eye health capabilities and systems, and enabling Pacific country partners to develop national health plans to strengthen their health systems.

> *"The focus is still the training programme, but also an increasing focus on post-training to ensure the graduates remain productive in their own country". (015)*

While the previous strategy, which ended in 2021, included The Foundation working with its MoH partners on policy and planning, budgeting, and developing information management and systems, The Framework prioritises this. It is part of health systems strengthening within the Pacific region to ensure The Foundation realises its goal for a locally-determined resilient and sustainable quality eye care in the Pacific.

The health systems strengthening approach in The Framework incentivises partners to include eye health care in health policy and planning. This is important as many Pacific countries still do not allocate any health budget specifically for eye health care. The Foundation's emphasis for the next five years is to support countries to look at strategic planning for eye health and what is going to be required at a strategic level. The aim is that these eyecare plans and strategies will integrate with their national health plans. Integrating the eyecare long-term framework into the countries' health systems will

require an HR plan to identify the number of personnel needed. Additional resourcing from funders will be needed to embed these strategies.

The Foundation has made several changes to its PEI Training Programme and these also meet the envisaged outcomes outlined in the Future Fred Regional Programme Framework

It is evident that changes made during the 2016-21 period do not just relate to the training programme, but also 'after care' once the graduate has returned home.

Key informants outlined several changes made or being made to the PEI Training Programme. These changes are being implemented either through the Training Programme curriculum (training of eye technicians, merger with diabetes training, sub-specialities and use of new technology), or post-training when the graduate has returned to their home country (ongoing professional development and further strengthening of information systems). These changes also involve providing HR support through the re-establishment of the national eye health coordinator role and the implementation of Workforce Support.

Re-establishment of national eye health coordinators

The Foundation is partnering with governments to establish national eye health coordinators in-country.[24] These co-ordinators will be MoH employees, but their salary will be paid by The Foundation in the short to medium-term (1-3 years by The Foundation and then the MoH). PNG has established a position, Vanuatu and Fiji are about to establish one, and The Foundation is working with Tonga and Samoa to establish positions. Solomon Islands has an eye health coordinator as part of its government's national planning processes, and it has allocated resources as part of its national health budget for eye health care.

The role of the national eye health coordinator is to build a strong link between the clinic and the MoH. This is where a health management data system is important, to show the level of work that is being undertaken in the eye care clinic.

The Foundation's ultimate goal is to have a national eye health coordinator in each of the countries that it works in or with. The rationale for this role is that once there is a national planning person in the policy team, they can advocate for eye health to be part of the country's health system, and then actively support work to prioritise eye health care within the system.

> *"When a government doesn't know how much something costs, then they don't understand… there's no incentive to change." (011)*

Once eye care is part of the government's health budget, it is envisaged that governments will be incentivised to support eye care training and preventative eye health care, when they become fully aware of the economic and social impact of preventable blindness on the health care system as well as the country's economy.[25]

Workforce Support

A key risk to sustaining the eyecare workforce is the attrition of the newly trained workforce. There is no guarantee that once an eyecare clinician qualifies they will stay in the sector. The Foundation is attempting to address this risk by actively seeking to retain doctors and nurses through workforce support.

[24] Fiji previously had a national eye health coordinator.

[25] https://www.hollows.org.nz/resources/research/investing-in-vision

This role is relatively unique to the PEI Training Programme where graduates are followed up post-graduation, and is another example of The Foundation's 'wrap around' approach. The role provides support for all eye care graduates (not just new graduates) once they return to their home country. It has multiple responsibilities, which include mentoring, providing access to refresher training support, (including training for clinical attachment support, and attending and presenting at RANZCO conferences), and support to access new equipment or to replace equipment that had been provided to the graduate when they returned home to become a trainer of trainers. The role also works with the MoH in-country representative coordinator. The ultimate outcome is to strengthen the workforce by equipping graduates with the continuing professional development so they can continue to be effective eye care clinicians.

Merger of courses, and formal development of courses

As discussed earlier, there were some changes to the training courses in 2017 which included the merging of the PGDEC and PGCDEC to provide a comprehensive and single one-year postgraduate nursing programme. The new, merged programme would have a stronger emphasis on diabetes and DR management. The PGCDEC course was discontinued in 2017 and the MCEC was discontinued in 2019.

The formal development of training for eye technicians has meant that they are able to do more of the screening, which helps to alleviate the demands on nurses. Technicians can now fill in the information in the software, and refer patients for further diagnosis and treatment.

The introduction of sub-specialities is part of professional development and it will mean less reliance on specialists from outside the region. The Foundation is working towards developing sub-specialisation training and is looking at other institutes where PEI can send students for that training. Its goal is to eventually have locally-led teams within the PEI staff to ensure they have the knowledge and take on additional roles as part of its succession plan.

Impact of COVID-19 pandemic on PEI and the training programme

The COVID-19 pandemic presented unprecedented challenges to PEI and its Training Programme. Transition discussions for service delivery at PEI to be undertaken by Fiji's MHMS were put on hold due to the pandemic.

Workforce Support was impacted because international borders were closed. The Foundation worked to mitigate these barriers through alternative approaches, including in-country-led activities, virtual meetings, and by establishing remote partnerships.

There were also critical reductions in tertiary education tuition and training. In Fiji, the Government directed that all post-graduate Fijian medical students should defer their studies for the remainder of 2020. This led to a key adaptation in the Foundation's delivery of training to students as courses were moved online, with clinical placements suspended. Key informants thought these online and remote learning training processes generally worked well, and now form a regular part of training programmes. They added that remote learning is a useful tool to reduce the burden of travel and time away from family.

Also outlined in the SPECS ACR, the Foundation established a telemedicine platform at PEI to continue the provision of services to eye patients. In addition, the Foundation Clinical Governance Committee developed standard operating procedures and guidelines for partner clinics to ensure they were able to adapt to the pandemic protocols and deliver vital surgeries. However, these initiatives were not able to prevent a significant backlog of eye care cases.

Leadership training

Although The Foundation has made several changes to its PEI Training Programme, key informants stressed that leadership training should be an important focus if The Foundation is to meet the envisaged outcomes outlined in The Framework. This is because

leadership is important within the sector, and should be central to health systems strengthening. Key informants said that non-clinical training in leadership and management skills are critical competencies for a graduate to have before they return home. This would enable them to have the necessary skills to manage staff and the clinic, work with the government, and advocate for further funding. They said that leadership and management skills need to be part of the training programme. The WHO building blocks[26] outline factors that contribute to strengthening health systems, such as leadership and health information systems, and these are needed to inform the overall policy and regulation of all the other health system blocks. While it is ideal when selecting candidates that they have all or most of the competencies, some will be focused on their clinical role.

> *"There needs to be leaders within the sector… Leadership skills are important along with clinical skills. Ideally when selecting candidates, they have all competencies." (0121)*

In New Zealand, ophthalmologists would bring in an office manager to run the day-today operations of the clinic. Management capacity could be possible for larger clinics, but for smaller clinics, the ophthalmologist has to be a leader, manager, and clinician all rolled into one person.

3.3 Learnings and Recommendations

KEQ3: What are the learnings and recommendations that can guide the design, development, and implementation of a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, PNG?

The Foundation is expanding its training programme and clinical service through its plan to build a Centre for Eye Health in Port Moresby. It is envisaged that the future management of the Centre will be undertaken as a collaboration with its partners, including the National Department of Health, Port Moresby General Hospital, and the University of Papua New Guinea (UPNG).

As with PEI, doctors and nurses will be trained alongside each other as eye care specialists before being employed as specialist eye doctors and nurses at the provincial hospitals and health facilities in PNG where they worked before attending the training programme. The Centre is expected to provide similar services to that provided at PEI, and the funding will be in excess of NZD30 million to build and provide operational support for five years.[27]

This section outlines common themes that were discussed regarding learnings from PEI, and recommendations that could inform the design, development, and implementation of a similar training programme in PNG.

Key informants identified several learnings and recommendations from the implementation of the PEI Training Programme in Fiji. However, some noted that the nursing programme in Madang Provincial Hospital Eye Clinic in partnership with Divine Word University, provided opportunities for PEI to learn from, such as the recognition of the nurses' qualification and the contract agreement that ensures graduates are obligated to supervise students in clinical care. These initiatives may have contributed to a relatively low attrition rate for nurses who have graduated from Madang, PNG.

Early engagement with partners in PNG is key

[26] World Health Organization (2010). 'Monitoring the building blocks of health systems: A handbook of indicators and their measurement strategies'. Geneva: WHO.
[27] https://www.hollows.org.nz/images/assets/60498/1/fhfnz-future-fund-2020.pdf

While most key informants provided learnings and recommendations from their experience with PEI, some added that they were unsure how relevant or easily transferable they would be for a similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby.

This is because the PNG Programme would be dealing with one country, while PEI is dealing with several different countries. PNG is also a country with varied topography, multiple languages, public safety issues, and a decentralised health system. The Foundation would have to liaise with multiple provincial governments and hospitals.

UPNG, the Centre for Eye Health's partner, also has an established School of Medicine and Health Services and has a curriculum that includes post graduate diplomas and masters in ophthalmology.[28] The Foundation would need to assess the current issues that are behind the low number of graduates, and consult with UPNG on what role the Foundation can play to improve the number of medical graduates. Key informants commented that this would need to include advocacy for increased funding, and support to access professional development for sub-specialty training. Therefore, the messaging by The Foundation needs to be one of support to increase the number of medical graduates in PNG to meet the growing backlog due to COVID-19.

> *"It's important to note that PNG has actually had training programmes for a long time and the ophthalmologist programme pre-dates Fred Hollows [The Foundation] by many years… No need to reinvent the wheel, perhaps just provide support to upgrade it…Fred Hollows [The Foundation] will need to work within the system, not steamrolling what already exists. … Need to have the right people on the ground. Be clear about what are the results you want to achieve, and what is the realistic timeframe." (0140)*

Key informants stressed the importance of early engagement with partners in PNG, and that ongoing relationship building is the key to building trust. Although it may be challenging to involve the key stakeholders and it may take a longer time than is envisaged, it is crucial to get early buy-in to ensure there is an agreement at the outset of expectations.

For example, when identifying provincial hospitals that the Foundation could work with, the hospitals need to see the value of the investment in eyecare training, such as help with scholarships, funding of equipment, and help with set up of clinics in their hospital. This may impact the way the training programme is implemented in PNG, as doctors in these hospitals can only be released at certain times of the year. Developing a MoU at the beginning would set out clear expectations between the Foundation, UPNG, and the provincial hospital, with support for this coming from the provincial and national governments, including the Ministry of Health.

> *"Ensure stakeholders – provincial hospitals, university, and Fred Hollows [The Foundation] are part of target setting and planning." (0190)*

The comment about a realistic timeframe relates to the environment that donors and implementers work in. PNG has complex cultural undercurrents that could potentially be misunderstood or overlooked by the Foundation, so it needs to ensure it has the 'right people' who can work with the key stakeholders. As mentioned, PNG has a decentralised health system, and so relationship building with the provincial government and hospital is critical. Working in partnership with local leaders within each province is seen as an important component for getting support for the initiative.

[28] https://www.upng.ac.pg/index.php/smhs-programs-courses/smhs-postgraduate-programs

The key message for the Foundation is to support the current eye health curriculum at UPNG to help it increase the number of eye care graduates. Ongoing dialogue with the provincial hospitals will need to focus on how their doctors can be released to attend training, either by providing support while their doctor is away at Port Moresby, or whether a more suitable solution can be found that benefits both the hospital and the doctors.

> *"Listen to what the issues are, and where Fred Hollows [The Foundation] can support the institutions to improve access to a quality eye health service, increase the number eye health professionals, in particular more ophthalmologists that are currently being trained, and increase the number of locally trained teachers in eye care."(0200)*

These early agreements to working with the Centre for Eye Health would encourage cooperation between the hospitals, the Centre, and academic staff at UPNG, and ensure the delivery of services and delivery of training are not compromised. An example would be ensuring there are contracts with clauses stating that academic and hospital staff are obligated to provide supervision to nursing students. This could follow a similar process with the nurses from Madang; when they graduate, they have contracts with clauses stating that they are obligated to provide supervision to nursing students.

> *"Everything needs to be documented, agreements between parties involved. … There is always a change of government, people moving around in government, so will need thorough documentation, and documentation will help bind the relationship, so very important." (0150)*

A systematic approach to engaging with provincial hospitals regarding the selection process will be critical to ensure graduates have eye care positions on their return to their hospital. Key informants thought that it will be important to set expectations up front with national and provincial governments, and UPNG. The plan would need to be regularly reviewed and course-corrected as timeframes may change.

Specialist recognition of doctors and nurses prior to the training programme commencing

It is perhaps not unexpected that eye care nurses were rostered onto general wards during the height of the COVID-19 pandemic. However, concern was raised by many key informants that the eye nursing scope of practice is not recognised in Fiji and that this has impacted on graduate nurses staying in the eye care profession. Although some nurses leaving the profession may be due to natural attrition such as retirement or promotion, key informants thought many have moved out of the eye care profession, even becoming nurse aids in Australia or New Zealand.

Table 5 and Figure 2 below show The Foundation's attrition data on nurse and doctor graduates from PEI. There are limitations to this data as it is difficult to have accurate, complete data, due to some of the remote clinics and lack of communication with these clinics. It does not capture if a graduate has moved to a private practice, or those that do not stay in contact with The Foundation.

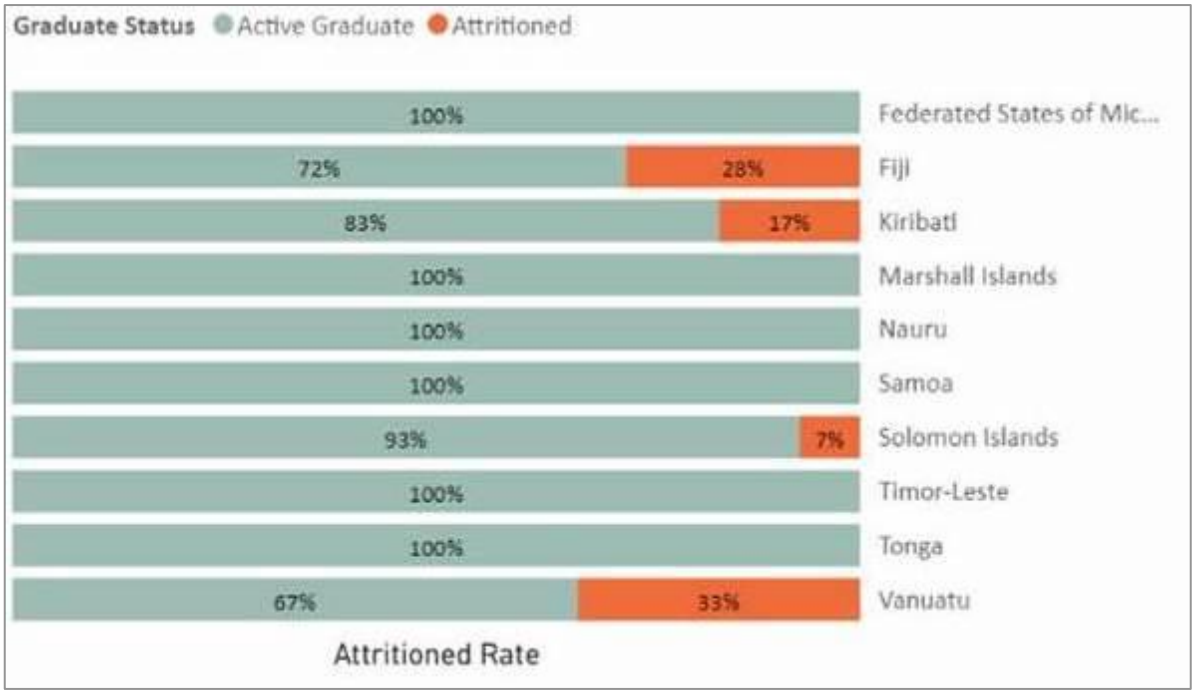
Table 5: Attrition rate by country (number) 2016-2021

Country	Graduate	Attritioned	Total
Federated States of Micronesia	1	-	1

Fiji	21	8	29
Kiribati	5	1	6
Marshall Islands	2	-	2
Nauru	1	-	1
Samoa	6	-	6
Solomon Islands	13	1	14
Timor-Leste	1	-	1
Tonga	7	-	7
Vanuatu	4	2	6
Total	**61**	**12**	**73**

Source: PEI data

Figure 2: Attrition rate by country 2016-2021 (percentage)



Source: PEI data

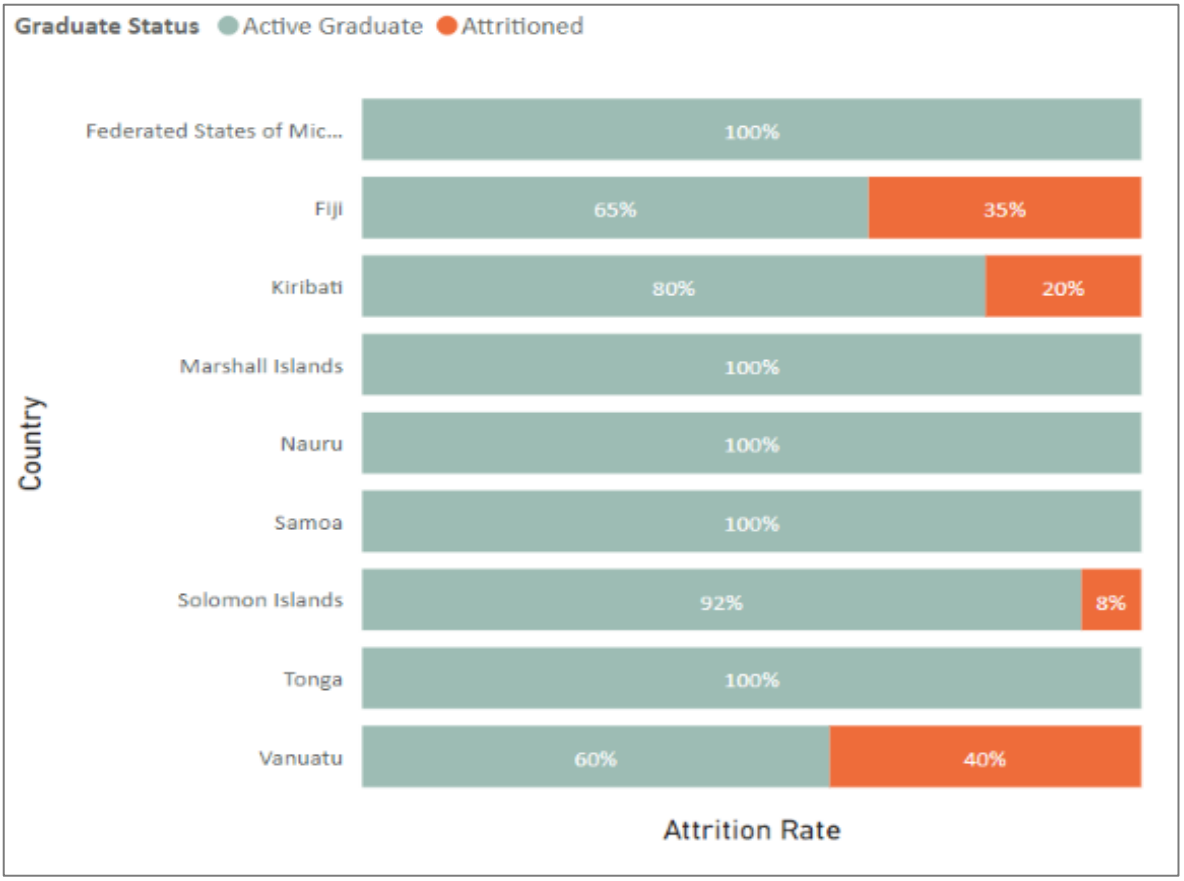
Table 6 and Figure 3 below show attrition rate of eye nurse graduates. The data show that by percentage Vanuatu appears to have the highest attrition rate (40%) but the numbers are small with two out of five ni-Vanuatu nurses leaving their role. However, in Fiji seven out of 20 nurses have left their role, that is 35 percent. Key informants said that there is a wider issue with general nursing retention in Fiji, and this would be exacerbating the issue for eye care graduate nurses being able to remain within eye health care because of this wider issue.

Table 6: Attrition numbers by nursing occupation and country 2016-2021

Country	Nurse	Attritioned	Total
Federated States of Micronesia	1	-	1
Fiji	13	7	20
Kiribati	4	1	5
Marshall Islands	2	-	2
Nauru	1	-	1
Samoa	5	-	5
Solomon Islands	12	1	13
Timor-Leste	-	-	-
Tonga	6	-	6
Vanuatu	3	2	5
Total	**47**	**11**	**58**

Source: PEI data

Figure 3: Percentage of nurses attritioned by country 2016-2021



Source: PEI data

Key informants suggested that The Foundation would need to resolve this issue either prior to the training programme commencing, or that any new qualifications are formally

recognised by the relevant authorities in PNG prior to graduation.[29] While some suggested that hospitals need to agree that returning nurses will not be assigned to non-eye care departments, others thought this would not always be feasible. Hospitals would need to be able to move staff to priority areas in the event of an adverse event such as a pandemic or natural disaster.

They also thought that new clinics need to professionally recognise mid-level clinical personnel positions, such as for eyecare technicians. Although the technicians have formally recognised training, their positions are not currently formally recognised in Fiji.

> *To keep the engine going…These can be as simple as people who sterilise the equipment for surgeries, or someone who screens for diabetes." (0150)*

Ensure there is a respectful working culture at the Centre

Some key informants spoke of the frustration that not all tutors and teachers recognised that they are dealing with students who have already graduated as nurses or doctors. They felt they were treated as if they were young undergraduates with no work experience in health care.

Other tools suggested by key informants included constructive professional development approaches such as 360-degree feedback and tutorials to discuss 'bloopers', to recognise the importance of a collaborative working environment and supportive administration to ensure effective implementation of the training programme.

They also noted that while clinical training is very important, some ophthalmologists lack leadership and/or people management skills, and these would be areas to focus formally within the non-clinical units of the curriculum. Other non-clinical areas to cover would also need to include advocating for eye health budgets within the health budget.

Ensure the building is fit-for-purpose

Some key informants spoke of the Foundation's experience in facilitating the building of eyecare facilities in the Pacific, and in particular a fit-for-purpose clinic in Suva, Fiji. These learnings are informing the design of the Centre for Eye Health in Port Moresby.

There is debate about whether it was reasonable to expect the Fiji Government to fund the ongoing maintenance of a regional Pacific eye clinic that trains Pacific doctors and nurses, and provides access to eye health care to Pasifika patients who cannot be treated in their home country.

The Foundation may need to continue to be responsible for ongoing funding for maintenance of the Centre for Eye Health clinic in the short-term, with a long-term solution such as a possible cost recovery approach built into the planning. This would be easier in larger populations like PNG. It was suggested that the clinic could cross-subsidise on an ability-to-pay basis and reduce the burden on the PNG government.

Ensure that the curriculum is fit-for purpose in PNG

Key informants spoke of the importance of investing in the faculty at the university that is teaching eyecare. Some said the curriculum should include optometrists in the training programme, as well as having visiting lecturers to support and mentor tutors and lecturers.

> *"You need a well-rounded faculty who are keen to train* [*doctors*] *in Retina, Cataracts, Oculoplastics. Oculoplastic surgery, includes a wide variety of surgical procedures on the eye." (0200)*

[29] ADEC eyecare nurses are already formally recognised in PNG.

They added that international partnership support with appropriately skilled teachers including optometrists would be an important component to ensuring the qualification is respected in the eye health sector and country, underpins professional development, and help attract the necessary support from funders.

Key informants said that while localisation of the teaching team and curriculum is important, they also thought that some tutors at PEI lacked teaching experience or lacked in-depth clinical knowledge. Ongoing support by visiting ophthalmic clinicians with teaching experience should be a key part of training programmes. Messaging would be important; that visiting lecturers would have a dual role - to mentor the teachers and teaching the subject alongside them. They suggested support from RANZCO or that the teaching programme is linked to a recognised university outside of the region (such as from Australia or New Zealand) to provide support to the lecturers.

Other recommendations for the curriculum include:

- university lecturer roles also involve supervising students in the clinic;
- non-clinical training in leadership and governance, and financial and literacy tools;
- sub-speciality courses and training to meet the different needs of PNG patients, this may or may not require cutting-edge technology; and
- access to additional expertise from RANZCO to help deliver the curriculum.

More incentives to attract doctors into ophthalmology

The low numbers of ophthalmologists coming through UPNG is one of the reasons why The Foundation wants to support and strengthen a training programme in Port Moresby. However, attracting doctors into ophthalmology has been a challenge in the Pacific region. While scholarships provide one incentive, key informants said that the burden of training is still borne by trainees. They suggested increases in duty of care and scholarships such as making the training programme more 'family friendly', ensuring the safety of students (and training staff), ensuring families stay together, and that scholarships cover more than one visit home. In PNG, female doctors can be a challenge to family dynamics, and safety measures would need to be put in place for female students. Ensuring there is a gender balance of intakes will help female doctors feel less isolated in the training programme.

While many key informants thought scholarships are a very useful inducement to study ophthalmology, some thought getting government involvement at the beginning to help attract doctors in ophthalmology may encourage a larger pool of applicants, such as additional incentives to their salary or a larger stipend.[30] Other key informants thought The Foundation could promote the benefits as part of its recruitment drive, such as the opportunity for graduates to return to a fully funded clinic in their provincial hospital, ongoing professional development, and ophthalmology sponsorship to do sub-specialty training. As well as scholarships and funding for research, some also added that front-loading with stronger university partners will help provide support to The Foundation with accessing funding for the training programme.

> *"Ensure funding is prioritised for research by ensuring there is a research partner on board at the start." (0300)*

[30] We note that any incentivisation would need to fit with a country's health workforce planning as it could create shortages in other medical specialisations.

The view was that if more doctors apply, there are more suitable health professionals for the selection committee to choose from for the training programme.

Candidate selection process

Some key informants suggested that the selection process for candidates should include an interview to see if they have the:

- interpersonal skills required to run a clinic, manage staff, and negotiate with senior government officials;
- financial skills to manage the clinic's budget; and
- advocacy skills to seek further funding to run their clinic.

In the Solomon Islands the ophthalmologists, through collecting data to justify the budget, were able to advocate to their MoH for a separate budget for eye health. Other key informants queried whether for larger clinics it might be feasible for The Foundation to fund an office manager to ensure an ophthalmologist has the clinical hours needed and time to lobby and work with senior officials at their MoH.

Wraparound approach increases the chance of success

As already discussed, unlike other training programmes, The Foundation provides a comprehensive approach which has enabled graduates to work as eye health professionals in their home country, increasing the pool of locally-trained ophthalmologists, and to a lesser extent nurses. In addition to providing scholarships, it works with participating governments to ensure there are positions for graduates on their return, and space to treat patients. The Foundation's role continues post-training, with PEI Workforce Support visits to graduates in their home country and provision of access to experienced ophthalmologists as sounding boards. The Foundation understands the operating context and budgetary challenges of MoHs in the Pacific. To ensure graduates are able to practice effectively, they provide further support with consumables and equipment in addition to what graduates are provided with as part of the programme agreement. Key informants acknowledge that this 'wraparound' approach should be an important component to new training programmes, noting that in PNG it would have to manage higher than normal levels of law and order challenges leading to financial and safety and security risks, and that consumables and equipment may not reach graduates practicing in their province. Concerns were raised about financial and security risks in PNG and the need for robust systems in place to avoid theft of equipment and consumables.

Localisation can still include outside support for professional development

For PEI, certain decisions were made because of the political context at the time in Fiji. This will also be the case for the Port Moresby Centre for Eye Health, and so how the training programme will be delivered may look different to PEI to ensure it is embedded well within the PNG social, cultural, and political context.

Provincial governments know about the work of The Foundation, especially the work in Madang in producing a good eyecare nurse workforce, and will want it to do similar work in their province.

A similar tripartite agreement may not solve all issues, but if a similar approach is used for PNG, it may help set expectations of localisation of the training programme and the Centre. Key informants said that at the outset there needs to be a transition plan for the MoH and university to take ownership.

> *"There are a lot of partners and stakeholders willing to help with funds as the biggest need is in PNG…. Coordination will be an issue for Fred Hollows [The Foundation]. …. Progress slowly, undertake annual review to make any changes accordingly." (0100)*

In summary, while some lessons are transferable, PNG is a complex and challenging country socially, geographically, culturally and politically. Safety of staff and students will be paramount, and there are law and order issues. In addition, the messaging that The Foundation is there as a partner to provide financial support to increase the number of ophthalmologists, and provide access to professional development (which may include academics and practitioners in the short-term) will be critical to get early buy-in from all stakeholders. This process may take time if other priorities for the provincial governments take precedence. A communication strategy will be key, messaging the long-term economic and social benefit of preventative eye care.

4. Conclusions

The PEI Training Programme has helped to establish a locally-led and a skilled eyecare workforce in the Pacific. More work is needed to ensure that eyecare training and the workforce become sustainable.

The purpose of this evaluation is to help The Foundation and its stakeholders better understand the influence of the PEI Training Programme in:

- enabling access to quality eyecare training for doctors and nurses in the Pacific;
- localising the eyecare training for doctors and nurses; and
- establishing a skilled and sustainable local eye care workforce in the Pacific.

The Evaluation Team assessed the PEI Training Programme in Fiji (2016-2021) against the KEQs by looking at its progress against its proposed outcomes in The Foundation's 2016 - 2020 Programme Strategy.

The short, medium, and long-term outcomes[31] are 'Increased eye health workforce', 'Improved access to quality, comprehensive eye care', and 'Contribution to reduced blindness and vision impairment in the Pacific'. The Evaluation Team finds that the PEI Training Programme has helped to establish a locally-led and skilled eye care workforce in the Pacific. Data shows in the period 2016-2021 there were 73 graduates (19 doctors, 58 nurses, and 2 technicians) in spite of the COVID-19 pandemic affecting training in the later years.

This was achieved through the 'wraparound approach' of providing the following outputs in this period: scholarships (110), student equipment (63), fit-for-purpose training courses (5), local training staff (from 2019), and regularly reviewed and accredited curricula (MMed reviewed every five years and accredited every three years; PGDEC reviewed and accredited every 5 years).

However, more work is needed to ensure that eyecare training and the workforce become sustainable. Such work includes: addressing the lack of formal recognition of the eye nursing scope of practice, where PGDEC graduates are not formally recognised within the Fiji health system, and technicians also are not formally recognised for their skills in Fiji; COVID-19's impact on Pacific governments' health budgets; and the demand for trained nurses from Australia and New Zealand, which is contributing to a high attrition rate in the region's nursing profession.

The Foundation has transitioned PEI training to FNU, although it still pays for staff salaries. All PEI trainers are from the Pacific. Students are supported by The Foundation's scholarships, and their salaries are still paid by their government while they are in the Training Programme. The PEI clinic has been transitioned to the Fiji Ministry of Health and Medical Services, although The Foundation still pay its staff salaries, and provide the facility with equipment, consumables, and maintenance. It is envisaged in the long-term that, as part of The Framework, The Foundation will support and facilitate the transition of staff salaries to FNU and PEI.

Based on the KEQ1 findings, we conclude that the PEI Training Programme:

- has been effective in developing and enabling access to locally-led eyecare training;
- has helped eye health systems to be established;
- is contributing to building a sustainable eye care workforce, but there are challenges;

[31] The medium and long-term outcomes are shared with other Foundation programmes, so we assessed the Training Programme as contributing towards these outcomes.

- is embedding the programme into a cultural background setting; and
- is playing an important role within the community, and the broader health system, in reducing the backlog of eye patients.

Changes made to the PEI Training Programme will help meet outcomes outlined in the Future Fred Regional Programme Framework

KEQ2 examines what changes have been made to facilitate meeting the outcomes outlined in The Framework. It is evident that changes made during the 2016-21 period don't just relate to the Training Programme, but also 'after care' once the graduate has returned home.

The Framework outlines the pathways to support the transition of sustainable quality eye care to locally-led ownership and leadership over the next ten years. This includes The Foundation's focus on supporting local eye health capabilities and systems, and enabling Pacific country partners to develop national health plans to strengthen their health systems.

While the previous strategy included The Foundation working with its MoH partners on policy and planning, budgeting, and developing information management and systems, The Framework prioritises this. It is part of health systems strengthening within the Pacific region to ensure it realises its goal for a locally-determined resilient and sustainable quality eye care in the Pacific.

Key informants outlined several changes made or being made to the PEI Training Programme. These changes are being implemented either through the Training Programme curriculum (training of eye technicians, merger with diabetes training, sub-specialities and use of new technology), or post-training when the graduate has returned to their home country (ongoing professional development and further strengthening of information systems). These changes also involve providing HR support through the establishment of the national eye health coordinator role and the implementation of Workforce Support.

There were some changes to the training courses following a strategy review in 2017. That highlighted that the PGDEC and the PGCDEC would benefit from a merger to provide a comprehensive and single one-year postgraduate nursing programme. This merged programme would put a stronger emphasis on diabetes and DR management in addition to general eye care. The PGCDEC course was discontinued in 2017 and the MCEC was discontinued in 2019.

The formal development of training for eye technicians will mean that they are able to do more of the screening, which helps to alleviate the demands on nurses. The introduction of sub-specialities is part of professional development and it will mean less reliance on specialists from outside the region.

Workforce support and national eye health coordinators are aimed at building stronger links in each country to help The Foundation advocate for eye health to be part of each government's health budget and national health plans. Formal leadership and management courses as part of the non-clinical component of the Training Programme should be considered. Such courses could help graduates to be effective advocates.

The COVID-19 pandemic also presented unprecedented challenges to PEI and its training programme during the previous programme strategy period, creating a significant backlog of eyecare cases and disrupting courses. However, The Foundation established a telemedicine platform at PEI to continue the provision of services to eye patients. Courses were moved online, with clinical placements suspended, and these online and remote learning and training processes now form a regular part of training programmes.

Learnings and Recommendations

KEQ3 identifies learnings and recommendations that can guide the design, development, and implementation of a similar eyecare training programme at the Centre for Eye Health in Port Moresby. Key informants identified several learnings, and some noted that the nursing programme in Madang Provincial Hospital Eye Clinic (in partnership with Divine Word University) provided opportunities for PEI in Fiji to learn from, such as the formal recognition of the nurses qualification and the contract agreement that ensures graduates are obligated to supervise students in clinical care.

We are unsure how relevant or easily transferable some of the recommendations would be for a similar Eye programme at the Centre for Eye Health in Port Moresby. This is because the Centre would be dealing with one country, while PEI is dealing with several countries. PNG is also a country with varied topography, multiple languages, public safety issues, and a decentralised health system. The Foundation would have to liaise with multiple provincial governments and hospitals, and the UPNG also has an established School of Medicine and Health Services.

To help ensure success in PNG, the following themes have been identified:

- Early engagement with partners in PNG is critical. The messaging by The Foundation needs to be one of support to increase the number of medical graduates in PNG to meet the growing backlog due to COVID-19.
- Ensuring formal recognition of any new qualifications prior to the training programme commencing.
- Ensure there is a respectful working culture at the Centre. This is a universal tenet for all organisations to perform effectively, efficiently, and sustainably.
- Ensure the building is fit-for-purpose. The Foundation has experience in building fit for purpose clinics in the Pacific. The responsibility for maintenance in the short to medium-term should remain with the Foundation as the clinic is a valuable asset.
- Ensure that the doctors' curriculum is fit-for purpose in PNG. This will take time, working with UPNG to ensure it can be incorporated into the university's current programme. Working with a recognised university from Australia or New Zealand, and RANZCO, will help attract funders, and ensure the courses are regularly reviewed and accredited.
- More incentives to attract doctors into ophthalmology. There is a shortage of health professionals in the region, and any incentives would also need to be offered outside of PNG. Incentives may need to be offered to governments, and this could tie into paying the salaries of national eye health coordinators, HR advisers, and/or health policy planners. This would align with The Framework's focus on supporting local eye health capabilities and systems, and enabling PIC partners to develop national health plans to strengthen their health systems.
- Wraparound approach increases the chance of success. This is evidenced by the outcomes achieved by the PEI Training Programme, and will increase the likelihood of meeting the Foundation's goal for a locally-determined resilient and sustainable quality eyecare in the Pacific.
- Localisation at CWM/PEI suggests the concept of partnership should continue and be further strengthened, especially with regard to external clinical expertise, and finance. Localisation can still include outside support for professional development, including partnering with those who have experiences and knowledge but are outside of the specific partnership focus, most significantly management of the partnership. Localisation can mean that The Foundation eye clinics can be run by local ophthalmologists, and their training programmes can be taught and run by Pacific universities. The issue is whether Pacific governments' health budgets can provide the long-term funding that eyecare services need. This means that at least in the

medium-term, external funding is likely to be needed to support these programmes. What the programme may need is a form of 'hybrid localisation', where facilities are provided locally but some part of the operating budget comes from external sources, such as from The Foundation.

In summary, while some lessons are transferable, PNG is a complex and challenging country socially, culturally and politically, there are law and order issues, and safety of staff and students will be paramount. The messaging that the Foundation is there in partnership and to provide financial support to increase the number of ophthalmologists, and provide access to professional development (which may include external academics and practitioners in the short-term) will be critical in order to get early buy-in from all stakeholders. This process may take time if other priorities for the provincial governments take precedent. A communication strategy will be key, messaging the long-term economic and social benefit of preventative eyecare.

Appendices

Appendix A: Source materials

- Activity Design Document (ADD): Strengthening Pacific Eye Care Systems (SPECS), 2016-2020.
- Allen+Clarke. Evaluation of Visual Impairment Activities in Pacific Island Countries. MFAT, 2015.
- Evaluation of the Eye Care Training Programme at the Pacific Eye Institute, Fiji. Terms of Reference.
- The Fred Hollows Foundation New Zealand 2016-2020 Programme Strategy.
- The Fred Hollows Foundation New Zealand Academic Committee Terms of Reference, February 2021.
- The Fred Hollows Foundation New Zealand Programme Results Measurement Framework (2016-2021).
- MFAT Regional Programme Design, 2022.
- Future Fred Regional Programme Framework (2022-2032).
- MFAT and The Fred Hollows Foundation New Zealand. Strengthening Pacific Eye Care Systems 2016-2022 Activity Completion Report.
- Memorandum of Arrangement between PEI and FNU, 2014.
- Process of selection of applicants for Fred Hollows Foundation New Zealand scholarships to study eye care programmes.
- World Health Organization (2010). Monitoring the building blocks of health systems: A handbook of indicators and their measurement strategies. Geneva: WHO.
- PWC and University of Otago. The Economic and Social Cost of Type 2 Diabetes.

Appendix B: Fieldwork tools

Future Partners
INTERNATIONAL DEVELOPMENT

Information sheet and consent form

Evaluation of the Eye Care Training Programme at the Pacific Eye Institute, Fiji

The Fred Hollows Foundation has commissioned Future Partners to undertake an independent Evaluation of its Eye Care Training Programme at the Pacific Eye Institute, Fiji.

Activities related to the Training Programme such as training courses, scholarships, training staff, training facility, and training infrastructure are within the scope of this evaluation.

Other broader factors related to training that are also within the scope of this evaluation include the role of the Academic Committee and respective Ministries of Health in the selection process of students, and ensuring that they are well-integrated within their national health systems on completion of their training.

Emerging themes around the role of the Training Programme in eye health system strengthening can inform the findings and recommendations of the evaluation.

WHY is the initiative being evaluated?

The evaluation objectives are:

Objective 1: To evaluate the Training Programme in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific.

Objective 2: To identify learnings and recommendations that can guide the design, development, and implementation of similar Eye Care Training Programme at the Centre for Eye Health in Port Moresby, Papua New Guinea.

Objective 3: To identify changes that facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework.

WHAT will the evaluation entail?

A review of relevant documents, data, and key informant interviews.

HOW can you contribute to the evaluation?

You and other key informants will be invited to either meet our evaluator in person in Suva, or via Zoom. The evaluator will use an interview guide and focus on questions relevant to your role and connection with the programme.

Do you have to take part?

Participation in the evaluation is voluntary. You can agree to take part but you still have the option to stop taking part at any time. However, your views and experiences are highly valuable to inform the evaluation and we value your input.

While your name and role will remain confidential to the evaluators, and you won't be identified in the evaluation report, what you say may be used to inform the evaluation findings. Your information will be used for this evaluation only and by the Evaluation Team. We envisage that the report will be published by FHF.

WHO is conducting the evaluation?

The evaluation is being conducted by Aotearoa New Zealand consulting firm Future Partners Ltd. If you have any questions about the evaluation, please contact either:

Dr Elisabeth Poppelwell, Future Partners Associate, voxpop@slingshot.co.nz +64274655192 or

Kirsty Burnett, Future Partners Director, kirsty@futurepartners.co.nz +64210672680

Consent

- I have read the information above, and all my questions have been answered.
- My interview responses can be used as part of the Eye Care Training Programme Evaluation report.
- I understand that I will not be identified in the evaluation report.
- I agree to take part in an audio recorded interview. Yes o No o
- I agree to take part in an unrecorded interview. Yes o No o

Name (print):

_____

Signature:

_____

Date:

_____

Interview guide.

Not all questions will be relevant to all key informants

[Overview – The interview guide focuses on whether the training programme has worked well; what its impact has been (what can be done now that couldn't be done before); the challenges; changes made to meet its objectives; what would be done differently if doing the programme again; areas of the training programme that are transferable to the proposed PNG initiative, and what areas are not transferable].

Objective 1. *To evaluate the Training Programme in developing and enabling access to locally-led, sustainable eye care training, and establishing a skilled eye care workforce in the Pacific.*

Enabling access to locally-led eye care training

1a) To what extent has the Training Programme been effective in developing and enabling access to locally-led eye care training?

1b) Prompt - Can you provide examples to show this (first with developing and then enabling)?

1c) If not effective, why do you think so? Prompt – What have been the challenges? e.g. the aid dependency dilemma with Ministries of Health, high attrition rates of trained medical staff emigrating? Selection process of students?

Establishment of eye health systems

2a) Do you think the training programme has enabled eye health systems to be established?

2b) If yes, please provide examples. Prompt – How and in what way? e.g. its 'wrap around' training approach, govt support for services, increased eye care funding, information etc., new facilities.

2c) If they have not, why not?

Understanding the influence of the Training Programme

One of the aims of the evaluation is to help the Foundation and its stakeholders understand the influence of the Training Programme in establishing a skilled and sustainable local eye care workforce in the Pacific, in particular looking carefully at the evidence that this has been achieved.

3a) Do you think the training programme has contributed to building a sustainable eye care workforce?

3b) If you do - What are the key strengths and learnings from the training programme to make it sustainable? Prompt – How and in what way? e.g. its 'wrap around' training approach, govt support for services, increased eye care funding, information etc., new facilities.

3c) If you do not, why not?

Impact on the community

4a) What impact has the training programme had within the community, and the broader health system? (ask all key informants)

4b) Have you conducted Primary Eye Care (PEC) training, or do you know about PEC training being conducted? (For doctor and nurse graduations (Dr. Duke, Lucilla, PGDEC nurses))

4c) What impact has the training programme had within the community, and the Primary/ broader health system? (For doctor and nurse graduations (Dr. Duke, Lucilla, PGDEC nurses))

The Foundation staff

Objective 2: *To identify changes that facilitate meeting the outcomes outlined in the Future Fred Regional Programme Framework (which are underpinned by health system strengthening principles).*

5a) Has there been changes made to help meet the outcomes outlined in the Future Fred Regional Programme Framework?

5b) How were these changes implemented or are being implemented? Prompt – Have they been effective?

The Foundation staff

Objective 3: *To identify learnings and recommendations that can guide the design, development, and implementation of similar Eye Care Training Programme at the Centre of Excellence in Port Moresby, PNG.*

6a) What are the lessons learned for you and your organisation from the different phases (design/development/implementation) of the programme?

6b) What recommendations can you provide that could guide the design, development, and implementation of a similar programme in PNG? Prompt – what are the unique considerations for PNG (e.g. political/social/cultural/health issues)?

6c) How could The Foundation take this model to PNG? (only The Foundation staff (Dr John, Peter, Komal, Dr Mundi)

6d) What are the challenges for this training programme in PNG?

All key informants

7) Other comments?

Appendix C: Outputs and short-term outcome

Table A1 outlines the PEI Training Programme outputs, short-term outcome, and indicators from the Programme Strategy Results Measurement Framework.

Table A1: Training Programme outputs, short-term outcome, and indicators

Outputs	*Indicators*
2.1.1. Scholarships	*Scholarships provided (No., course, M/F, home clinic location)*
2.1.2. Student equipment	*Students provided with equipment pack (No.)*
2.1.3. Training courses	*Training courses delivered (No., type)*
2.1.4. Training staff	*Training staff employed (No., location); Training staff funded (No., location)*
2.1.5. Curriculums reviewed/accredited	*Curriculums reviewed and/or accredited (No., curriculum, location)*

Short-term outcome	*Indicators*
2.1. Doctors and nurses trained in eye care	*Graduates (No., course, M/F)*

The medium and long-term outcomes also relate to other Foundation programmes. The PEI Training Programme contributes towards these.

Appendix D: Primary Eye Care training

Primary Eye Care (PEC) training is outside the scope of this evaluation. However, the Evaluation team was asked to include an additional question to the interview guide about the impact key informants thought PEC training had on the community.

After a year of specialist eye care training,[32] graduate nurses are deemed well placed to distribute this knowledge on their return home. The 2022 PEC training pilot is a three-day course[33] that graduates present to other health care workers. This not only sees the dissemination of eye care knowledge and skills; it also encourages local networks and referral pathways to ensure eye care is available to all. PEC training is seen as a way to bring primary eye care into primary health care.

Table A2 shows the number of participants that attended PEC workshop training and Diabetic Retinopathy (DR) awareness training within the community and the Primary/broader health system.

Table A2: Primary Health Care Worker Training total number of participants

Date	**Country**	**Primary Health Care Worker Training Total Participants**[34]
Jan-2016	Fiji	8
Apr-2016	Fiji	6
May-2016	Fiji	15
May-2016	Fiji	9
May-2016	Fiji	15
May-2016	Fiji	20
May-2016	Fiji	11
Jun-2016	Fiji	21
Aug-2016	Fiji	15
Sep-2016	Fiji	23
Sep-2016	Fiji	19
Sep-2016	Fiji	16
Sep-2016	Fiji	12
Oct-2016	Fiji	12
Oct-2016	Fiji	23
Oct-2016	Fiji	16
Nov-2016	Fiji	16
Nov-2016	Fiji	12
Nov-2016	Fiji	14
Nov-2016	Fiji	19
Aug-2017	Fiji	11
Oct-2017	Fiji	20
Feb-2018	Fiji	15
Feb-2018	Fiji	12
Feb-2018	Fiji	16
Feb-2018	Fiji	25
Apr-2018	Fiji	45
May-2018	Fiji	41
May-2018	Fiji	30
May-2018	Fiji	34
Sep-2018	Fiji	21

[32] Includes PEC workshops, DR awareness workshops, DR awareness trainings, and NCD workshops.
[33] One key informant suggested that the PEC training should be for 2 days instead of 3 days.
[34] Includes PEC workshops, DR awareness workshops, DR awareness trainings, and NCD workshops.

Sep-2018	Fiji	32
Sep-2018	Fiji	9
Oct-2018	Fiji	18
Oct-2018	Fiji	38
Oct-2018	Fiji	39
Nov-2018	Fiji	39
Nov-2018	Fiji	35
Nov-2018	Fiji	38
Nov-2018	Fiji	27
Nov-2018	Fiji	23
Nov-2018	Fiji	17
Nov-2018	Fiji	46
Nov-2018	Fiji	42
Nov-2018	Fiji	40
Nov-2018	Fiji	19
Nov-2018	Fiji	17
Mar-2019	Fiji	27
Apr-2019	Fiji	18
Apr-2019	Fiji	28
May-2019	Fiji	32
May-2019	Fiji	24
Jul-2019	Fiji	13
Jul-2019	Fiji	15
Jul-2019	Fiji	29
Oct-2019	Fiji	19
Oct-2019	Fiji	28
Oct-2019	Fiji	50
Oct-2019	Fiji	52
Mar-2020	Fiji	20
Mar-2020	Fiji	15
Sep-2020	Fiji	10
Oct-2020	Fiji	17
Oct-2020	Fiji	20
Nov-2020	Fiji	12
Dec-2020	Fiji	11
Mar-2021	Fiji	12
Dec-2016	Kiribati	25
Mar-2017	Kiribati	15
Apr-2017	Kiribati	14
Apr-2018	Kiribati	20
Apr-2019	Kiribati	200
Aug-2019	Kiribati	16
Nov-2019	Kiribati	30
Nov-2020	Kiribati	11
Nov-2020	Kiribati	18
Apr-2021	Kiribati	3
May-2021	Kiribati	5
May-2021	Kiribati	18
Jul-2021	Kiribati	13
Aug-2021	Kiribati	12
Aug-2021	Kiribati	21
Sep-2021	Kiribati	9
Sep-2021	Kiribati	12
Aug-2017	Samoa	14

Aug-2017	Samoa	14
Sep-2017	Samoa	14
Sep-2017	Samoa	20
Nov-2017	Samoa	11
Nov-2017	Samoa	7
Dec-2017	Samoa	48
Jul-2018	Samoa	48
Aug-2018	Samoa	25
Aug-2018	Samoa	27
Aug-2018	Samoa	27
Mar-2021	Samoa	35
Mar-2021	Samoa	35
Feb-2016	Solomon Islands	29
Jun-2016	Solomon Islands	26
Aug-2016	Solomon Islands	20
Sep-2016	Solomon Islands	32
Feb-2017	Solomon Islands	30
May-2017	Solomon Islands	16
May-2017	Solomon Islands	20
May-2017	Solomon Islands	25
Feb-2018	Solomon Islands	22
Apr-2018	Solomon Islands	18
May-2018	Solomon Islands	11
May-2018	Solomon Islands	11
Jun-2018	Solomon Islands	12
Jun-2018	Solomon Islands	10
Apr-2019	Solomon Islands	19
Jul-2019	Solomon Islands	15
Oct-2017	Tonga	13
Nov-2018	Tonga	16
Nov-2018	Tonga	27
Apr-2019	Tonga	17
Nov-2020	Tonga	6
Nov-2020	Tonga	18
Feb-2021	Tonga	12
Feb-2021	Tonga	20
Feb-2021	Tonga	20
Feb-2021	Tonga	20
Mar-2021	Tonga	17
Mar-2021	Tonga	22
Mar-2021	Tonga	21
Mar-2021	Tonga	10
Apr-2021	Tonga	19
Apr-2021	Tonga	16
May-2021	Tonga	20
May-2021	Tonga	18
May-2021	Tonga	21
May-2021	Tonga	19
Aug-2021	Tonga	20
Aug-2021	Tonga	21
Aug-2017	Vanuatu	10
Sep-2017	Vanuatu	25
Dec-2017	Vanuatu	10
Jun-2018	Vanuatu	10

Jul-2018	Vanuatu	11
Jun-2021	Vanuatu	6
Jun-2021	Vanuatu	5
Sep-2021	Vanuatu	89
	TOTAL	**3145**

Source: PEI data

Key informants who were involved in the training thought that PEC training had a great impact on the community:

> *" The PEC training does have an impact as it enables the Primary health care workers to be aware of and identify patients needing eye care as well as referring them to the appropriate place. I believe more patients have sought eye care after the primary health care workers were trained as these people are the ones at the community level. (0600)*

> *"The training has helped the nurses identify any eye problem that needs urgent attention, referral of all diabetic patients for eye check and for the Central division. Because CWM is decentralising their services these trained nurses work closely with ophthalmologist when they visit the health centres for outreach programme". (0120)*

Key informants added that PEC training has strengthened the eye care approach within the community. The trained eye nurse cannot be everywhere, so those community health care workers are trained to identify some of the eye conditions that can be sight threatening if not treated on time. PEC training allows those nurses in the periphery to refer those patients at different levels.