The Fred Hollows Foundation NZ

Gender Analysis of Eye Care Services in PNG

RESEARCH REPORT

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Acknowledgements

The Gender Analysis of Eye Care Services in Papua New Guinea (PNG) was a research project conducted by CARE International in PNG (CIPNG) for The Fred Hollows Foundation PNG Inc (FHF-PNG) and The Fred Hollows Foundation NZ (FHFNZ), and their partners The Fred Hollows Foundation (FHF).

We would like to thank the Australian Government through the Department of Foreign Affairs and Trade for funding this research and FHFNZ and FHF for its technical support and guidance.

We acknowledge and thank the FHF-PNG team in Port Moresby and Madang for their support in organising the fieldwork in both locations, particularly Agnes Mor and Rosemary Isicar.

Thank you to CIPNG staff, Issabelle Vilau, Petronilla Beka and Lincy Mupue for your tremendous support in doing interviews and transcribing the interview notes.

Special thank you to Katie Robinson, for the ongoing technical support provided from the beginning of the project with the desk review, to the development of the data collection tools and finalising the research report.

Finally, a huge thank you to the CIPNG Country Director, Justine McMahon, for her continuous guidance, encouragement and support throughout the research and the Program Support Team of CIPNG for ensuring the research was well supported in terms of logistics and finance.

Acronyms

ACFID	Australian Council for International Development
CBO	Community Based Organisation
CIPNG	CARE International in Papua New Guinea
COVID-19	Coronavirus Disease
FGD	Focus Group Discussion
FHF	Fred Hollows Foundation
FHFNZ	The Fred Hollows Foundation NZ
FHF-PNG	The Fred Hollows Foundation PNG Inc
INGO	International Non-Government Organisation
NGO	Non-Government Organisation
PHA	Provincial Health Authority
PNG	Papua New Guinea
RAAB	Rapid Assessment of Avoidable Blindness

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Abstract

Introduction: Access to eye health care is limited in Papua New Guinea due to factors such as low literacy, transport difficulty and distance to services, lack of awareness of the services available of treatment for eye care, the high cost associated with services, especially spectacles, and underlying beliefs related to sorcery and eye problems. All of this is compounded by a lack of available eye care services. The purpose of this research was to better understand the current gendered context around access to eye health services to strengthen eye health care in PNG.

Methods: An initial desktop review was conducted to provide a review of the current published information on gendered access to eye health care. Next, the methodology and tools for fieldwork were developed based on findings and gaps identified in the review. Fieldwork was conducted in three sites - Goroka, Madang and Port Moresby to allow a comparison between highlands and the coastal areas, as well as urban and more rural locations. A total of 151 people (49% women) participated in this study – in-depth interviews were conducted with 59 eye patients, 16 eye care workers and 11 representatives from the Provincial Health Authorities, Provincial Hospital Management team and The National Prevention of Blindness Committee respectively, and 65 non-patients were included in participatory focus group discussions. Of the 59 eye patients interviewed, approximately half met the criteria for disability using Washington Group Question analysis guideline.

Results: Accessibility to eye health services is a challenge for both urban and rural populations, with women being more disadvantaged than men. The nature of gender inequity in PNG means that women are systematically disadvantaged in relation to eye care, and this provides a clear explanation of why they face a disproportionately high burden of illness and disability relating to eye health compared to men. This study identifies key barriers that women face as a result of gender inequity and provides options for addressing these to overcome the current inequalities. The provision and accessibility of basic services, including general health care services as well as eye health services, was severely disrupted by the impact of COVID-19, exacerbating existing challenges for women.

The main themes identified were:

- The influence of gender inequity on access to eye health
    - Men make the decisions
    - Women are overburdened and lack time due to many commitments of household, food production, and care related tasks that women are expected to undertake
    - Women's movement is restricted
    - Women experience stigma and shame when accessing eye health
- Contextual eye health access challenges
    - Geographical challenges
    - Financial costs
    - Lack of awareness of services
    - Belief in sorcery and other non-medical causes and solutions to eye health issues
- Current eye health structures
    - Inadequate eye health services
    - Eye Health workforce: Gender discrepancies, eye health worker ratio, patient preference
- The impact of COVID-19
    - Misinformation and fear of COVID-19

- Eye clinic operations
- Restrictions

• Suggested improvements by participants

- Outreaches
- Health promotion: Gender-based violence
- Training and upskilling
- Infrastructure
- Eye health structure: Partnership for service provision, gender balance in the workforce

Conclusions: These findings provided an insight into the existing barriers to access eye health care services and treatment from the beneficiaries' point of view as well as service providers and stakeholders. Recommendations have also been given for appropriate eye health services to address these barriers and increase access to eye health services.

Key words: Access, barriers, women, gender discrepancies, eye health workforce, Papua New Guinea

Overview of context

Papua New Guinea (PNG) is a patriarchal society in which women across the country continue to face severe inequities in all spheres of life: social, cultural, economic and political. Gender inequity is a critical development issue. Papua New Guinea is ranked 155 out of 189 for Human Development according to the United Nations Development Programme and 161 for gender inequality. The Gender Inequality Index is measured by three aspects of human development: reproductive health, empowerment, and economic status.

Health services in PNG are poor, particularly in rural areas where most of the population live[1]. Health workers are scarce, with just 0.1 doctors and 0.4 nurses/midwives for every 1,000 people[2]. This is substantially lower than other Pacific Island countries such as Fiji (0.9 doctors and 3.4 nurses) and Solomon Islands (0.2 doctors and 2.2 nurses) per 1,000 people. A 2016 study reported that there were only six ophthalmologists and five optometrists to provide eye care to the entire population[3]. Approximately 80 per cent of the population live in rural areas, but most eye care facilities are located in urban areas, mostly in the capital, resulting in rural people having limited access to services.

The 2017 Rapid Assessment of Avoidable Blindness (RAAB) conducted in PNG found that prevalence of blindness is significantly higher in women (7.0%, 95CI 6.2-7.8%) than in men (4.4%, 95CI 3.4-5.4%), with prevalence of blindness highest in women in the Highlands (11.1%, 95%CI 8.1-14.0%) and lowest in men in the Islands (0.7%, 95%CI 0.0- 1.7%)[4]. Untreated cataract was identified as the most common primary cause of blindness. The RAAB data highlighted that women have a different, often disadvantaged, experience when accessing eye health services.

Overall, the RAAB found that the most reported reasons for not accessing cataract surgery services were that the respondent was ‘unaware [that] treatment is possible’ (34.7%) and that the ‘need [for surgery] was not felt’ (33.6%). These reasons were reported proportionally more by females compared to males in all regions, although this difference was not statistically significant.

According to a UN Women report, the impacts of COVID-19 are exacerbated for women and girls simply by virtue of their gender and the negative impact is across every sphere, from health to the economy, security to social protection.[5]

A thematic brief published in May 2020 by Pacific Women Shaping Pacific Development also found that Pacific women and girls are disproportionately impacted by crises such as the ongoing pandemic. Women are expected to undertake more unpaid domestic work, are less able to access essential health services and are more vulnerable to economic hardship. Crises such as disease outbreaks heighten the vulnerabilities of different groups, accentuating inequities and leading to the neglect of the needs and rights of the most marginalised. This includes women and girls living in poverty, migrants, and people with disabilities, the elderly and people of diverse sexual orientation, gender identity and expression. [6]

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[1] World Bank (2016) Rural Population: % of total population, Retrieved from: https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS

[2] OECD (2020), *Health at a Glance: Asia/Pacific 2020 : Measuring Progress Towards Universal Health Coverage, https://www.oecd-ilibrary.org/sites/ec8a199e-en/index.html?itemId=/content/component/ec8a199e-en*

[3] Burnett A, Yashadhana A, Cabrera Aguas M, Hanni Y, Yu M (2016) *Experiences of vision impairment in Papua New Guinea: implications for blindness prevention programs*, Rural and Remote Health 2016. Retrieved from: www.rrh.org.au/journal/article/3873

[4] Brien Holden Vision Institute (2016) Rapid Assessment of Avoidable Blindness and Diabetic Retinopathy, Papua New Guinea

[5] UN Women (March 2020) *The COVID-19 Outbreak and Gender: Key Advocacy Points from Asia and the Pacific*, Retrieved from: https://www2.unwomen.org/-/media/field office eseasia/docs/publications/2020/03/ap-giha-wg-advocacy.pdf?la=en&vs=2145

[6] Thematic Brief |Gender and COVID-19 in the Pacific: Emerging gendered impacts and recommendations for response. Retrieved from: https://pacificwomen.org/wp-content/uploads/2020/05/Thematic-Brief_Gender-and-COVID19_Pacific-Women-May-2020.pdf

This research was conducted to inform gender-targeted activities within the project; “Strengthening Eye Care Services and Training to Tackle Cataract in Papua New Guinea (PNG) and Fiji”, a project of The Fred Hollows Foundation NZ (FHFNZ) and The Fred Hollows Foundation (FHF) which aims to increase accessibility to eye care services, particularly cataract surgery, for all Papua New Guineans. To ensure this project, and the eye care sector more broadly, is providing equitable access to all, FHFNZ has undertaken this research to better understand the underlying gender inequities in eye care.

FHFNZ is a not-for-profit, charitable organisation that works towards reducing avoidable blindness and vision impairment in the Pacific. FHFNZ works in partnership with the PNG National Department of Health and provincial health authorities, and also the Divine Word University in Madang and the University of PNG in Port Moresby to support the training of eye doctors and nurses. FHFNZ also supports the management of the eye clinic at Madang Provincial Hospital. The eye clinic provides a full range of eye care services including diabetic laser treatment, eye surgery and surgical outreaches.

Research Questions

The key questions answered through the research were:

1. Why do women access or not access eye health services?
2. What changes due to COVID-19 have women and girls experienced in eye health service access and uptake?
3. What actions can eye health programmes implement to address gendered barriers for patients?
4. What gender discrepancies exist in the eye health workforce and why?
5. Has COVID-19 exacerbated any gender discrepancies in the eye health workforce and how?
6. How can gender discrepancies in the eye health workforce be mitigated?
7. Are they any additional actions that FHF-PNG and FHFNZ can take to progress gender equity in PNG?

Research Aims

The aim of the research was to understand the current gendered context around access to eye health services in PNG and the resulting implications for the work of FHF and FHFNZ (collectively FHF and FHFNZ are referred to as ‘The Foundation’) within the “Strengthening Eye Care Services and Training to Tackle Cataract in PNG and Fiji” project and beyond.

The research sought to understand important underlying socio-economic, cultural, contextual, and power-based issues that contribute to gender inequities. In recognition of how the COVID-19 pandemic is deepening pre-existing inequities for already marginalised communities, understanding the impact of the pandemic on the health seeking behaviours of the different genders was another important aim of the research.

Objectives

The key objectives of the research were:

- To understand the current gendered context around access to eye health services in PNG and the resulting implications for FHFNZ work within their project on Strengthening Eye Care Services and Training to Tackle Cataract in Papua New Guinea (PNG) and Fiji” and beyond.
- To understand the changing impact of COVID-19 on health seeking behaviours, attitudes and practices of women living in PNG.
- The results of the research will inform targeted activities/initiatives to address gender disparity in the provision or seeking of eye health services in PNG.

Literature Review

An initial desktop review was conducted to provide a review of the current published information against the key research questions. While the review found some information available to answer three of the research questions, four could not be answered due to a lack of published information. The review showed that there is a significant lack of research into gendered access to eye health services in PNG.

Access to eye health services

Findings from the desktop review revealed that generally, access to eye health care is limited in PNG due to factors such as poor education[7]; transport difficulties and distance to services; lack of available services and treatment for eye care as well as little awareness of the services available[8]; the high cost associated with services, especially for spectacles[9]; and underlying beliefs related to sorcery and eye problems[10].

According to Burnett et al., people with less education were more likely to experience vision impairment and blindness and experience more barriers in accessing health services[11], and people with low literacy did not like having an eye examination because they were unable to read and write[12]. While the reason for this was not provided in the article, it may be that illiterate people were less willing to be tested because they were ashamed of being illiterate, because they could not read the letters on the Snellen Chart or because they had no use for reading glasses. Illiteracy is high in the older population in PNG, and there is a significant gender gap with the literacy rate of older women (over 65 years) being 33% compared with 41% for men of the same age[13].

According to the RAAB study[14] the most reported reasons for people not accessing cataract surgery services were that they were 'unaware treatment is possible' (34.7%) and that the 'need [for surgery] was not felt' (33.6%). These reasons were reported by more females than males in all regions.

Lack of awareness of cataract and its treatment was found to be the most common reason for not seeking and undergoing cataract surgery[15]. Similarly, lack of awareness of services, distance, costs, and limited transport were identified as barriers to accessing low vision services[16].

In PNG, men tend to dominate the majority of household decisions, including expenditure of household income[17], and in one study men had reported a willingness to pay higher amounts for eye health than women[18]

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[7] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[8] Marella M, Yu M, Paudel P, Michael A, Ryan K, Yasmin S, Minto H (2016) *The situation of low vision services in Papua New Guinea: An exploratory study*, published by Clinical and Experimental Optometry

[9] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[10] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[11] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[12] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[13] UNESCO (2010) Papua New Guinea Education Data, Retrieved from: http://uis.unesco.org/country/PG

[14] Brien Holden Vision Institute (2016) Rapid Assessment of Avoidable Blindness and Diabetic Retinopathy, Papua New Guinea

[15] Garap J N, Sheeledevi S, Brian G, Shamanna B, Nirmalan P K & Williams, C (2006) Cataract and its surgery in Papua New Guinea, published in Clinical & Experimental Ophthalmology

[16] Marella M, Yu M, Paudel P, Michael A, Ryan K, Yasmin S, Minto H (2016) *The situation of low vision services in Papua New Guinea: An exploratory study*, published by Clinical and Experimental Optometry

[17] Robinson K, Magiar L & Ali S (2020) PNG Rapid Gender Analysis COVID-19: July 2020, published by CARE International in PNG.

[18] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

COVID-19 and its effect on women and girls' access to general health care including eye health services

The COVID-19 pandemic has exacerbated barriers to the access of general health care services, including eye care in PNG. Significant community outbreaks in 2020 and 2021, put health care workers at greater risk of contracting the virus. The already burdened health system struggled to cope with the rise in COVID-19 infection rates, and some hospitals around the country shut down services as the number of COVID-19 cases increased[19]. Many health care workers were also reassigned to attend to the COVID-19 response, leaving other health care services such as sexual, reproductive, and maternal health services and the hospital family support centre, particularly for Goroka, unattended[20]. As a result, access to general health care and psychosocial support was, and continues to be, significantly affected.

The CARE Rapid Gender Analysis [21] found that the 2020 nationwide State of Emergency restrictions, that lasted six weeks, affected people's mobility and access to basic services, such as health. The cost of public transport increased as fewer people were allowed onto public motor vehicles to comply with social distancing guidelines. People's ability to move freely was also affected by the fear of contracting the virus as well as the restrictions imposed by the authorities, where movement was limited for both urban and rural populations. However, health facilities such as aid-posts, clinics, and hospitals continued to operate during the COVID-19 lockdown. Facilities were operating on their normal work roster with some changes being made by the health authorities. Health facilities were accessible to people who live with a disability and vulnerable groups noting, however, that it is usually caregivers seeking healthcare and treatment on behalf of the vulnerable groups and people with disabilities. Women were able to clearly identify changes in the way health facilities operated as they mostly accessed health services during COVD-19 restrictions for antenatal checks and taking sick children to the health facilities. Scaled down health services due to the COVID-19 response was noted as well as reduced access to health services due to COVID-19 restrictions of movement put in place by the government; social isolation measures; and loss of trust in the health system in preventing COVID-19.[22]

Actions eye health programmes can implement to address gendered barriers

Eye health programmes need to consider existing barriers to the access of eye health care services to improve eye health outcomes in PNG. Appropriate interventions should be implemented to address these barriers to increase equitable access to eye health services. This can include interventions such as, mobile outreach, health awareness campaigns in local languages, and health promotion materials in formats accessible to people who cannot read. There is a vital need to provide education on actual causes of eye health issues to combat misinformation[23].

Research evidence has also shown that there is a need for preventative eye health components to be included in eye health services, in particular aimed to reach subsistence agriculture workers in rural and remote areas, such as routine eye care safety messages, safety eye wear and sun protection[24].

While there has been limited research on access to eye health care services in PNG and some suggested actions on how eye health programmes can implement to address gendered barriers for patients, as discussed above, there was no information available on gender discrepancies in the eye health workforce. There was also no information available on whether COVID-19 has exacerbated any gender discrepancies

[19] Kabuni M (March 2021) *Risks ahead as COVID-19 cases surge in PNG*, accessed on DevPolicy Blog

[20] Robinson K, Magiar L & Ali S (2020) PNG Rapid Gender Analysis COVID-19: July 2020, published by CARE International in PNG.

[21] Robinson K, Magiar L & Ali S (2020) PNG Rapid Gender Analysis COVID-19: July 2020, published by CARE International in PNG

[22] Robinson K, Magiar L & Ali S (2020) PNG Rapid Gender Analysis COVID-19: July 2020, published by CARE International in PNG.

[23] Burnett a, Yu M, Paudel P, Naduvilath T, Fricke T R, Hani Y & Garap J (2015) Perceptions of Eye Health and Eye Health Services among Adults Attending Outreach Eye Care Clinics in Papua New Guinea, Ophthalmic Epidemiology.

[24] Burnett A, Yashadhana A, Cabrera Aguas M, Hanni Y, Yu M (2016) *Experiences of vision impairment in Papua New Guinea: implications for blindness prevention programs*, Rural and Remote Health 2016. Retrieved from: www.rrh.org.au/journal/article/3873

in the eye health workforce. Understanding these factors is crucial in order to appropriately address and reduce the high prevalence of vision impairment and blindness among women in PNG[25].

[25] Brien Holden Vision Institute (2016) Rapid Assessment of Avoidable Blindness and Diabetic Retinopathy, Papua New Guinea

Methods

This was a qualitative study involving interviews and focused group discussions with patients who have received eye care, non-patients (those with eye health problems but have not sought treatment or care), representatives from health authorities (at both a sub-national and national level) and eye health care workers at the eye clinics to develop a comprehensive understanding of gendered barriers to eye health care in PNG. Fieldwork was conducted across three sites: Goroka (highlands), Madang (coast) and Port Moresby (capital city). This allowed for comparison between the highlands and coastal areas, as well as urban and rural locations. Port Moresby and Madang were also chosen as they are locations of the majority of FHFNZ programming.

Participant Recruitment

Both purposive and convenience sampling strategies were used to select participants for interviews.

Patients: The patients were recruited from the eye clinics at the provincial hospitals in Goroka, Madang and Port Moresby through the network of FHF-PNG programmes at the hospitals and through the Provincial Health Authorities (PHAs). The patients who were recruited from the three eye clinics were not all from the local area or province. There were eye patients who travelled into Port Moresby, Madang and Goroka from different provinces to the eye clinics to seek eye care services due to unavailability of eye care services in their province. A total of seven people who were interviewed (three men and four women) left their province and travelled to another province to seek eye care services. In Port Moresby, one woman came from East New Britain, one man came from West Sepik and one man came from Morobe. In Madang, one man came from Enga Province and two women came from East Sepik Province. In Goroka, one man came from Simbu Province. Due to challenges relating to COVID-19 and eye patients' availability, the research team did not recruit more patients over the age of 50 with good representation of people from both urban and rural areas.

Non-patients: In Port Moresby, participants were recruited for a focus group discussion (FGD) in a nearby Central Province village through the network of the organisation, PNG Eye Care. In Madang, FHF-PNG organised an eye screening outreach with Alexisahafen Catholic Health Centre outside of Madang town. Those who attended the outreach were screened and then recruited for the FGD. In Goroka, a CIPNG site for a COVID-19 project was selected and people with eye health problems were recruited for the FGD.

Eye health personnel: An almost equal number of men and women (see Table 1 below) working in the eye clinics at the provincial hospitals in Goroka, Madang and Port Moresby were recruited and interviewed. In total, four consultant ophthalmologists (two were interviewed as PHA representatives), one registrar ophthalmologist, 11 ophthalmic clinicians and four general nurses were interviewed. Similar to the recruitment of patients, eye health workers were identified and approached for the study through the networks of FHF-PNG and the PHAs.

Health Authority Staff: Those in leadership or senior management positions within the administration office or the Provincial Hospital of the Eastern Highlands, Madang and National Capital District PHAs were selected and interviewed. It was a challenge to schedule interviews with the Directors in all three PHAs due to the COVID-19 pandemic planning and response taking precedence in terms of their availability. Our target number for this group was 9 across all the three locations but we managed to interview 11 people who are part of the health authority either from the PHA or the hospital management team

Exclusion/Inclusion Criteria

Interviews were done with both first-time patients as well as review patients.

Non-patients were identified and selected by the contact person for the particular community based on the following selection criteria: equal representation of men and women, representation of age 50 and over, representation of people with eye care problems, representation of some form of disability and representation single headed household. In Madang, the participants that were selected were from the outreach program therefore we had very limited control in terms of selection because it was based on who came in for the outreach clinic.

Among health authority staff, only those who had connections with eye health services were interviewed.

Tool Development

The data collection tools were developed in consultation with The Foundation. The tools and the interview questions were based on the key research questions of the study (see Appendix 1). The tools developed were:

- **Semi-structured interview guide for patients:** Composed of nine questions. Both quantitative and qualitative data were collected.
- **Facilitated group discussion guide for non-patients:** Composed of two key participatory activities that were facilitated to generate comprehensive discussion and collect a variety of perspectives. Separate group discussions for men and women were held.
- **Semi-structured interview guide for health authorities:** Composed of eleven questions.
- **Semi-structured interview guide for women and men who work in eye health:** Composed of 12 questions.

Data Collection

Interviews were undertaken in three selected sites: Goroka, Madang and Port Moresby. Interviews were done with eye patients, eye health workers, health authority staff and community members. Completing interviews took longer than planned due to COVID-19 community outbreaks and resulting restrictions, where hospitals were either closed or operations were scaled down. As a result, the eye clinics did not have enough capacity to help recruit eye patients and eye care workers for interviews. Most interviews were completed once COVID-19 infection rates decreased and restrictions eased.

Table 1: Interviews conducted in Port Moresby, Madang and Goroka

Location	**Eye patients**		**Eye care worker**		**Health Authority**		**Non-patients**	
	Men	Women	Men	Women	Men	Women	Men	Women
Port Moresby	13	7	2	3	2	1	6	8
Madang	10	10	2	4	2	2	5	5
Goroka	9	10	3	2	4		19	22
TOTAL	**32**	**27**	**7**	**9**	**8**	**3**	**30**	**35**
	59		**16**		**11**		**65**	
	151							

Table 2: Eye-patient interview participants disaggregated by disability

Location	Eye patients with disabilities[26]			
	Men	Women	Total	% of total number of eye patients interviewed
Port Moresby	3	3	6	30%
Madang	8	3	11	55%
Goroka	6	7	13	68%
Total	17	13	30	51%
% of total number of eye patients interviewed	53%	48%	51%	

Data Analysis

All interviews were audio recorded and transcribed verbatim. An initial analysis was done through a sense-making workshop with FHF-PNG, The Foundation and CIPNG research team. The responses from the transcribed interviews from all locations were grouped under the key research questions, and workshop participants were randomly allocated to one of three groups that looked at the data from each study location (Goroka, Madang or Port Moresby). Then in these groups, workshop participants were tasked to look at the responses and identify similarities and differences in responses and any surprising findings. Each group then presented a summarised discussion for each research question to all workshop participants.

A general inductive approach was then used to analyse the data. The data were read and coded. The categories were then collapsed and expanded accordingly. This process alongside the initial analysis from the sense-making workshop were used to identify and finalise significant themes.

Ethical Considerations

CARE International in Papua New Guinea, through its lead member partner CARE Australia, is a member of the Australian Council for International Development (ACFID) and commits to upholding ACFID's Code of Conduct and 'to observe the highest ethical standards (ACFID Code of Conduct 2016). ACFID's *Guidelines for Ethical Research and Evaluation in Development*[27] was used during research planning as a framework to apply principles of ethical research to enable the study to achieve its aims, while protecting the safety, rights, welfare, and dignity of participants.

[26] Eye patients were asked the Washington Group Short set of questions. The threshold used to identify disability was: Disability 2 (the level of inclusion is at least 2 domains/questions coded SOME DIFFICULTY or any 1 domain/question coded A LOT OF DIFFICULTY or CANNOT DO AT ALL) as per the Washington Group on Disability Statistics Analytic Guidelines, accessed at: https://www.washingtongroup-disability.com/fileadmin/uploads/wg/Documents/WG_Document__5A_-_Analytic_Guidelines_for_the_WG-SS__SPSS_.pdf

[27] Australian Council for International Development (ACFID) Principles and Guidelines for ethical research and evaluation in development: https://acfid.asn.au/sites/site.acfid/files/resource_document/ACFID_RDI%20Principles%20and%20Guidelines%20for%20ethical%20research12-07-2017.pdf

Key ethical considerations for this study were;

- **Informed consent** – A standard text explaining 'Informed Consent" was printed at the front page of all the tools which was explained to the participants at the start when they were identified for an interview. The interviewers explained the purpose of the research, how their involvement would benefit the eye health programme and how the information is going to be used. Participants were also made aware that they are free to withdraw from the interviews at any time they wish. The interviewers then asked the participant if they were willing to participate in the interviews and when the participants agreed and gave consent, they were asked to sign their name to confirm their consent. Where the participant was illiterate, or had a vision impairment, the interviewer requested them to put a 'x' or indicate that they were unable to sign. All participants were required to provide written or thumbprint consent to participate in the interviews. For group discussions, group consent was obtained.
- **Cultural competence** – The interviewers were all PNG nationals with research experience working with people in urban, rural, and remote communities across PNG, including baseline and evaluation studies and impact assessment in gender equity and social inclusion. As such, they were very aware of cultural aspects, including gender sensitivities, communication styles, appropriate time, clothing and space when conducting interviews with different groups of people. The team were mindful and respectful of how they conducted themselves during the interviews.
- **Confidentiality** - Data collection and management processes ensured the confidentiality of all participants. Names of participants were not recorded on paper or digitally. Quotes or stories referenced in the final report are not traceable to any individual.
- **Benefits to participants** – This research will directly inform FHFNZ's project to ensure that women and men equally benefit. Findings from this research will be shared with other eye-health stakeholders to improve access to eye health for all Papua New Guineans.
- **Protection from harm: COVID-19** - To respond to the risk of an outbreak of COVID-19 at project sites, the research project complied with Government of PNG and CARE International in PNG guidelines by ensuring social distancing and wearing of masks.

The research was approved by the Medical Research Advisory Committee of PNG (Ref. MRAC No.21.09). Additional ethics approval was obtained for data collection at Port Moresby General Hospital through the Office of the CEO, Madang Province through the Madang Provincial Health Authority Research Committee (Ref. MAPHA REC No: 05.21) and Eastern Highlands Provincial Health Authority Research Committee.

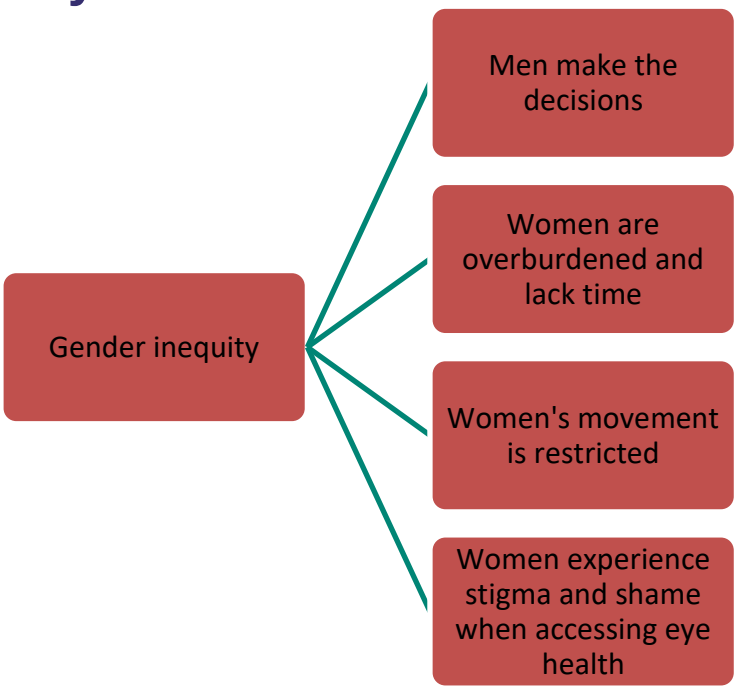
Findings/ Results

Overall findings from the research indicate the following:

Accessibility to eye health services is a challenge for both urban and rural populations, with women being more disadvantaged than men. The provision and accessibility of basic services including general health care services as well as eye health services was severely disrupted by the impact of COVID-19. The main themes were:

- the influence of gender inequity on access to eye health
- contextual eye health access challenges
- current eye health structures
- the impact of COVID-19
- suggested improvements by participants

Theme One: The influence of gender inequity on access to eye health



Men make the decisions

PNG is a patriarchal society where women are seen as inferior to men and men have dominance over women. Generally, women do not have the ability to exercise their rights, make decisions, participate in opportunities for self-development and access services, including eye health services.

Bride price is a significant factor that affects women's ability to make choices about access and affordability of services. Traditionally, bride price was a token payment made by the groom's family to the bride's family, but in recent decades it has become a payment of large amounts of cash and goods, so that when bride price is paid, men assume that they literally own the women and women must submit to them. Bride price gives power to men to make decisions for their wives and these decisions include prioritising men's health and well-being over women's.

The topic of bride price was identified as a particular issue in Goroka. Much higher prices are paid in the highlands, compared to the coast, and in the highlands, women have very limited interactions with their family after they have been married. On the coast, where bride price is lower, women are still free to move between their birth family and their new family.

Before seeking health services, women are expected to seek permission from their husband if they are married or from their father or brothers if they are not. Often, husbands and male family members do not support women to get treatment. Single mothers and widows in particular lack this family support. Where permission to seek eye health treatment is granted by husbands and male family members, it tends to be when the eye condition has worsened and is at its late stage. When asked if women should request their husband's permission before seeking eye health care, over half of the non-patient FGD participants answered "yes". This belief was more common in Goroka, than Madang and Port Moresby. The issue of needing permission to seek eye care, is linked to the need for financial support and was raised by many eye-patients during interviews.

> *"The husband controls the family finances, so we need to seek permission to pay for the costs involved in seeking services" (FGD, women, Goroka)*

Women are overburdened and lack time

Most of the household work such as cooking, cleaning and childcare, as well as gardening and taking care of livestock for family consumption and income is predominantly done by women. For families and communities across PNG, who rely on subsistence agriculture for their livelihoods, which represents 80% of the population[28], these tasks are necessary for daily survival. These roles and responsibilities are regarded as women's work, and men usually do not assist with them. When women have eye problems, family members assume that their health is secondary, because of women's responsibility to provide food and care for their children and husband. Moreover, due to the huge workload and time taken to perform all the family roles and responsibilities, women often do not have time to seek eye treatment.

> *"My mum is not able to seek eye health services, because of her many household responsibilities and other family commitments, but I will continue to encourage her so that she can seek medical treatment for her eye issues" (Female eye patient interview, Port Moresby)*

If a woman has young children, it is often more of a challenge to access eye-health care services. She will not be comfortable and confident in entrusting the responsibilities of the household and her young children to others while she goes out to seek eye health care.

Women's movement is restricted

Safety and security concerns are a particular challenge and hindrance for women to access eye health services. Eye health care services are mainly based in urban centres which means that many women must travel into town to seek these services, and some have to travel long distances where their safety is not guaranteed. This often means that men must travel with them, or they refuse to let women travel to urban areas. Similarly, law and order issues in some urban areas hinder women who live closer to an eye clinic from seeking eye care services.

Tribal fights (more common in the highlands' region) and conflicts in rural areas also prevent people from travelling into towns to access services because transport can be affected and people also fear being attacked by their tribal enemies if they leave their community. For women, when such conflicts happen, they prioritise the safety of their children and they would normally hide away until the situation improves, or the conflict is solved before they can travel freely.

[28] ANU Press, *Food and Agriculture in Papua New Guinea*, 2009, Edited by R. Michael Bourke & Tracy Harwood.

"Women are less likely to travel to town because of the distance and safety and security concerns – a man can fight and defend himself if dangerous situations arises" (Male non-patient FGD, Madang)

Single mothers and elderly women and men in particular need family support to travel into urban areas to access services. People affected by functional blindness also need assistance to seek services. Some of the eye patients who were interviewed came with their guardians to the eye clinic.

These 'guardians' provide support such as translation from Tok Ples (a local language) to Tok Pisin (the commonly understood lingua franca in PNG), literacy support, physical guidance in the case of visual impairment and protection from violence and harassment. Women and people with disabilities who do not have someone willing to act as their 'guardian' are often unable to travel to access eye health care. However, being accompanied increases the costs, such as transport, accommodation and food, which is itself a barrier.

Women experience stigma and shame when accessing eye health

Women reported feeling shy and fearful of judgment and criticism from others if they accessed eye health services. Even some women who live in urban areas close to eye health clinics, are too fearful or embarrassed to access services due to a lack of confidence and perceived difficulty in finding their way to the clinic by themselves and communicating their health concerns to eye health personnel.

It is not socially acceptable for a woman to wear glasses, especially in a rural community setting, and it is common for people to make negative comments to a woman who wears glasses. The perception associated with wearing glasses is that it shows high status and wealth (i.e., the ability to afford quality glasses), leading people to become jealous. Additionally, many participants mentioned that husbands do not allow their wives to wear sunglasses because of the perception that she wants to look good and feel important to attract other men.

Over half of FGD non-patients agreed that if a woman wore glasses, others would gossip about her.

"(People would say) she is showing-off, faking her eye condition, that glasses are for people working in the office, not for village women. It would not be the same for the men, because of cultural significance placed on men and being the head of the family (Women non-patient FGD, Goroka)

Table 3: Perceptions about eye health (Voting with your feet exercise from FGD)

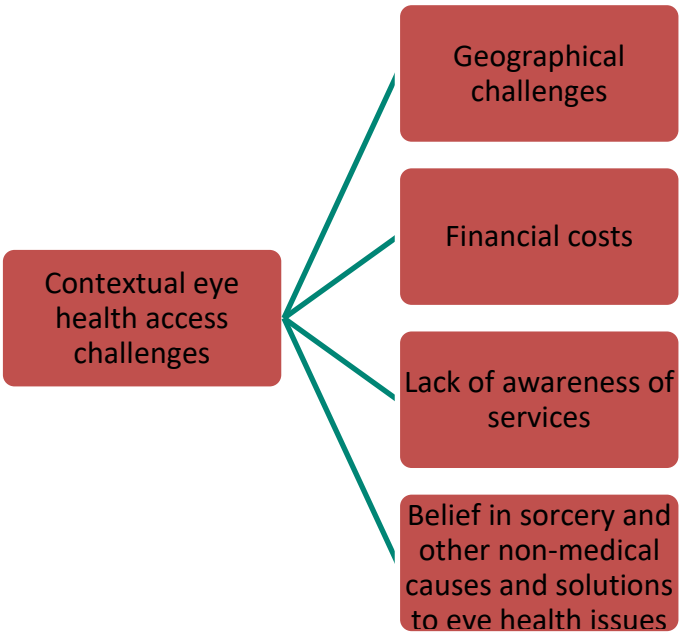
No	Statements	Agree		Disagree		Unsure	
		Men	Women	Men	Women	Men	Women
1	Blindness can sometimes be caused by sorcery	5	2	21	33	4	
2	People with eye problems can fix them with prayer and attending church	15	35	5		10	
3	People know where to go for eye health care	9	9	21	14		2
4	Even if they knew about eye clinics in town, many women in my village wouldn't go	28	32	2	2		1

5	Even if they knew about eye clinics in town, many men in my village wouldn't go.	18	23	12	2		10
6	Women should ask their husband's permission before seeking eye health care	13	21	9	13	8	1
7	Women are less likely to travel to town for medical treatment than men	5	11	6	22	19	2
8	If a woman wore glasses, others would gossip about her	20	16	10			19
9	If money is scarce, a family should prioritize the husband's healthcare costs over that of the wife.	9	11	21	18		6
10	People who can't read well would be reluctant to go for eye health treatment, in case they were asked to read a poster.	24	33	1	1	5	1
11	People with disabilities would have a harder time accessing eye health care	28	35			2	
12	Because of the Covid Pandemic, people are moving around less, and not going to town as much	14	20	9	15	7	

Domestic violence was mentioned as a significant issue affecting women, with several female eye patients saying that their eye health issue was caused by their husband's abuse. These women may feel ashamed of going to the eye clinic.

> *"Domestic Violence is the cause of my eye health issues. Ever since I got married, I have been continuously being beaten by my husband. He likes to punch me in the face, and I had a lot of blood clot in my right eye and I could not see with my right eye, it is useless. He continued to do that to my left eye and the lens got badly damaged and I had to seek eye-health services to help my left eye. I completely lost sight in my right eye for several years and after my last beating in 2016, it has affected my left eye" (Female, Port Moresby)*

Theme Two: Contextual eye health access challenges



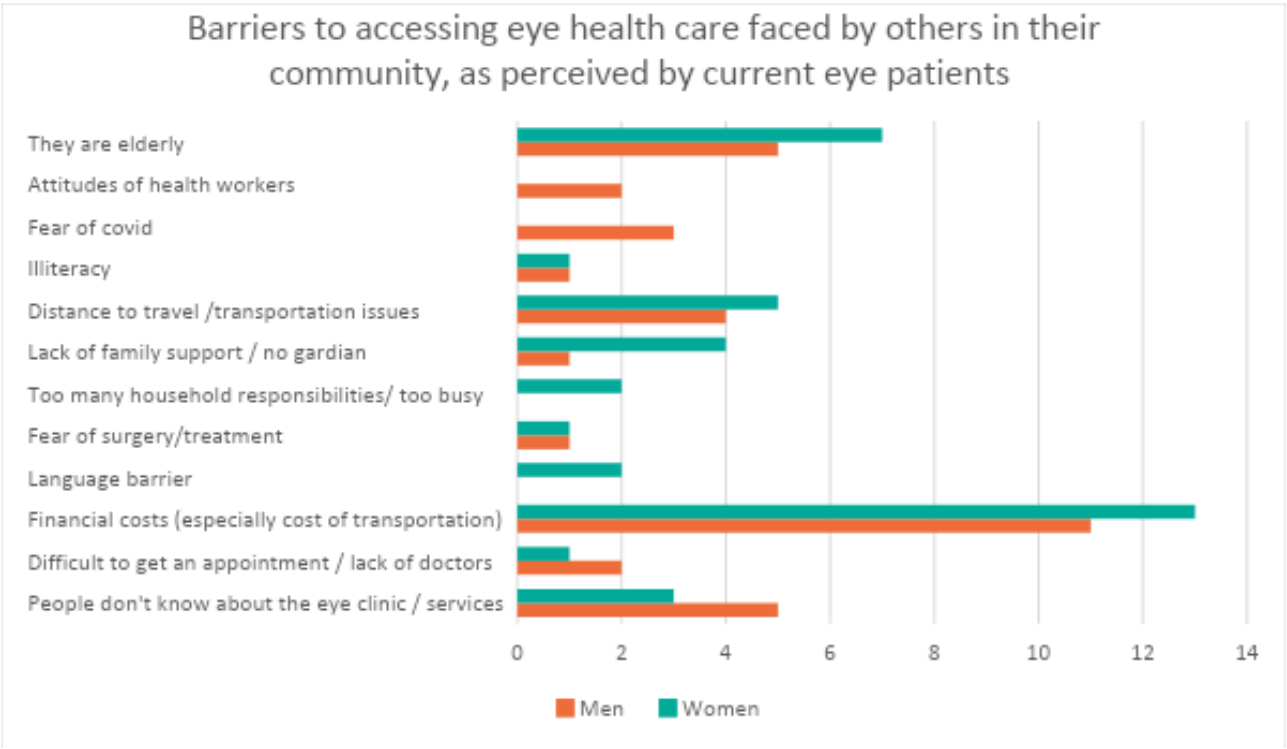


Figure 1: Barriers to accessing eye care faced by others in their community, as perceived by current eye patients

Geographical challenges

Some eye patients identified distance to travel as a barrier to others in their village who may need eye health services. The majority of PNG's population lives in rural areas with challenging geographical terrains and bad road conditions. Most communities are remote and isolated with limited road access and travelling long distances to seek services is a challenge because of the high costs of transportation which hinders access.

> *"The biggest barrier for women in my village is the lack of proper infrastructures. Bad road conditions limit women's access to eye health care services. I would have to walk for 3 days, then get on a bus and travel for hours before I could be able to access eye health care services" (Female non-patient FGD, Madang)*

> *"If people are aware of the eye service they will come to seek the service, but barrier of cost/availability of transport will limit them. At my village we had to travel on boat, then walk for several days to reach the nearest bus stop, and then we caught a bus to Madang Town. It sometimes takes a week to travel to Madang. (Male patient interview, Madang)*

Financial cost

Financial cost was identified as a significant barrier to eye health access across all locations, with many eye patients identifying it as a barrier for others in their village who may need eye health services. Financial costs were a common barrier cited by non-patients during FGDs in all three locations as well.

Findings indicate that there are many costs associated with accessing eye health services and these costs are major barriers for people, particularly women. Some of those identified include the cost of transport into urban areas to access eye health services, the cost of eye care services itself, such as treatment, surgery, and spectacles, and the cost of accommodation and daily living in the urban areas. These costs are often doubled for women and people with disabilities because they require a guardian or relative to accompany them. Findings have also shown that people travel from province to province to seek eye health services either by air or road which means that costs are often very high. These costs often discourage people from seeking eye health services and treatment.

Women with eye health issues face more challenges because decisions on the use of family finances are usually made by men, and when families have financial constraints, they tend to prioritise other needs such as school fees, cultural obligations, and day-to-day necessities. If there is money for health, men prioritise their own health needs over women because the family (including women) see the men as the head of the family, thus they should maintain optimal health. The same situation applies to eye health care, men's eye health care is prioritised over women.

> *"If we (must prioritise) we will contribute and send one to get eye care, we will send papa to go first and later I will go and lastly the children. Because papa has ways to make money so when he gets well, he will help me and other children" (Female eye patient interview, Goroka)*

Lack of awareness about eye health and services

Lack of awareness and information about eye health services was identified as one of the biggest factors for limited access to eye health services. There is no proper and frequent awareness raising efforts done through outreach services to rural and urban communities to enable people to be informed about the availability of eye health services. When asked if people know where to go for eye health care, there was a big difference between Port Moresby and the other two research sites, with all non-patient FGD participants in Port Moresby estimating that all people know where to go for eye health care, while very few in the Goroka FGD and about a third in Madang were confident that people from their village would know where to go. Women are often not only unaware of the availability of eye health care services but

also lack understanding of their eye problems and that the issues can be treated. This was mainly due to poor education and illiteracy. Lack of awareness and information about eye health services have also led to misunderstanding and fear of seeking treatment.

> *"Many people in my village do not know where to go for eye health care ...They go to Goroka Hospital, but because most are illiterate, they cannot read and know where the eye clinic is located (Male non-patient FGD, Goroka)*

When asked during the FGD if people who cannot read well would be reluctant to go for eye health treatment, most respondents answered "yes".

Belief in sorcery and other non-medical causes and solutions to eye health issues

Many people believe that sorcery is the cause of problems of the eye, especially outside of the capital. FGD data showed that these beliefs are particularly strong in Madang, where half of participants said that they agreed that blindness can sometimes be caused by sorcery (compared to zero participants in Port Moresby and just a few in Goroka). Of the eye patients interviewed, several stated that they had assumed their eye problem was caused by sorcery before they had sought treatment; all of these patients were located in Goroka. These beliefs lead people to resort to local herbs or individuals who perform rituals to fix an eye problem, and as a result, do not seek proper medical services. Other cultural beliefs include eating prohibited foods that cause blindness and going to specific restricted places that are considered off-limits for certain groups of people, particularly women and children.

> *"(We know that blindness can sometimes be caused by sorcery) because of experience – a man who had no eye issue went to the river and saw an unusual bright light coming from the other side of the river and instantly got blind, and a man without any eye issue had a fight with his relative and the next day he could not see and got blind. We cannot ignore the spiritual aspect of life. Just as God is real and heals people, Sorcery can also be used to cause blindness and other physical harm to the people. Our strong adherence to traditional ways, customs and rituals practised in our villages, our tradition and culture supports the idea that blindness can be caused by sorcery" (Male non-patient FGD, Madang).*

There is a strong belief that prayer and church attendance is linked to good eye-health. Most non-patient FGD participants agreed that people can fix their eye problems through prayer and attending church. This belief was common in all three locations, and more commonly held by women than men, as shown in the graph below. While it was noted in the Port Moresby discussion that people should still seek medical help from doctors, some comments made in Madang and Goroka indicated a belief that good Christians can fix their eye issues with prayer, which may contribute to the shame and stigma felt by women to admit they experience such issues and access care, described under Theme One.

> *"People who have right standing before God can address their issues through prayer and attending church" (Goroka, FGD, Female)*

> *"If they have strong faith they will be healed, if not then by just praying and attending church it will not help their eye problems" (FGD, Madang, Men)*

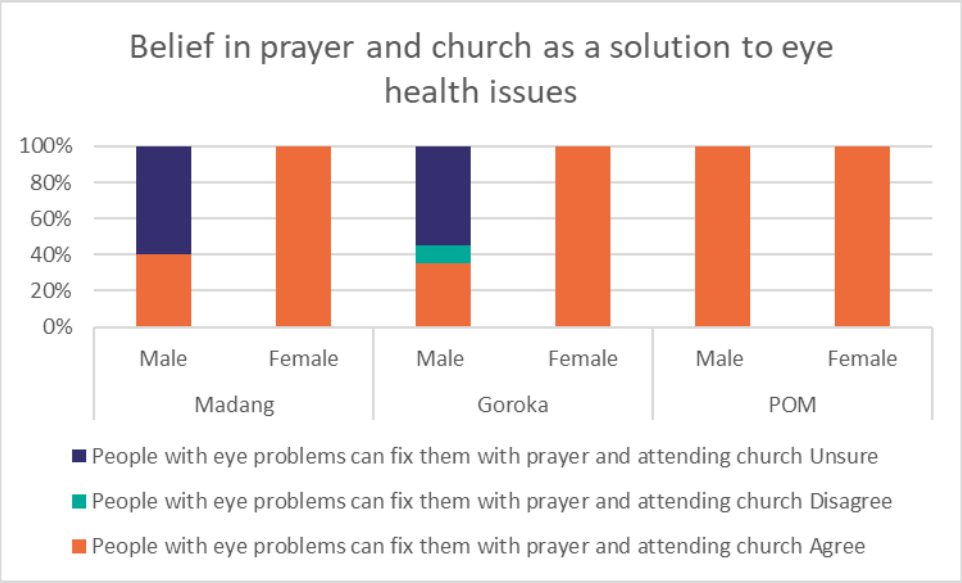
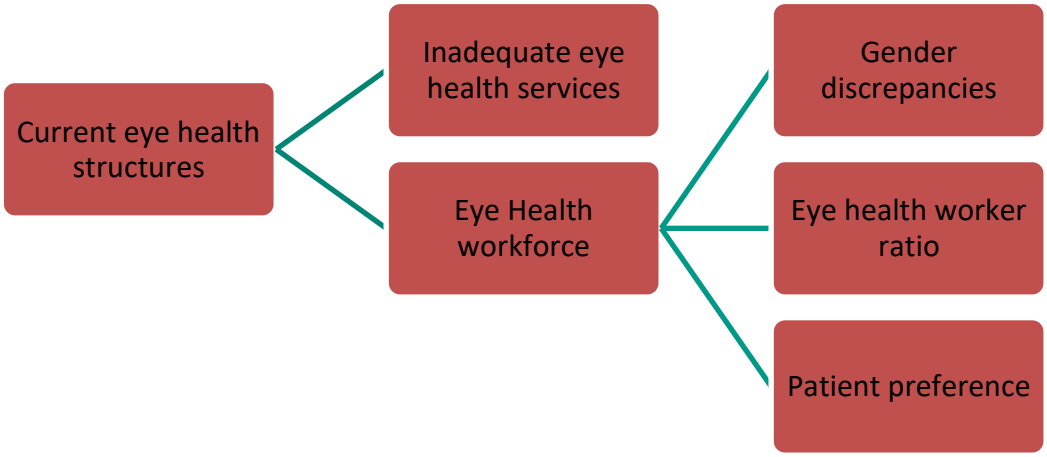


Figure 2: Religious beliefs and eye health, as reported by non-patient FGD participants

Theme Three: Current eye health structures



Inadequate eye health service resources

Inadequate eye health service resources make it challenging to deliver equitable, effective and high-quality eye health care, hence people lose trust in the services provided. For example, currently, there are two ophthalmologists based in the Highlands Region of PNG who serve the entire region. Eye clinics in provincial hospitals are also under-resourced, with limited numbers of spectacles, drugs, consumables, and equipment, which has a major effect on service provision. As there is a lack of primary eye health workers, people in rural and remote locations often have to be referred by general primary health care providers to specialised eye clinics in urban centres. The high cost associated with travel to urban areas for these services and the often-lengthy process in receiving treatment from eye health care providers thus discourages people from accessing services. Most doctors are not doing cataract surgery, they are just doing consultations, because they lack the proper equipment, consumables and facilities to perform surgery. Proper training is also required to handle eye equipment.

Eye health workforce

Eye health care in PNG is a relatively new discipline. Most medical students in the country are interested in working in existing and well-established health care disciplines. Eye care has typically not been considered as an important discipline. However, this is now changing, and the minor disciplines (for example, dentistry, eye care and dermatology) are slowly becoming recognised in health care and are taking prominence. PNG's National Health Plan 2021-2030, which was launched in December 2021, also includes eye care as a priority area in the health system giving it greater recognition and importance and is hopefully a step to addressing the gender discrepancies in the eye health workforce.

Gender discrepancies in the eye health workforce

There were a few experiences shared as challenges for men and women who work in the eye health workforce. For example, one female doctor shared that it is a struggle to be in a senior leadership space in the eye health workforce let alone becoming an ophthalmologist.

> *"Eye health care is a delicate and specialised discipline that requires patience, understanding, time, institutional and family support. We female doctors have to juggle our reproductive roles and productive roles to succeed in that space and it is a challenge especially when we start having children of our own. We need a supportive work environment" (Female eye health worker)*

The eye health programme involves outreach to rural communities and to urban areas that do not have an ophthalmologist to identify and treat patients with eye conditions, including performing minor eye surgeries. Eye care workers often travel as a team to conduct an outreach and can work out of the clinic for up to

one week in these places. Some of the eye care workers have indicated that often, some women are unable to go for an outreach because their husbands do not allow them because of the distance of travel, concerns for their safety and security or as they just do not want their wife to travel. This has been identified as a challenge that women in the eye health workforce face because this limits their ability to perform their duties and slows down the progress of the work in outreach and in-reach programmes of the organisation. The eye health programme needs to recognise the challenges that women face and plan for better service delivery and eye heath care. The inability of female staff to join outreaches or in-reaches, increases the workload of staff who go out to the communities especially when a lot of people come to the outreach clinics.

In eye clinics, which are dominated by either women or men, there is a feeling of exclusion and non-representation in the team meetings, decisions, discussions. For example, in one of the eye clinics, the majority of the staff are women and men in that clinic have stated that they sometimes feel excluded and unheard. Both men and women working in the eye health care should be supported to perform their different roles at the eye clinic

There were concerns regarding staff attitude towards work that affects the delivery of eye health service such as staff punctuality and absenteeism. These are observed behaviours coming more from men than women. When a staff is late for work or doesn't turn up for work, this means additional workload for others.

Eye health workers ratio

It was indicated that there is a significant gender gap in the health workforce, including in eye care. According to a World Bank report[29], sixty per cent of all health facility personnel are female, but only twenty-six per cent are medical officers. There are few ophthalmologists across PNG, of which there are slightly more men than women, however, more female doctors are slowly taking up ophthalmology. For ophthalmic clinicians and nurses, there are many more women than men, but there is starting to be an increase of males in these roles.

Reasons for the discrepancies include more interest from women in eye care and nursing than men; lack of awareness about eye health programmes and its availability as a speciality area in universities and nursing colleges, with few opportunities to create interest and encourage medical students to take up eye care; no support from the hospital management for eye health care for those who receive training to put their knowledge and skills to use; and often no paid overtime. As a result, those who are trained as ophthalmic clinicians lose interest and go back to join general nursing.

Other reasons highlighted by eye health care workers include no career progression with eye health as eye health is not included in the existing health structure and there is no proper designation or positions for eye care nursing officers.

> *"A lot of nursing officers want to join eye health care but because we are not included in the health structure and there is hardly any career progression so many of the nurses we got trained together at Divine Word through the assistance of FHF have left eye care and join other discipline" (Female Eye Health Worker, Port Moresby)*

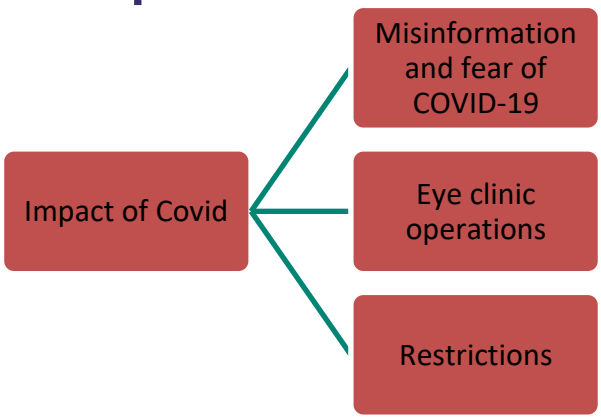
There was a suggestion to recruit more male nurses in eye clinics where there is an imbalance as it solves the issue of women not being permitted by their husbands to participate, and also provides a level of security against violence and harassment for their female counterparts. Having an equal number of male and female eye health workers also indicates to the public that both women and men can work in eye health care.

Patient's preference of eye health workers

[29] The World Bank (2017), *Service delivery in health facilities in Papua New Guinea*, page 41

Female patients prefer female nurses and doctors to males because they feel more comfortable when explaining their eye conditions. With male nurses and doctors, they feel shy, especially if their eye condition is related to domestic violence. Additionally, many women, due to low literacy and inability to speak English or Tok Pisin, cannot articulate their problem and fear being judged for their inability to explain their condition. It is perceived that female nurses are friendlier, approachable and are good communicators. They tend to properly inform and explain to patients what the doctor has said and prescribed.

Theme Four: The impact of COVID-19

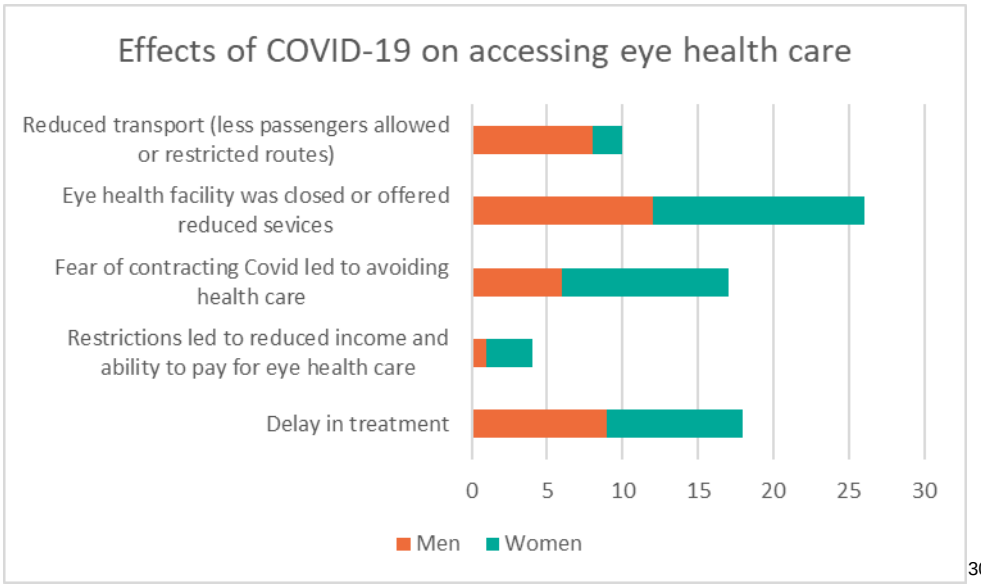


Access to eye health services is already a difficult situation for women and girls in PNG, and this has been made worse by the effects of COVID-19. Provision of eye care services were severely affected, and yearly planned programs and activities were disrupted by the pandemic. Misinformation and fear of COVID-19 were observed more frequently among female participants. However, the effect of COVID-19 on the operations of the eye clinic and restrictions on movements affected both men and women equally. Nevertheless, given that women were already at a greater risk of not seeking eye health services, the pandemic further exacerbated the risk.

There was not much impact of COVID-19 on gender discrepancies in the workforce except for disruption to normal clinic operations affecting the patients seeking eye care services, many of whom were turned away and told to come back at another time.

Clinic operation remained scaled down after lockdown as staff who were reassigned to the COVID-19 centre were still working there until the situation improved and then they were sent back to the eye clinics. Therefore, many eye care cases were not attended to during the peak of the COVID-19 outbreak. This also affected the ability of the clinics to reach their weekly patient consultation targets. As many of the eye nurses are women, most continued to work during the COVID-19 outbreaks and contracted the virus, and so were unable to come to work, which increased the workload for remaining staff.

When current eye-patients were asked in what ways the COVID-19 pandemic had affected their access to eye health services, almost a third answered that it had resulted in delayed treatment. Many patients (especially women) described the fear of contracting COVID-19 kept them away from health facilities, and almost half attributed delays in treatment to eye health service closure or reduction. Other negative effects on access commonly reported were transport restrictions and reduced income (and ability to meet costs).



[30]

Figure 3: Effects of COVID-19 on accessing eye care

Misinformation and fear of COVID-19

Almost a third of patients interviewed said that fear of contracting COVID-19 delayed their treatment.

> *Everybody was walking around and living in fear of COVID and it has affected people's health. People were scared of contracting and spreading the virus, thus they did not want to seek health care services during the pandemic (Male eye patient interview, Port Moresby)*

With reports of the first cases of COVID-19 in the country, many people became scared of going to the clinics and hospitals to seek health services, including eye health, because they were fearful of contracting the virus due to misinformation to do with the vaccine, and conflicting ideas and opinions from the public including health professionals. The fear of COVID-19 was more common among women. Women were also hesitant to get vaccinated due to misleading information on social media and conflicting opinions about the vaccine from health professionals. Consequently, women were more fearful of contracting COVID-19 than concerned about getting their eye problem treated, so they preferred to stay at home.

Eye clinic operation

Almost half of all patients interviewed said that health facility closures or restriction in services provided delayed their treatment.

All eye clinics were closed during the first nationwide lockdown in 2020 and the various outbreaks in the provinces. Services had to be scaled down with only emergency cases being attended to. However, the clinics were unable to deal with emergency cases effectively and efficiently as COVID-19 standard operating procedures had to be followed, which meant that the process became lengthy, and patients grew impatient, becoming dissatisfied with the care services received.

Some of the staff were reassigned to assist in the COVID-19 ward and others were on stand-by for emergencies. Even with the scaling down of operations, the eye clinic staff did their best to bring the service to the primary level and to serve the people. In some cases, they did this by seeing patients without the usual intake and referral process, by simply seeing patients as they arrived. COVID-19 restrictions and the scale down of services dramatically decreased the number of patients attending clinics. This has

[30] This graph is based on interviews with eye patients in Port Moresby, Madang and Goroka.

resulted in an increase in the backlog of cases and increased workload of eye clinic staff once the clinic resumed normal services. In Port Moresby and Madang, some of the eye care nurses were reassigned to work in the emergency COVID-19 centre. Staff with pre-existing health conditions were temporarily laid off, most of whom were men and women who had babies. Women who were breast feeding also stayed away from work.

The scale down of services has affected treatment of women, girls, men, and boys. Most patients were unable to access services during these restrictions and delayed receiving eye health care treatment. Eye clinics were closed or only attending to emergency cases. This was the case in all three locations included in this research. People delayed treatment because of fear of contracting COVID-19, and because clinics were closed, and due to reduced transport. Clinics were closed for two to three weeks, and then when the clinics were opened. It took time to resume the schedule.

Restrictions

Restrictions were put into place to contain the spread of the virus including movement restrictions which affected accessibility. At the clinics, entry was restricted and the process for patient screening became lengthy because COVID-19 protocols had to be followed to allow patients to continue receiving health care.

> *"Due to the many COVID restrictions and new measures, I was not able to quickly seek treatment. Transportation services were restricted, such as airplanes, ships and others. In Vanimo you have to have a vaccination card to get on a plane or a boat, which has been a major hindrance for people to seek eye-health and general health services (Male eye patient interview, Port Moresby)*

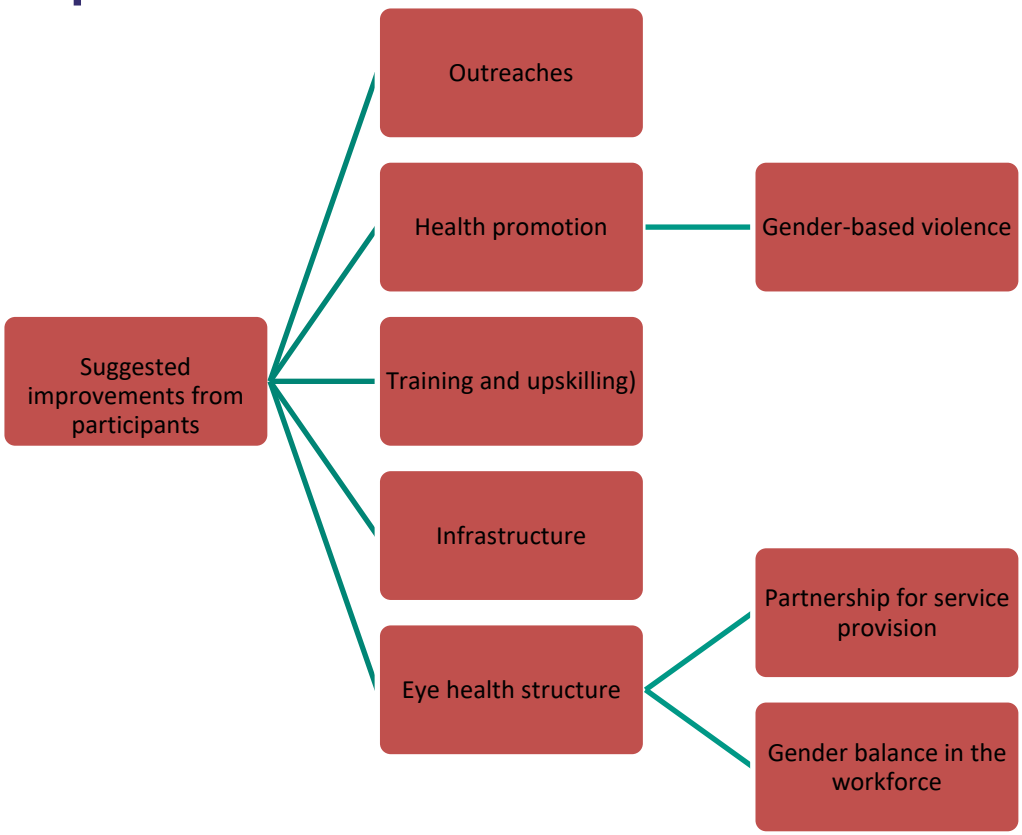
Referrals from rural health centres into the Provincial hospitals were delayed by months. Delayed treatment due to COVID-19 restrictions and hospital closures led to more complicated health-related problems.

> *"My wife's condition worsened because we could not come into town for her to seek proper medical care due to restrictions and hospital being closed" (Male non-patient FGD, Goroka)*

Restrictions meant that there was no or very limited transport which limited movement of people, particularly women who could not afford the high costs of transport, and so there were a smaller number of women and girls accessing eye health care services.

In addition, the quality of services deteriorated because of COVID-19 due to the very limited staff numbers. Eye patients in each location talked about being rushed through, compared to before. During the height of the pandemic, there were very few surgeries being done, which meant that doctors were not present to do checks, and much of the care was left to nurses.

Theme Five: Suggested improvements by participants



Coordinated Outreach Programmes

There is a great need to reach out to the rural population where accessibility is a huge challenge for women due to factors mentioned such as costs, distance, culture etc. that prevents them from accessing eye health services. There were suggestions by several participants for the need to have more doctors for rural outreach, especially to travel to remote communities to do surgeries.

Doing outreach programmes has its own challenges and it is not an easy task. One of the biggest challenges identified was the lack of funding to support the outreach costs. Many of the rural communities are remote and isolated, and the cost of transport to these locations is expensive. The outreach programme needs assistance in funding to support outreaches to provide surgeries and other eye treatment services.

There were also suggestions for coordinated partnerships with other eye health stakeholders to share resources for outreach and cut down on costs. Partnership with other actors, such as International Non-Government Organisations like FHFNZ, CBM and CARE, is also an opportunity to do joint activities not only in health, but also in other sectors such as education or other community development activities.

Costs associated with accessing eye health services, such as transport, accommodation and food while living in urban areas to seek eye health services, were identified as the main barriers for the rural population. Women most often could not afford these costs. With the rural outreach programme, eye health services will be able to reach out to the rural majority who often cannot afford to travel into town.

Establishing mobile clinics with a primary focus on reaching out to rural communities was recommended as one way to improve accessibility to eye health care. The mobile clinics should be set up as a standalone programme for the eye clinics to conduct outreaches. The mobile clinics will have a more integrated approach rather than doing routine eye clinic service. This integrated approach would include the usual

medical approach as well as addressing social factors, such as cultural barriers that prevent women accessing eye health care and healthy lifestyles for prevention.

Health Promotion

There is a need to raise better understanding of eye health issues and services among the public. Correspondingly, there needs to be greater awareness of the barriers and resultant perceptions, actions and behaviours that prevent people from accessing eye health services, particularly women and girls, and how their health is then affected and the wider effect it has on family among decision-makers and eye health service providers.

Eye health workers suggested programmes need to work in partnership with other stakeholders such as Community Based Organisations (CBOs) and other health and non-health Non-Government Organisations (NGOs) on awareness raising initiatives to promote gender and eye health together to make people aware of the gendered barriers people face that hinders them from accessing eye health care and disadvantages on certain group of people such as women and people living with disability.

There is also a significant need to battle misinformation (which causes people to be worried about what eye surgery or medicine will do) and increase understanding of the importance of eye care.

There were also suggestions for health workers to change their approach to awareness raising so that people feel welcome and interested in hearing health messages and information as the usual approach of finger pointing and blaming often puts people off and they do not pay attention to messages and information. It is important for health workers to have improved knowledge and skills about different approaches that they can adopt to reach the most disadvantaged community groups (women, children, and people with disabilities) and make them feel empowered and welcomed.

There were also suggestions for more awareness about COVID-19 and the vaccines to address the concerns that people have so they can access services without fear of contracting COVID-19.

Eye health is a specialised skill area and needs well-trained personnel. Currently, there are more men who are trained ophthalmologists with a specialty than women, so more women should be encouraged and supported to take up the additional specialised training.

Many of the eye care nurses need further upskilling to build their capacity and competency to provide support to the doctors. Primary health workers in rural health facilities also need basic eye care training to treat minor eye conditions to avoid sending patients to urban hospitals.

Provision of adequate resources for training, such as human resources, facilities, and proper equipment (including operating microscopes with cameras and TV monitors) will enable more effective teaching and learning for the upskilling of active eye health personnel as well as undergraduate and postgraduate students in medical school. This is important as currently there is often no proper equipment, facilities or manpower for students who graduate with a postgraduate diploma in eye care to practice in the sector, so over time they lose interest in eye health and go back to general nursing. Providing an adequate supply of eye care equipment and instruments can also help attract other general health workers to specialise in eye care.

Stakeholders within the eye health sector need to advocate for improvements to service delivery and for eye health to be part of the national health structure so that resources can be appropriately allocated, and career pathways can be developed to attract and retain the workforce.

Eye health is a recently introduced discipline in tertiary training institutions and needs to be promoted to create interest in the programme for more students to specialise in eye care.

There was also a suggestion for INGOs providing eye health programmes within the country to work in partnership with the PHAs and hospitals to lobby for recognition from the government about the work they

are doing and to develop strategies to absorb current programmes into the existing government system so that INGOs can leave the country. Opportunities for eye health workers employed by INGOs to transition into government created positions also need to be established.

Awareness and messaging on eye health services is not reaching the majority of the people in both rural and urban communities therefore many people with eye conditions are not accessing services. Awareness and messaging are also not informative and inclusive so women, older people, people who are illiterate and those living with disability often miss out and are not aware of the services.

Messaging should focus on the importance of eye health for the whole family and the benefits of all family members given equal access and opportunity to eye health care. Messaging should aim to address gender norms that become barriers for women accessing eye health services.

Gender-based violence

One of the main reasons why women do not seek help for their eye conditions is because they are ashamed to talk about the cause of their eye problem, which is often domestic violence. Eye health services should thus provide a holistic approach when attending to patients and should not be limited to medical conditions only. The eye health workers in this study said that when patients come and describe conditions caused by violence in the home, such as being beaten up by their husband, they just treat the medical aspects of the condition and then send them away, as they are not trained in gender-based violence. However, the eye health workers felt there is more they can do; that they are not addressing the root cause of the problem and the patient may come back with the same issue in the future. They expressed the view that they should be referring them on for further support and services, but they need the information available and knowledge of how to refer patients to these extra services.

Outreach programmes should also include awareness-raising about gender-based violence as it relates to eye injuries and should work in partnership with other stakeholders to provide referral pathways for patients for counselling and other social services.

Training and upskilling

Many of the minor eye conditions that do not require surgery often get referred to eye clinics in urban areas due to health workers lacking basic eye care knowledge and skills in treating these ailments. This indicates a need for basic eye care training to deal with minor eye conditions that do not require eye surgery or more complex treatment at the rural health facilities to cut back on the number of patients having to travel to eye clinics in urban areas. This can help cut back on the costs incurred by patients to seek services further away and, thus, encourage more women to seek eye care, as they would not need to travel far from home for the initial treatment.

A suggestion was made for equal number of men and women to be recruited to work as eye care nurses so that they can support each other both in the eye clinic and during outreach. Male eye care workers shared from experience that often the female eye care workers need the support of the male workers in lifting heavy essential equipment when out in the field for outreach programs and with safety and security being a concern for female eye care workers, thus when equal number of men and women travel to rural areas for outreaches, they will look out for each other

There was also a suggestion for gender and social inclusion training for eye workers to build their understanding and capacity in these areas, so that they can be inclusive in their approach in eye health service delivery to increase accessibility.

Ongoing training and capacity development of eye care workers, including nurses and doctors, is an area that needs to be supported. To be able to effectively improve eye health across PNG, there is a need to develop more facilities to improve training in eye health care, and for already trained eye care workers to

receive further upskilling to motivate and retain the existing workforce, as well as to create interest in upcoming eye health workers.

Training should also focus on taking an inclusive approach to eye health care to address some of the barriers to access, particularly those factors that limit accessibility for women.

Upgrade to facilities and equipment

Fully equipping hospitals with adequate human resources, medications, proper facilities, and equipment is important for the eye health programme to fully carry out its function. This would motivate, encourage, and retain eye health workers as well as attract other health workers and prospective students to join eye health.

Improving training facilities and equipment in medical schools will also create interest among students to specialise in eye health.

Eye health structure within the health system

Many of the health workers have indicated that currently eye health is non-existent in the health structure and that the National Department of Health needs to review and recognise the importance of eye health. It was also expressed that due to the eye health existing outside of the national health structure, it makes it difficult to lobby for the creation of new positions, career development and progression, and to lobby for direct financial resources to support the work of eye health in the country. Several of the eye nurses interviewed expressed concern that many of them have been in the same position for many years now and they have seen many of their colleagues leave the profession. This was noted in all three locations. They are stagnant and have made no progression in their careers, therefore many who have trained in eye care have left to join other disciplines.

There were also suggestions for specific and selective recruitment based on the need of the eye health programme. For example, with the challenges experienced by some of the women not being able to carry out outreach programmes to remote areas, it was suggested for more men to be recruited to do the field work while female staff remain at the clinic to continue daily clinic operations.

Partnership for service provision

Working in partnership with other stakeholders in the eye health sector will improve service delivery and improve accessibly. Many of the eye clinics do not have the resources to reach out and improve their capacity in the way they deliver eye care services in terms of taking on an inclusive approach at the clinic as well as during outreach programmes. This is an area that other partners, such as civil society organisations can support.

Current partnership with FHFNZ and FHF-PNG and other organisations such as CBM International have supported the eye health programme in PNG, in both clinical and outreach programmes. However, there is still a great need for more partnerships and collaboration with other stakeholders to improve the accessibility of eye care services and information by taking a targeted approach to reach vulnerable groups, such as women and people with disabilities. Partnership with other stakeholders will help to share costs of eye health service provision.

Gender balance in the workforce

The current eye health workforce is already showing gender disparity in terms of the number of male and female ophthalmic clinicians and eye nurses as well as ophthalmologists. FHF-PNG is seen as a female-dominated organisation, and men reported feeling inferior and not included sometimes. The nature of the work requires staff to go out to the field, oftentimes women are not able to (husbands do not allow them, distance of travel, safety and security). Thus, it slows down the progress of the work in the outreach and

in-reach program of the organisation. There is a recommendation for an equal number of men and women to work and support each other.

Discussion

The primary data from this study showed that access to eye health services continues to be a challenge for many people including women, older people and those who have disabilities. Women are faced with many barriers in accessing eye health services; from their individual perceptions about the value of their own health versus the health of others, especially men and children, to social and cultural beliefs within families and communities about the value of women being inferior to men. This then impacts decisions about their health and well-being. Institutional barriers, such as the location and distribution of eye health facilities, lack of awareness about eye health, the cost of treatment and surgeries, and limited human resource capacity are other significant factors that affect access to eye health care, particularly for women. Similar findings were reported in a comparable study undertaken by FHF in Cambodia which concluded that overall, a lack of access to information, fear of surgery and negative outcomes, costs of accessing eye health services and their limited availability are the most significant barriers to women's access to eye health care services. The socio-cultural status of women means they are often not able to prioritise their own health[31].

The three locations of this study: Port Moresby, Madang and Goroka also saw similar findings in terms of barriers that women face in accessing eye health care. Despite the availability of eye clinics in these three locations, accessibility to eye health care is still a challenge for many people especially women and people living with disability. Some of these barriers include financial constraints, cultural and social norms that affect women's ability to access eye health services, limited and/or lack of education and information about services.

Domestic violence was commonly identified as a factor contributing to eye health conditions experienced by women in these three locations. The belief of sorcery as a cause of eye problems was very much talked about in Madang and Goroka and not in Port Moresby and this may be due to Port Moresby being the capital city with different ethnic groups living there that the belief of sorcery is not much discussed, or practice of sorcery is not common.

The issue of tribal fighting as a factor affecting accessibility to services including eye health care came out more in Goroka than Port Moresby and Madang and that is because tribal fights are more prevalent in the highlands than in the coastal areas.

Data from this study showed that COVID-19 also impacted women's ability to access eye health services in all the locations. Misinformation about COVID-19 and the vaccination created fear, mostly among women who were then reluctant to travel into urban areas to seek treatment. The restriction in movement and scaling down of services at the provincial hospitals where the eye clinics are operating meant that eye patients referred from rural areas had to delay accessing service and seeking eye care treatment which in some cases led to other health implications.

Addressing gender barriers relating to social and cultural norms is very important to improve access to eye health services for women. Primary data has shown that across all three locations, women are constrained

31 Neyhouser C, Quinn I, Hillgrove T, Chan R, Chhea C, Peou S and Sambath P (2018): A qualitative study on gender barriers to eye care access in Cambodia

by their gender roles and responsibilities and as a result, they do not have time to seek health care. Women spend most of their time doing household chores, gardening, and taking care of the children rather than prioritising their own health needs. Women's mobility is also restricted by male members of the family. They often have to seek advice and approval from their husband or father before seeking treatment. Decisions about finance for health care are also made by men who control the family income.

Gender discrepancies within the eye health workforce is also very evident from all three locations of the study. There appears to be more female ophthalmic clinicians and nurses than male and slightly more male ophthalmologists than female. The rural health facility workforce also needs upskilling, specialised eye care training, additional human resource and proper eye care equipment and medicine to provide effective eye care services to people that seek health care service at the facility as well as those that they reach through outreach clinics. This will ease the burden for people trying to access eye care services in urban areas, particularly women who most often are faced with issues like financial constraints, mobility restrictions, and cultural limitations when seeking health services.

Accessing timely eye care is important for both men and women in avoiding further implication or deterioration that may arise as a result of delay in treatment. With many women not able to access eye care in a timely manner, their eyesight can worsen or become untreatable, leading to irreversible vision loss. Increasing women's access to eye health services is also crucial for reducing the high prevalence of vision impairment and blindness among women in PNG.

Strengths and Limitations

One of the strengths of the study was that it was able to get perspectives of both the users and providers of eye care service to understand experiences and challenges from both sides as well as proposed solutions to challenges from both sides.

Another strength of the study was that it was locally led by Papua New Guineans with a good understanding of the local context, culture and structure of the health system as well as the gender dynamics in seeking health care particularly for women.

The study was fully supported by the FHF team both in PNG and in New Zealand in terms of logistics and organising with PHA and eye clinics in the respective locations of the study and technical guidance and advice that guided the study to its completion

The study also had some limitations, including inadequate time to interview participants in the different locations due to limited funding. The researchers had to schedule all the interviews in just one week for each location and had limited control over participants' selection and recruitment especially for the patients and non-patients. The researchers had to interview any eye patient that turned up at the clinic on the days that they had scheduled to be at the clinic to interview the eye patients. While the non-eye patients (those who had eye health conditions but did not seek treatment for whatever reason) were pre-selected by a community leader with whom the research team communicated with to recruit the participants.

COVID-19 outbreaks affected patients at the eye clinics in each location due to the restrictions at the hospitals, which meant that only emergency cases were attended to. People were also fearful of contracting the virus at the hospital so avoided seeking treatment for their eye condition which resulted in less patients at one of the clinics at the time interviews were conducted. To ensure more participants were recruited for the study in other sites, interviews were conducted at the eye clinics once COVID-19 restrictions eased and normal services at the clinics resumed.

The selected sites for the study were all patrilineal communities in which men serve as heads of almost every important social, cultural, and political institution and dominate decision making and are next in line in terms of inheritance which is a factor that influences how decisions are made regarding access to eye health. It would have been good to include a matrilineal community to compare findings on women's access to eye health care

Only road accessible locations and locations which had specialised eye clinics were chosen for this study, which means we were not able to learn about the barriers and challenges faced by communities near hospitals with no specialised eye clinics and in locations with no road access. All three communities selected for the FGDs were about a 30-minute drive from the town and nearest eye clinic and thus not very remote.

There was also limited staff capacity at each clinic to support the research team with recruitment. Clinic staff understandably prioritised serving patients and sending them home on time rather than assisting with the identification of good interviewees who had substantial opportunities to access the eye clinics to share their experience with the research team due to heavy workloads and time constraints.

With the health authority interviews, although every effort was made to ensure a gender-balanced representation of men and women who work at the PHA or hospital management to be interviewed, there are more men than women in these management positions, therefore we could not reach a balance of men and women interviewed in this target group. Since the interviews also included first-time patients as well as review patients, it was noted that many first-time patients were not able to clearly identify barriers in accessing eye health.

Recommendations

Participants' recommendations

1. Establish mobile clinics that are primarily focused on reaching out to communities who cannot afford to travel into town, so they are able to access eye care services and receive treatment for their eye health concerns. The mobile clinics should be set up as a standalone programme within eye health services that focuses on carrying out outreaches on eye health care in rural areas. The mobile clinics should have a more integrated approach rather than doing routine eye clinic service. The mobile clinic should be a full-time outreach programme with adequate staff capacity, including doctors who will be working on rotation to ensure continuity of service.

2. Improve service delivery in eye health through partnerships and collaboration with other stakeholders for improved accessibility and reach. Many eye clinics do not have the resources and funding to reach out to many of the rural, remote and isolated communities nor do they have the capacity to deliver inclusive eye care services at the main clinics. This could be supported through collaboration and partnership with other stakeholders such as civil society organisations, government, and the private sector and donor agencies for cost sharing and capacity support for effective service delivery.

3. People in management positions in eye health services should advocate for eye health to be part of the national health structure so that resources can be allocated, and career pathways can be developed to attract and retain the workforce.

4. The Foundation and other INGOs that provide eye health programmes in PNG should work with the PHAs and the hospitals to lobby for recognition from the government about the work they are doing and develop strategies to absorb the current partnership into existing government system to ensure continuity of eye care so that INGOs can leave the country. Opportunities for eye health workers employed by INGOs to transition into government created positions also need to be established.

5. Provision of adequate resources for training such as human resources, facilities and proper equipment (including operating microscope with camera and TV monitors) to enable effective teaching and learning as part of upskilling of existing eye care staff as well as undergraduate and postgraduate students in medical schools. This will also create interest in students to take up eye health.

6. Training for eye care workers on domestic and gender-based violence services, to enable them to provide referrals to such services for patients who have experienced violence.

7. Sensitisation training for eye care staff on gender and social inclusion so that they can be inclusive in their approach in eye health service delivery to increase accessibility.

8. The National Department of Health, PHAs and hospital management should ensure that eye clinics are fully equipped with resources, medications, proper facilities and equipment to allow them to fully carry out their function. This motivates and encourages staff to do their work to a high-standard and serve the people.

9. Ensure there is gender balance and support for the team so that they can provide effective service delivery. There were also suggestions for specific and selective recruitment based on the need of the eye health programme. For example, with the challenges experienced by some women not being able to carry out outreaches to remote areas, it was suggested for more men to be recruited to do the field work, while female staff can remain at the clinic to continue with normal services

Researcher recommendations

1. Prioritise training and development to improve staff competency and provide adequate support to staff to better the access of eye care for all. There should be equity measures put in place to encourage and support women to take up specialised eye care training. Eye health is a specialised skill area that requires well-trained personnel. Eye healthcare workers have pointed out that currently more men (ophthalmologists) are taking up specialised training in eye care than women. Primary health care workers in rural health facilities also need basic eye care training to treat minor eye conditions to avoid sending patients to urban hospitals.

2. Ensure that awareness initiatives on eye health issues and services are informative, inclusive of social issues affecting accessibility to make people aware of the social and cultural barriers which hinders certain groups of people from accessing eye care and the disadvantages it has on them. Awareness and messaging on eye health services should be reaching most people in both rural and urban communities and should also focus on the importance of eye health for the whole family, what happens when health care needs of one family member is ignored and the implication it has on the family and the benefits of equal access to health care for all family members. This can be tailored as a cost versus benefit for accessing health care or not.

3. Health workers should also change their approach to raising awareness so that more people feel welcome and interested in hearing health messages and information. One of the main reasons why women do not seek help for their eye condition is because they are ashamed to talk about the cause of their eye problem especially when it's related to domestic violence. Eye health service providers should provide a holistic approach when attending to patients and should not be limited to medical conditions only. Outreach programmes and health promotion initiatives should also focus on awareness about gender-based violence (for eye injuries). Eye health programmes should work in partnership with other stakeholders to strengthen referral pathways for patients requiring counselling and other social services as well as making health promotion more inclusive by developing inclusive strategies such as ensuring a greater gender balance of patients accessing both clinic based and outreach services.

Conclusion

This study has identified a range of barriers to the access of eye health services for people in PNG, particularly for women. The barriers range from individual perceptions about eye health services to social and cultural perceptions and beliefs that influence the ability to access eye health and to institutional barriers, such as limited resources and capacity of eye health services to provide better eye health services for all people.

Inclusive outreach programmes and health promotion initiatives were identified as the main avenue to address many of these barriers at the individual, family, and community level. This could be done through correct and informed messaging that is appropriate, acceptable, and accessible to all population groups, as well as through effective dialogue with families and communities to challenge some of the harmful social and cultural norms that prevent women from accessing services. It is also very important to talk about the importance and benefits of everyone in the family having equal access to services.

At the institutional level, stronger dialogues need to take place for the recognition of the work that eye health programmes have been doing despite limited support from the government. The partnership with development actors has been very effective in supporting the capacity development of staff, but stronger advocacy and lobbying must take place for eye health to be included in the national health structure for effective resource allocation and further staff capacity development and support.

Eye health programmes should consider existing barriers to the equitable access of eye health care services and appropriate initiatives need to be implemented to address these barriers. Findings from this study will inform The Foundation and FHF-PNG to develop interventions that will address some of the barriers identified to ensure delivery of inclusive eye services.

Appendix 1: Data Collection Tools

TOOL 1: Semi-structured interview guide for patients

Introduction and consent

My name is _____ and I work with the NGO "CARE International in PNG".

CARE is working with another NGO - Fred Hollows Foundation - to do some research into eye health care in PNG, in particular the different ways women and men are able or not able to access eye health care. We are also interested to find out whether the COVID-19 Pandemic has affected access to eye care. We will use the findings from this research to improve our projects.

I am here today to talk with you about your experiences and opinions of eye health care.

I will ask questions and will record your responses. I will use what you and other participants tell me to prepare a report, that will be shared with our donor and other interested stakeholders. Your answers will be confidential. I will not record your name and when I write the report, there will be no way of identifying you or any other participants.

There are no 'right or wrong' answers. You should feel free to share your own ideas and stories. If there are any questions that you do not want to answer, then you do not have to answer them. And you can stop the interview at any time you like.

Do you understand and are you willing to participate? Yes/No

Signature of participant: _____

OR (if participant has a visual impairment, cannot write or has another reason for not signing their name)

Signature of interviewer: _____

Demographic data questions:		**Circle the answer/s that apply (or add the answer if not yet listed) and include detailed notes (use additional pages if needed):**
1	**Name of person conducting interview:**	Lavinia Other _____
2	**Date of interview:**	
3	**Location of interview:**	Port Moresby Madang Goroka
4	**Gender of interviewee:**	Male Female Other
5	**Age of interviewee:**	
6	**Marital status, number of children:**	Single Married Divorced Widowed # of Chn:_____
7	**Disability status questions- using the Washington Group Questions (ask questions a-f, read the first 4**	**a) Do you have difficulty seeing, even if wearing glasses?** 1. No difficulty 2. Some difficulty

	options and circle the answers that apply):	3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know **b) Do you have difficulty hearing, even if using a hearing aid(s)?** 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know **c) Do you have difficulty walking or climbing steps?** 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know **d) Do you have difficulty remembering or concentrating?** 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know **e) Do you have difficulty with self-care, such as washing all over or dressing?** 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know **f) Using your usual language, do you have difficulty communicating, for example understanding or being understood?** 1. No difficulty 2. Some difficulty 3. A lot of difficulty 4. Cannot do at all 7. Refused 9. Don't know
8	**Level of education reached? Able to read and write simple messages?**	

9	**Employment status/ Income generation** **and, has this changed due to Covid? How?**	Formal Informal Provide details: _____ Changed yes / No How:_____
10	**Where do you live? Distance to town/city**	
11	**Do you know of an eye health facility near you?** **If yes, where is the eye health facility located?**	Yes No

**Record anything else worth noting about the interviewee*

Question 1:

Tell me about the issues that you have had with your eyes

Probing questions:

- *What sorts of symptoms did you have?*
- *How have these issues affected your daily life?*
- *Have you had to depend on your family to assist you with daily life? In what ways?*
- *What sort of treatment did you receive? Where (and/or from who) did you get the treatment?*
- *What has been the result?*
- *Do you need eye health services now for the same issue? For another eye issue?*

Question 2:

Before you accessed eye health care, what did you think was the cause of your eye health issues?

Probing questions:

- Did you have any ideas about what may have caused it?
- What made you think this?
- Can you tell me how the eye problem happened and/or started?

Question 3:

How long had you been experiencing these issues before you sought eye health care? Why did you take this amount of time to access eye health? What made you decide to access eye health care when you did?

Probing questions:

- *(Less than a month, between 1 to 6 months, between 6-months to one-year, between 1-year and 2 years, between 2 years and 5 years, more than 5 years)*
- *Can you tell us about your experience accessing health care? Did it meet your expectations? How did it? How it didn't?*
- *What barriers did you face? E.g. Afraid/shy, couldn't afford it, didn't know about it, my family didn't support me going, my husband didn't agree to me doing so, it was far to travel,*
- *What suggestions would you make it make the experience better?*

Question 4:

As you were accessing eye health care, did you face any difficulties?

Probing questions:

- *E.g. Cost of treatment, cost/availability of transport, distance, it took a long time to get an appointment, the clinic was often closed, health care professionals were rude and dismissive, etc.*

Question 5:

(ONLY ASK IF ANSWERS TO DISABILITY STATUS QUESTIONS INDICATE DISABILITY (in addition to vision issue) Do you think that the problems you have with hearing/walking/remembering/self-care/communicating has made it more difficult to access eye health care? How?

Question 6:

What was the cost to you of accessing treatment? How did you find the money to pay? Was your partner/family involved in this decision to spend this money? How was this decision made?

Probing questions:

- *E.g. Transport costs, accommodation costs, health care cost,*
- *Any additional costs? E.g. lost income, challenges in harvesting food/feeding the family while you were in town.*
- *Who in the family was consulted (husband, mother-in-law, adult children)*
- *Who made the final decision?*

Question 7:

Do you know other people in your village with eye problems who don't come for medical treatment?

Probing questions:

- What sorts of people are they (persons with disability, older women, second wives, etc.)
- Why don't they?
- What solutions would support/ encourage them to get eye health care?

Question 8:

Imagine there had been multiple people in your family who needed medical treatment for eye problems, who would be prioritized first? (Elderly men, Elderly women, men, women, male youth, female youth, girls, boy)

Probing questions:

- *Why?*

Question 9:

Has the Covid-19 Pandemic affected your access to health care, including eye health care?

Probing questions:

- *How? (e.g. delayed treatment, I didn't leave the village for many months, the hospitals were closed, I had less income so couldn't afford transport, etc.)*
- *Have health care services (in general, not just eye health) become more or less accessible during COVID, can you tell us which services and how?*
- *Has Covid affected your ability to prioritize eye-health services?*

Is there anything else you would like to share about eye health services? What questions would you like to ask me?

Thank you for your time, and for sharing your views with us.

TOOL 2: Facilitation guide for group discussions with groups of non-patients

Introduction and consent

My name is _____ and I work with the NGO "CARE International in PNG".

CARE is working with another NGO - Fred Hollows Foundation - to do some research into eye health care in PNG, in particular the different ways women and men are able or not able to access eye health care. We will use the findings from this research to improve our projects.

I will ask the group to share opinions and ideas about accessing eye health. If you don't want to answer or participate, then you can refuse at any time. Please only share what you are comfortable sharing. We may use your ideas in our report, but we will not include your name.

Do you understand and are you willing to participate? Yes/No

Signature of interviewer/witness: _____

Demographic data questions		**Circle the answer/s that apply (or add the answer if not yet listed) and include detailed notes (use additional pages if needed):**
1	**Name facilitator:** **Name of note-taker:**	Lavinia Other _____
2	**Date of group discussion:**	
3	**Location of discussion:**	Port Moresby Madang Goroka
4	**Number, Gender and Age of participants:**	Male Female Other Number of participants: Number of participants over the age of 50:
5	**Disability status (include type of disability):** ***(This should be done by observation, not asking people to identify themselves)***	Number of people with a disability in this group = (Note type of disability: vision hearing mobility intellectual mental communication other)
6	**Rural /Remote/Urban**	Identify approximate % of group who are Rural / Remote / Urban

**Record anything else worth noting about the interviewee*

Activity 1: Vote with your feet

Purpose of the tool

This tool will explore opinions in regard to commonly held beliefs on the topic of eye health and gender. It will expose participants to differing opinions and will give participants an opportunity to reflect on their own attitudes around commonly held beliefs and understand/learn about differences in opinions.

Time required

30 minutes to 1 hour

Materials needed and other preparation required

Bold markers, paper tape.

Advance preparation

- Two cards with “agree” and “disagree” written or drawn for non-literate participants. If working with non-literate groups, decide together on symbols that depict the feeling of “agree” and “disagree”.
- Confirm the statements that you will use for this activity (these can be updated during fieldwork in line with ideas and attitudes emerging from KII interviews and other group discussions)
  - Blindness can sometimes be caused by sorcery (what makes you think this?)
  - People with eye problems can fix them with prayer and attending church (those who said yes, do you think the people should also seek help from doctors/eye health care professionals?)
  - People know where to go for eye health care (if yes, how do they know?)
  - Even if they knew about eye clinics in town, many women in my village wouldn’t go (Why? What sorts of women. What are the barriers)
  - Even if they knew about eye clinics in town, many men in my village wouldn’t go. (Why? What sorts of men? What are the barriers)
  - Women should ask their husband’s permission before seeking eye health care
  - Women are less likely to travel to town for medical treatment than men (why?)
  - If a woman wore glasses, others would gossip about her (Why? Why not? Would it be the same for men?)
  - If money is scarce, a family should prioritize the husband healthcare costs over that of the wife.
  - People who can’t read well would be reluctant to go for eye health treatment, in case they were asked to read a poster.
  - People with disabilities would have a harder time accessing eye health care
  - Because of the Covid Pandemic, people are moving around less, and not going to town as much (who has been more restricted men or women? Older/younger?)

Steps (how to facilitate the tool)

1. Explain the purpose of the tool to the participants:
   - This is a group exercise, where everyone in the group gets to have their opinion on the statements and reflect on their own attitudes around commonly held beliefs to do with eye health. The objective is to understand the diversity of opinions and give everyone an opportunity to reflect on their own attitudes around commonly held beliefs about eye health.
   - We will record/take notes on what you have said. This will help us to understand how people in this area view eye health care.
   - It is important that we show each other respect and refrain from judging, interrupting or ridiculing others.

- Our opinions, values and attitudes are not “right” or “wrong”. They are simply the lens through which we view our world.

2. Place the agree/disagree cards at opposite ends of the space, so that everyone can see them with enough space for people to be able to move to either side.

3. Read one statement. Ask participants to reflect quietly (without discussing with one another) on their own attitude or opinion about the statement, and then move to the card that represents their opinion (agree/disagree).

4. Once all participants have moved, ask them to discuss with those near them why they have chosen that group if they feel comfortable.

5. Invite participants of each group to share their reason for agreement/disagreement. Ask:

    - Would someone care to share with the other group why they are standing where they are?
    - Ask additional questions to understand the perspective: Is this changing? Amongst whom? Do you think others would disagree? (Additional questions are listed against each statement above)

6. Use the following reflection questions for a closing discussion:
    - Did you learn anything new from this discussion? Any surprises?

7. To sum up, thank participants for their contributions, and summarize with the following key points:

- We all hold positive and negative beliefs, attitudes and behaviors that affect us in different ways. The tool demonstrates what views the community holds with regard to eye health care
- Our attitudes and values are often contextual and situational – they are not often black and white, so it may not be easy to know how we feel. It is important to notice that everyone does not necessarily hold the same values or opinions on certain issues even though this is what is assumed.

Activity 2: The story of Mavis

Purpose of the tool

Through storytelling as a group creativity technique, this exercise explores the story of an older woman and explores factors/barriers that influence her ability to access health care.

Time required

1 hours

Materials needed and other preparation required

- Index cards of 3 different colors, bold markers
- Have some index cards with actions prepared prior to exercise (for step)

Steps (how to facilitate the tool)

1. Ask participants to sit in a circle and introduce the tool. Explain that through this activity we will explore the process of change and how we can support individuals along that process at different levels. In this activity, we are going to examine the life of “Mavis” and her journey through the change process.

2. State the situation:

"Mavis is 60 years old. She lives with her husband and two of her granddaughters in a house in a community similar to yours. She has 6 children (3 boys and 3 girls), who are all grown now. She started having problems with her eyes many years ago, and lately it has gotten much worse. She now finds it difficult to do the things she usually would, like cook, and it is hard to get to the toilet on her own. She says it is like spider webs across her eyes. She feels that her eyes are getting worse every year, and she is worried that she will soon be blind and will have to depend on others for her basic needs. Mavis has decided that she would like to access eye health care to improve her eyes"

Ask participants to continue the story: "What happens next to Mavis?" Going around the circle, encourage participants to create a story with actions that Mavis can take and any obstacles she may encounter. Write each aspect of Mavis's story on index cards and place them along a timeline of Mavis's life. These actions can be drawn as symbols for non-literate groups. Every action should be written on cards of one color, every obstacle on cards of another color.

3. Encourage participants to be creative. Ask participants to explore what can be done to help Mavis, or what interventions could be delivered to support her. Write these interventions on a different color of index cards to place on the timeline.

4. Use the following reflection questions to facilitate a closing dialogue:

- Do women in your own community face a similar situation to Mavis?
- What were the factors within her, in her family, and in the community, which helped or hindered Mavis from reaching her goal?
- How do different people respond to a situation similar to Mavis'? (Widows, men, younger men and women, children, chiefs, people with more/less money, people with additional disabilities, people who live close to town)
- Is this changing? How Amongst who?

TOOL 3: Semi-structured interview guide for Health authority representatives

Introduction and consent

My name is _____ and I work with the NGO "CARE International in PNG".

CARE is working with another NGO - Fred Hollows Foundation - to do some research into eye health care in PNG, in particular the different ways women and men are able or not able to access eye health care. We are also interested to find out whether the COVID-19 Pandemic has affected access to eye care. We will use the findings from this research to improve our projects.

I am here today to talk with you about your experiences and opinions of eye health care, as a representative of the Health Authority.

I will interview other stakeholders, patients and community members. I will prepare a report, that will be shared with our donor and other interested stakeholders.

Do you understand and are you willing to participate? Yes/No

Signature of participant: _____

Demographic data questions:		Circle the answer/s that apply (or add the answer if not yet listed) and include detailed notes (use additional pages if needed):
1	**Name of person conducting interview:**	Lavinia Other _____
2	**Date of interview:**	
3	**Location of interview:**	Port Moresby Medang Goroka
4	**Gender of interviewee:**	Male Female Other
5	**Role/job title:**	
6	**Number or years in this role**	

**Record anything else worth noting about the interviewee*

Question 1:

Can you about the involvement you have in eye health care as part of your role?

Question 2:

In your experience, what is access to eye health care currently like? Is it adequate? Do you believe that challenges exist for people in accessing eye health care? If so, what are they?

Question 3:

The 2016 Rapid Assessment of Avoidable Blindness (RAAB) conducted in PNG found that prevalence of blindness is significantly higher in women (7.0%, 95CI 6.2-7.8%) than in men (4.4%, 95CI 3.4-5.4%), with prevalence of blindness highest in women in the Highlands (11.1%, 95%CI 8.1-14.0%) and lowest in men in the Islands (0.7%, 95%CI 0.0- 1.7%). Why do you think women in PNG are more likely to have untreated eye problems?

Question 4:

What barriers do you think women face in accessing eye health care?

Question 5:

What actions do you think that eye health programs could implement to address these barriers for women?

Question 6:

Do you think that the COVID pandemic has affected women and girls' experience in eye health service access & uptake? If so, how? (and is this different or the same for men and boys?)

Question 7:

In your experience, do people living with disabilities face additional barriers to accessing eye health care?

Probing questions:

- *What sorts of barriers?*

Question 8:

In your experience, do people face economic barriers to accessing health care?

Probing questions:

- What sorts of costs are associated with accessing eye health care?
- What sorts of people might struggle to pay these costs? (E.g. people living in remote areas with expensive transport costs to town. People who do not have formal employment)

Question 9:

Do you know of any gender discrepancies that exist in the eye health workforce? (If possible, can you provide data/reports?)

Probing questions:

- *Why do you think these exist?*
- *Has this been consistent? Is it changing?*

Question 10:

Do you think that COVID 19 has exacerbated any gender discrepancies in the eye health workforce?

Probing questions:

- *How?*

Question 11:

Do you have any suggestions for how gender discrepancies in the eye health workforce could be mitigated?

Is there anything else you would like to share? Or would you like to ask me any questions?

Thank you for your time, and for sharing your views with us.

TOOL 4: Semi-structured interviews with women and men who work in eye health

Introduction and consent

My name is _____ and I work with the NGO "CARE International in PNG".

CARE is working with another NGO - Fred Hollows Foundation - to do some research into eye health care in PNG, in particular the different ways women and men are able or not able to access eye health care. We are also interested to find out whether the COVID-19 Pandemic has affected access to eye care. We will use the findings from this research to improve our projects.

I am here today to talk with you about your experiences and opinions of eye health care.

I will ask questions and will record your responses. I will use what you and other participants tell me to prepare a report, that will be shared with our donor and other interested stakeholders. Your answers will be confidential. I will not record your name and when I write the report, there will be no way of identifying you or any other participants.

There are no 'right or wrong' answers. You should feel free to share your own ideas and stories. If there are any questions that you do not want to answer, then you do not have to answer them. And you can stop the interview at any time you like.

Do you understand and are you willing to participate? Yes/No

Signature of participant: _____

Demographic data:

Questions		**Circle the answer/s that apply (or add the answer if not yet listed) and include detailed notes (use additional pages if needed):**
1	**Name of person conducting interview:**	Lavinia Other _____
2	**Date of interview:**	
3	**Location of interview:**	Port Moresby Madang Goroka
4	**Gender of interviewee:**	Male Female Other
5	**Role/job title:**	
6	**Number or years in this role**	
7	**Study undertaken (and where) for this role**	

**Record anything else worth noting about the interviewee*

Question 1:

Could you explain what your job entails?

Question 2:

Do you notice any gender discrepancies that exist in the eye health workforce (more women or more men in some/all roles)? Why do you think these exist?

Question 3:

Do you think that COVID 19 has exacerbated any gender discrepancies in the eye health workforce? If so, how?

Question 4:

Do you have any suggestions for how gender discrepancies in the eye health workforce could be mitigated?

Question 5:

(Ask women only) Did you face any particular challenges, as a woman, getting a job in eye health?

Probing questions:

- *Do you have any suggested solutions?*

Question 6:

(Ask women only) Do you face any particular challenges, as a woman, continuing to work in eye health?

Probing questions:

- *Any challenges specifically related to COVID-19?*
- *Do you have any suggested solutions?*

Question 7:

In your experience, what are the main challenges people in PNG face in accessing eye health care?

Question 8:

Do you notice that there are more male patients or more female patients? Why do you think this is the case?

Probing questions:

- *Do you notice more men or more women seeking specific treatments (E.g., More women may come in for conjunctivitis or men come in for cataract treatment)?*
- *Do you notice a difference in how long people wait before seeking help? (E.g., Women are leaving it much longer than men or vice-versa)*

Question 9:

The 2016 Rapid Assessment of Avoidable Blindness (RAAB) conducted in PNG found that prevalence of blindness is significantly higher in women (7.0%, 95CI 6.2-7.8%) than in men (4.4%, 95CI 3.4-5.4%), with prevalence of blindness highest in women in the Highlands (11.1%, 95%CI 8.1-14.0%) and lowest in men in the Islands (0.7%, 95%CI 0.0-1.7%). Why do you think women in PNG are more likely to have untreated eye problems?

Question 10:

What particular barriers do you think women face in accessing eye health care?

Question 11:

In your experience, do women and men living with a disability (in addition to problems with their eyes) face additional barriers accessing eye health care?
Probing questions:

- *What makes you think this?*

Question 12:

What changes due to COVID have women and girls experienced in eye health service access & uptake?
Probing questions:

- *Have you noticed any changing priorities due to COVID? (e.g., Eye health is less of a priority now, as people are worried about Covid)*
- *Do you have any solutions to suggest?*

Is there anything else you would like to share? Or would you like to ask me any questions?

Thank you for your time, and for sharing your views with us.