

**WOMEN'S RIGHT TO SIGHT AND WOMEN'S HEALTH  
IDENTITY IN GUATEMALA**

by

Laura Spencer  
BA Sociology Honours, University of British Columbia, 2005

PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PUBLIC POLICY

In the Public Policy Program  
of the  
Faculty  
of  
Arts and Social Sciences

© Laura Spencer 2010

SIMON FRASER UNIVERSITY

Spring 2010

All rights reserved. However, in accordance with the *Copyright Act of Canada*, this work may be reproduced, without authorization, under the conditions for *Fair Dealing*. Therefore, limited reproduction of this work for the purposes of private study, research, criticism, review and news reporting is likely to be in accordance with the law, particularly if cited appropriately.

## **APPROVAL**

**Name:** Laura Spencer  
**Degree:** M.P.P.  
**Title of Capstone:** Women's Right to Sight and Women's Health  
Identity in Guatemala

### **Examining Committee:**

**Chair:** Nancy Olewiler  
Director, Public Policy Program, SFU

Olena Hankivsky  
Senior Supervisor  
Professor, Public Policy Program, SFU

---

Nancy Olewiler  
Supervisor  
Director, Public Policy Program, SFU

---

John Richards  
Internal Examiner  
Professor, Public Policy Program, SFU

---

**Date Defended/Approved:** April 19, 2010



SIMON FRASER UNIVERSITY  
LIBRARY

## Declaration of Partial Copyright Licence

The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection (currently available to the public at the "Institutional Repository" link of the SFU Library website <[www.lib.sfu.ca](http://www.lib.sfu.ca)> at: <<http://ir.lib.sfu.ca/handle/1892/112>>) and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author's written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

While licensing SFU to permit the above uses, the author retains copyright in the thesis, project or extended essays, including the right to change the work for subsequent purposes, including editing and publishing the work in whole or in part, and licensing other parties, as the author may desire.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library  
Burnaby, BC, Canada

## STATEMENT OF ETHICS APPROVAL

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

(a) Human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

(b) Advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

(c) as a co-investigator, collaborator or research assistant in a research project approved in advance,

or

(d) as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Simon Fraser University Library  
Simon Fraser University  
Burnaby, BC, Canada

## **Abstract**

To contribute to the growing literature on gender disparity in global blindness, this capstone provides an understanding of women's eye health service use in Guatemala. Informed by intersectionalist and post-colonial frameworks, I used a mixed methods approach to conduct a secondary analysis of medical records, questionnaires and interview transcripts. The quantitative data, similar to most developing countries, reveals a gender disparity in rural and Indigenous populations. Through analysis of qualitative data on women, fear and isolation were found as barriers to service use. Results also reveal the role of social connection in increasing access to eye care services. Informed by these findings, the policy alternatives cater to the needs of different populations of women through increased social connection and trust building. To empower and provide opportunities for social connections, collaboration between local and international human rights organizations and with eye clinics is recommended.

**Keywords:** Gender and Eye Health; Gender and Blindness; Women and International Development; Indigenous Health Rights; Guatemala Healthcare; Global Blindness; Vision 2020; Latin America Healthcare; Women and Guatemala.

## **Dedication**

I dedicate this Capstone to my mom. If it were not for her, I would not have had the courage or inspiration.

I also dedicate this research project to all women in Guatemala. I was touched by many of you, and I hope that this research is empowering.

## **Acknowledgements**

Thank you to everyone who has been there for me this past year. First, a thank you to my grandparents for their support and words of enthusiasm—even at 96 you are both energy-givers! Thank you to Justine and Nicole for grounding me and providing me with such rich advice. And to my Dad, Kathryn and Kashalya for your support: practical, literal and spiritual. To my intelligent and motivating supervisor, Olena, along with my Health Capstone Gals, Shahdin and Agnes, I thank you ever so much for making this Capstone possible. I also want to thank Suzanne and Ken for your help and dedication to the cause and the research. Thank you to Linda for your support and guidance in El Petén (Go, White Team, Go!). Por ultimo, muchas gracias al equipo de Visualiza and Vincent Pescatore: Mariano, Chito, Jorge, Vladi, Sammy y Charly. Con mucho cariño.

# Table of Contents

Approval.....	ii
Abstract .....	iii
Dedication .....	iv
Acknowledgements .....	v
Table of Contents .....	vi
List of Figures .....	viii
List of Tables.....	ix
Glossary.....	x
<b>1: Introduction.....</b>	<b>1</b>
1.1 Background .....	2
1.1.1 Reflexivity .....	4
1.1.2 Demographics and Historical Context.....	4
1.2 Theoretical Context.....	6
<b>2: Literature Review .....</b>	<b>8</b>
2.1 Eye Health.....	8
2.2 Barriers to Eye Care Services for Women in Developing Countries.....	9
<b>3: Methods.....</b>	<b>11</b>
3.1 Research Design.....	11
3.1.1 Quantitative Data.....	13
3.1.2 Qualitative Data.....	13
3.1.3 Key Informant Interviews.....	13
3.2 Data Collection .....	14
3.3 Limitations .....	16
<b>4: Descriptive Statistics and Results.....</b>	<b>17</b>
4.1 Electronic Medical Records .....	17
Southern Population (VZ).....	18
Northern Population (VP) .....	21
Rural Indigenous Population (VP Eye Camp).....	23
4.2 Questionnaires.....	26
4.2.1 Value own Eye Health.....	28
4.2.2 Accompaniment.....	28
4.2.3 Isolation .....	28
4.2.4 Fear .....	29
4.3 Structured Interviews .....	29
4.3.1 Theme of Social Connection .....	30
4.3.2 Theme of Isolation.....	30



4.3.3	Theme of Fear.....	32
4.3.4	Theme of Trust .....	34
4.3.5	Theme of Value Own Eye Health.....	34
4.3.6	Theme of Low Value One’s Own Eye Health.....	35
4.4	Triangulation .....	36
4.4.1	Social Connection, Trust and Isolation.....	36
4.4.2	Fear .....	38
4.4.3	Value Own Eye Health .....	38
4.5	Discussion .....	38
<b>5: Policy Alternatives .....</b>		<b>41</b>
5.1	Option 1- Status Quo.....	42
5.2	Option 2- Health Promoters .....	43
5.3	Option 3- Campaign.....	44
5.4	Option 4- Diversity Officer.....	46
5.5	Option 5- Female Sentinels.....	47
5.6	Option 6- NGO Collaboration.....	49
<b>6: Criteria.....</b>		<b>51</b>
<b>7: Evaluation.....</b>		<b>54</b>
<b>8: Recommendation and Conclusion .....</b>		<b>58</b>
<b>Appendices .....</b>		<b>62</b>
Appendix 1: Eye Camp Registration Form .....		62
Appendix 2: Questionnaire .....		63
Appendix 3: Visualiza Record-Patient locations .....		64
Appendix 4: Description of the Variables from Questionnaire .....		65
Appendix 5: Questionnaire Results.....		67
<b>Bibliography .....</b>		<b>68</b>

## List of Figures

Figure 1 Map of Guatemala and Central America .....	5
Figure 2 Map of VP Eye Camp.....	14
Figure 3 Map of Origins of Visualiza patients—Southern Guatemala .....	15
Figure 4 Map 4. The Petén- Northern Population.....	15
Figure 5 Medical Record Themes .....	17
Figure 6 Questionnaire Themes .....	27
Figure 7 Interview Themes .....	29
Figure 8 Triangulation.....	36
Figure 9 Model to Increase Treatment use by Women .....	40
Figure 10 Triangulation and Model to Increase Treatment Use by Women.....	42

## List of Tables

Table 1 Data by Population and Source.....	12
Table 2 Method Type and Source .....	12
Table 3 Surgical Treatment Use by Gender Among Urban Population- Visualiza Clinic Electronic Medical Records.....	18
Table 4 Surgical Treatment Use: Percentage of Age Groups by Gender in Urban Population—Visualiza Clinic Electronic Medical Records.....	18
Table 5 Surgical use by Gender in Rural Population- Visualiza Electronic Medical Records .....	19
Table 6 Surgical Treatment Use: Percentage of Age Group by Gender in Rural Population—VZ Medical Records.....	19
Table 7 Surgical use by Location Among Women—VZ Medical Records.....	20
Table 8 Surgical Treatment Use: Percentage of Age Group by Location of Women—VZ Medical Records .....	20
Table 9 Cataract Patients at Northern Population by Gender- VP Medical Records.....	21
Table 10 Cataract Patients: Percentage of Age Group by Gender in Northern Population- VP Medical Records .....	22
Table 11 Northern Population by Consults and Surgery Use by Gender-VP Medical Records .....	22
Table 12 Indigenous Population Medical Records Results for VP Eye Camp Records .....	23
Table 13 Patients by Percentage of Age Groups by Gender in Rural Indigenous Population— VP Eye Camp Registration Forms .....	24
Table 14 Literacy, Visual Acuity and Previous Eye clinic use by Gender-VP Eye Camp Registration Forms.....	25
Table 15 Occupation by Gender- VP Eye Camp Registration Forms .....	26
Table 16 Criteria Matrix.....	53
Table 17 Evaluation Results Matrix.....	54

## **Glossary**

VP Vincent Pescatore

VZ Visualiza

WHO World Health Organization

PAHO Pan American Health Organization / Organization Panamerica de la Salud

INE Instituto Nacional de Estadisticas / National Statistics Institute

CLDH Centro para la Acción Legal en Derechos Humanos / Centre for Legal Action against Human Rights

INCA Instituto de Nutricion de Centro America / Nutrition Institute of Central America

KCCO Kilimanjaro Centre for Community Ophthalmology

# 1: Introduction

The participation of women in the global economy, especially in developing countries is essential for effectively tackling poverty. The key obstacles to such participation are barriers to health that affect daily functioning and productivity (Taylor, 2003). A prominent, yet largely unexamined example of a health issue affecting women is that of eye health. For example, low vision negatively affects a person's ability to function at work, in school and in the home, affecting even routine tasks. And, blindness greatly increases morbidity (McCarty, Nanjan and Taylor, 2001), especially for the poor. Improving eye health therefore has a significant impact on opportunities for development.

Nowhere are the effects of low vision and blindness more strongly apparent than in Guatemala. The rural population of Guatemala has an extremely high rate of poverty and has the highest incidence of blindness in Latin America (Limburg et al., 2008). The rapid aging of the Guatemalan population is fuelling a greater need for eye care services in Guatemala, including demand for cataract surgery (Beltranena et al., 2007). Cataracts, if left untreated, lead to blindness. Given appropriate infrastructure, they are easily treated with a quick and painless surgery. Extensive literature has revealed a large gender disparity in eye health in developing countries through comparisons of the cataract coverage. This is a useful epidemiological tool to determine the rate of blindness due to cataract in a given population. The cataract surgical rate is based on the number of cataract operations per 1 million people per year in a specified area. In response, calls have been made to investigate the relationships between gender and eye health in Latin America (Courtright et al., 2007).

Two-thirds of the world's blind are women (Seva Canada, 2007; Vision 2020, 2009). Information about gender and eye health, however, is only beginning to emerge in the Latin American context and to date, little is known about the particular context of Guatemala (Beltranena et al., 2007). To begin studying Latin America, this research focuses on women.

The goal of this capstone is to further the understanding of women's eye health in Guatemala by examining access to eye care services in various jurisdictions and among different population groups, specifically Indigenous populations. The only previous studies of eye health in an Indigenous population were carried out in Australia. Guatemala has a high proportion of

Indigenous people and this study investigates the use of and barriers to eye health services by both Indigenous and non-Indigenous populations of women. Studying populations in different parts of Guatemala is also carried out to explore the urban and rural divide in healthcare service use. Mixed methods are used for this research to take into consideration the complex context and diverse population of Guatemala.

In Guatemala, health care services by women are under-utilized. Women's rates of prenatal care, mammogram screening and cervical cancer screening are low and the rate of maternal mortality is very high (WHO, 2005). Though research on women's health has been largely restricted to reproduction in Guatemala, a pattern of low use of health services has been established. Ultimately, the end goals are to understand the gender disparity in eye care use by Guatemalan women, reduce the barriers women face and lower the incidence of blindness.

## **1.1 Background**

Guatemala's rate of treatable blindness in Latin America must be understood in the context of the country's political, economic and social context. Many poor Guatemalans are denied basic human rights such as health care (National Human Development Report, 2005). Publicly accessible health care has been nearly non-existent in their country (WHO, 1998). In recent decades, unstable governments and civil war have slowed progress towards achieving adequate health care infrastructure or quality services. In addition, corrupt government practices and pressure exerted on those governments by the drug cartels has further eroded Guatemalans' access to health care (INCEP, 2009; Freedom House 2007).

The rate of blindness has significant consequences for the economy of Guatemala and the prosperity of Guatemalan people. Eye health is of great importance for quality of life and social functioning (Taylor, 2003). Both blindness and low vision greatly decrease the ability to function in the community, decrease employment and add to helplessness in the home. One study reveals that the use of community services decreases 12% for each line on an eye chart of vision lost (Wang, et al, 1998). Even moderate vision loss increases the chance of morbidity (McCarty, Nanjan and Taylor, 2001). Conversely, a decrease in the incidence of low vision and blindness decreases the incidence of depression due to the correlated increase in social functioning and quality of life (Rovner and Ganguli, 1998).

Research into eye health services in Guatemala can be seen as an indicator of general health of the population under study. Systemic disease, like cardiovascular disease and diabetes or other, can often be detected through examination of the eye (Kim, 2008). The eye is one of the

only areas where one can directly examine blood vessels to detect disease (Altersitz, 2007). Eye health care services can thus contribute to the improvement of general health because ophthalmologists are often the first physicians to see patients who are experiencing the ocular manifestations of systemic illness, including migraines and multiple sclerosis (Altersitz, 2006). The service ophthalmologists provide is especially important in Guatemala where the number of general practitioners for the poor is limited and people are therefore less likely to receive a diagnosis elsewhere (PAHO, 2003). Finally, improved access to eye care services benefits women because women are more likely than men to experience neurological problems with ophthalmic complications (Altersitz, 2006).

As in many other developing countries, women in Guatemala suffer from their social, cultural and political status. While gender is included in Article 4 of Guatemala's Constitution (Centro para la Acción Legal en Derechos Humanos, 2006), outside that Article women have had few rights guaranteed. Women hold very little official power through government; of the 113 seats in congress only 13 were held by women in 2008. In addition, until 1998 women were not able to own their own home unless their husband and / or male child had died (Deere, 2001) and until 1997, husbands were legally able to rape their wives. As such, large numbers of Guatemalan women have had their basic human rights violated.

Despite constituting two-thirds of the treatable blind, women receive eye care services between one third and one half less often than men in most developing countries (Lewallen, et al., 2008). Based on limited research findings, it seems that Guatemala's public and private eye care service utilization reflects similar patterns. Beltranena et al.'s (2007) study on the incidence of cataract blindness indicates that the cataract coverage of women is much lower than for men. There is an obvious need for further research in this area. This study will seek to fill part of this gap by addressing the policy problem: **too many women in Guatemala have eye conditions that remain untreated.**

To investigate this policy problem, a mixed method approach is used. I begin with a secondary analysis of quantitative data to compare eye treatment between men and women by region. Since only qualitative data from women participants were available, this led to a focus on women's experiences. The quantitative data were then used to identify which women have access to eye care and which do not. This involved analysis of the intersection of age, location and Indigenous status among women. The inclusion of Indigenous women as part of the study is of great importance because Indigenous women are usually the most marginalized population in comparison to their Indigenous male and non-Indigenous counterparts (Layland et al., 2004). And

differences between urban and rural women are examined because rural location is a predictor of healthcare use in previous studies (Michel et al., 2006; WHO, 2004; Ramos, 2003). Age is included because of the findings in other jurisdictions, such as India, that older women are underserved in eye care clinics (Nirmalan, 2003). I used the quantitative data to further examine these in the context of eye treatment barriers and service use.

### **1.1.1 Reflexivity**

I am aware of my position as a Canadian woman studying Guatemalan women's experiences. I thus approach the research reflexively. The work of privileged authors who speak on behalf of the oppressed has become the subject of criticisms by members of oppressed groups (Alcoff, 1991). However, my rationale for taking on this research is based in the belief that if I do not provide opportunities for Guatemalan women to speak through my study, I abandon political responsibility to speak out against oppression, a responsibility incurred by privilege (Alcoff, 1991).

To speak for an oppressed group of people requires consideration and sensitivity (Alcoff, 1991). I acknowledge accountability and responsibility to speak to the best of my knowledge with regard to what the women have said in the interviews. It is also important to maintain the cultural safety of the Indigenous people. This includes awareness of the risk of reproducing negative stereotypes of sickness, disorganization and dependent status (O'Neil et al., 1998). In maintaining this awareness, I seek to draw attention to problematic issues embedded within the social and political context of health care delivery with the goal of countering tendencies in western health care that create cultural risk. Such risk arises when people from one ethno-cultural group believe they are disempowered by the actions of the delivery systems of people from another culture (O'Neil et al., 1998).

### **1.1.2 Demographics and Historical Context**

Guatemala is the most ethnically diverse country in Central America (See Figure 1 for location of Guatemala in Central America), with over 20 ethno-linguistic groups. Today, people of Mayan origin make up over 50% of the population (PAHO, 2009). Ladinos are the second largest group. The term Ladino refers to "a person no longer identified culturally as Indian and, in Guatemala, includes many individuals genetically Indian as well as those representing various degrees of European-Indian racial mixtures" (Scrimshaw and Tejada, 1970). There is sometimes difficulty



determining the difference between a Mayan and a Ladino; the identifying features are skin colour and, to a larger extent, cultural practices (Scrimshaw and Tejada, 1970).

*Figure 1 Map of Guatemala and Central America*



(Courtesy of International Development Research Centre, 2010)

The Mayan population has been devastated by ethnic conflict as a result of the invasion of the Europeans in the 16<sup>th</sup> century and the more recent civil war from 1960 to 1996. Due to the severity of the human rights violations by the primarily Ladino-led government on the Mayan populations, great animosity remains between Mayan and non-Mayan, and between government personnel and citizens. This plays out in service infrastructure that caters to a non-Indigenous culture, eliciting distrust of non-Indigenous health institutions on the part of Indigenous groups. Since the majority of Indigenous and non-Indigenous people displaced by the civil war fled to the northern province of El Petén (Rehmi, 1999), experiences of institutions by the people who live there differ from those of the urban population and, to an extent, of Indigenous villagers elsewhere.

The geographic distribution of the population plays a significant role in Guatemala. The people of El Petén are scattered over a large geographic area. Many live in government-built displacement villages with very limited resources. Along with the divide between El Petén and the rest of Guatemala, there is a division in the population between the urban and rural populations. Rural Guatemalans are much more likely to be Indigenous, and are more likely to live far from healthcare services. This in turn creates barriers to health care in terms of the availability and distribution of funding for services.

Public health, including eye health, has been affected by Guatemala's civil strife and each region has been affected differently. Post war, in 2006, the WHO reported that Guatemala is among the worst performers in terms of health outcomes in Latin America. It has one of the highest infant mortality rates and lowest life expectancies at birth. A significant percentage of Guatemalans lack access to health care services and only 11% have full access (Gagnolati, and

Marini, 2003; Barrett, 1996). To make up for a lack of funding by the Guatemalan government, international organizations and external bodies such as the UN attempt to fill the gap in health care services. This applies equally to eye health. As is the case in many other developing countries where national healthcare funding does not meet basic needs, NGOs and partnerships between international organizations and local organizations exist to provide eye care.

## 1.2 Theoretical Context

Two theories inform the methodology of this research: intersectionality and post-colonial theory. Transcending feminist or anti-racist analysis, intersectionality theory involves analysis where women's experiences are not regulated by an "either/or" account of identity. Intersectionality argues for going beyond an analysis of single social descriptors such as race, sexuality or gender. Rather, to understand the resulting experiences or level of marginalization it seeks to take into account the combined relationship between any number of descriptors. Intersectionality theory is context-driven and considers the institutions in which marginalization takes place. Shying away from analyzing women as only women or as only Indigenous people, or as only rural or urban residents, I consider an intersection of these identities (Crenshaw, 1991).

Post-colonial theory sets my research within the context of Guatemala's post-colonial cultural climate. Post-colonial theory acknowledges the ways in which relations between colonizing institutions and the colonized play out long after colonization is officially over (Browne et al., 2005). In fact, colonization perpetuates and reinforces itself over time. The use of post-colonial theory in research revisits the colonial past and its aftermath in today's context (Browne et al., 2005). Since the invasion of Spanish settlers in the 16<sup>th</sup> century, Indigenous people have been killed and subjugated by the imposing cultures, traditions and language of the Spanish. This colonization of the Mayan people continues today in all sectors of governance. I take into account this continuation within the role of such institutions as the Guatemalan healthcare system.

The means by which intersectionality and post-colonial theory take into account the complexity of women's identities is through a mixed methods approach. Both theoretical frames highlight the need to expand our understanding of how race and culture are constructed within particular historical and current neocolonial circumstances (Gandhi, 1998; McConaghy, 2000). Jointly, qualitative and quantitative methods can provide this understanding.

A large percentage of the Guatemalan population and the healthcare services are highly concentrated in Guatemala City. The remaining population is spread out throughout a large

geographic area with limited healthcare services, Location may be the divisive factor in accessing eye healthcare. Intersectionality theory and appropriate methods are used to understand how difference in location, gender and ethnicity affect eye care use . This is achieved by examining which women and men are included in the quantitative data records. The use of qualitative data can provide information not revealed by the quantitative data, as such as insight into the differential barriers related to these social locations vis a vis access of eye health services.

## **2: Literature Review**

A literature review of international and Latin American eye health studies provides a useful context for the analysis of eye health service utilization by women in Guatemala as are studies that have examined the general health of Guatemalan women.

### **2.1 Eye Health**

International studies of eye health in countries around the world provide an understanding of global blindness and gender disparity in eye care use. Limburg et al. (2008) tested blindness in nine countries across Latin America using the method of a random walk to construct a random sample. They conclude that the highest prevalence of blindness in Latin America is in rural areas of Guatemala at 94%, with the lowest prevalence found in Brazil, at 43%. Such broad findings provide overview information about the epidemiology of blindness, but no specific details for providing information on women across different populations within each country.

Munoz and West (2002), meanwhile, conducted research throughout the Americas and the Caribbean using a published literature search for the prevalence of the keywords: blindness, visual impairment and prevalence. They found that in the Americas as a whole, cataract and glaucoma were the leading cause of blindness (Munoz and West, 2002). They conclude that there is much variation in the needs of different people in these diverse areas and groups and that further attention to the needs and experiences of specific subpopulations is needed (Munoz and West, 2002). Australia is the only country where eye health studies on Indigenous populations have been carried out. In Australia colonization has produced a discrepancy in eye care service use and vision outcomes between Indigenous and non-Indigenous peoples (Layland, Holden and Bailey, 2004; Wildsoet, and Wood, 1996). In 2004, non-Indigenous were ten times more likely to use eye care services compared to their Indigenous counterparts (Layland, Holden and Bailey, 2004). Findings also indicate that Indigenous people described the dust and environment or people 'being stung' as causing eye problems. As a result, it may be hard to trust that an operation can cure a problem created by these perceived causes. Similarly, societal beliefs that cataracts are just part of old age or God's will create barriers to sight restoration through cataract surgery. With

regard to gender there is a high rate of Indigenous women with eye health problems in Australia (Wildsoet, and Wood, 1996). There is limited attention paid to this disparity.

Beltranena et al. (2007) conducted the first population-based survey of the prevalence of blindness due to cataract in Guatemala. They found that on average, ophthalmologists conduct 67 operations per year (Beltranena et al., 2007), which is a very low number. This is particularly interesting given the recent sharp increase and exponentially increasing aging of populations in Guatemala, which has created an increase in the incidence of blindness and, therefore, a greater demand for cataract surgery (Beltranena et al., 2007).

Beltranena et al. sampled the population of Guatemala using 2002 census data. Ninety-eight clusters were selected by systematic sampling to gain a random selection proportional to the size of the population. Visual acuity tests were conducted and two survey teams visited each cluster where 50 people of age 50 or older were asked to participate in the study (Beltranena et al., 2007). Surveys and a non-invasive eye exam were conducted. The results revealed that the prevalence of cataract blindness increased with age and was higher in females. People who were bilaterally blind because of cataract were asked why they had not had cataract surgery. Being unaware about the long-term consequences of the cataract was cited as the main reason for not seeking treatment (68%). 12% said it was cost and 10% indicated that it was due to fear of the procedure. Cataract coverage was found to be significantly higher in men than women (Beltranena et al., 2007), but the study's authors did not elaborate on the barriers to treatment for women.

Beltranena et al. (2007) also found that 32% of all cataract operations are conducted in Guatemala's NGO hospitals, 29% in private facilities, 24% under impoverished conditions (NGO eye camps) and 15% in government hospitals. This identifies the central role of NGO work in providing care to the poor. Eight percent of the patients said they paid the full cost of surgery, 57% paid part of the cost and 35% had a free operation. This further reveals the high proportion of those who cannot afford care and identifies a possible economic barrier to care. Even though cost has been identified as being a potential barrier to eye care services for men and women, the literature also demonstrates that more contextual understanding is needed to understand the gender disparity and barriers specific to women.

## **2.2 Barriers to Eye Care Services for Women in Developing Countries**

The gender disparity found in Beltranena et al.'s (2007) study of blindness in Guatemala echoes similar findings emerging from other developing countries such as Pakistan, Tanzania and

Nepal (Courtright et al., 2008; Lewallen et al., 2007a; Abou-Gareeb et al., 2001). These are relevant to the Guatemalan context because of the connection of the studies to the Guatemalan eye organization studied in this research.

Literatures of systems of eye care indicate that women are less likely to actively seek or make contact with outreach services (Lewallen, & Courtright, 2006). Contributing to this behaviour is the fact that outreach techniques appear to favour men and ignore the specific needs of women (Lewallen, & Courtright, 2006). For example, Lewallen, Bassett and Courtright (2008) find that cultural disparities have also contributed to barriers to eye care service use by women in Tanzania, Northern India, Nepal and Tibet. Women often do not have authority in their families because permission must be sought from fathers and husbands. Once their family members deny the women in these circumstances access, care is either prevented or delayed. Related to male permission, Lewallen et al. (2007a) find that male family members in Tanzania and Pakistan often receive more money from their family earnings for healthcare than do women. Similar findings have been encountered in Tibet and Nepal (Seva Canada, 2008). As a result, when the female members are eventually given permission they are only given funds after the males. Such a finding is compared to the Guatemalan data outcomes discussed later in this paper.

In Tanzania, Courtright and Lewallen (2007b) find that when women come in for eye care, they generally have more severe and advanced cases than men. This results in more difficult and risky surgeries, decreasing the acceptance of surgery due to fear of complication or poor results. Literacy on eye health is also a barrier to care, as reported in Nirmalan, Padmavathi, and Thulasiraj's (2003) study of sex inequities in cataract surgery take-up in Southern India. Their findings indicate that there is a significant difference in service and treatment use in direct proportion to the knowledge of the subject matter.

The review of the literature also shows that in some of the countries where gender inequity in eye care use has been studied, women's low access is also being addressed to some degree with success. For example, the "Gender and Blindness Staff" and "Female Sentinels" have been adopted in an eye clinic in Moshi, Tanzania to increase eye care service use by women (KCCO, 2009). The "Gender and Blindness Staff" are health care staff members who are educated in and motivated to increase women's use of services through monitoring women's eye care use and developing strategies to reach more women. The "Female Sentinels" conduct outreach into villages to encourage women to seek care. They work with community leaders such as healthcare promoters but only to seek out women (KCCO, 2009). These findings are used in the Policy Alternatives section.

### **3: Methods**

To best understand the gender disparities in eye health, a mixed methods approach was utilized. Mixed methods exploit the advantages of both quantitative and qualitative methods to broaden understanding (Creswell, 2009). In the present study, I use sequential mixed methods, which is to elaborate on one type of method (Creswell, 2009) followed by expanding on the findings through the use of another method. I first review quantitative eye care medical records to determine the existing gender disparities through gender-disaggregated data and identify trends in service use by women. Then I expand on these findings by analyzing questionnaires and two sets of structured interviews.

While eye care service use by Indigenous and non-Indigenous populations can be readily compared using quantitative data, the meaning behind differences in service use by Indigenous women can be explored using qualitative analysis. Furthermore, experiences by Guatemalan women also differ greatly by geographic location, which points to the need for multiple data sources to permit comparisons among populations of women (Ramos, 2003). This is especially useful in conducting analysis with an intersectionality framework. After analyzing the data from each population and source, I triangulate the three different data sources to integrate and connect the qualitative and quantitative findings (Creswell, 2009). The results are described in more detail in the Triangulation and Discussion sections. From these results I develop the policy alternatives, which are collaborated upon in the Policy Alternative section.

#### **3.1 Research Design**

The organization through which I chose to study eye patients is Visualiza (VZ), a private Guatemalan eye health organization. The research value of studying patients in VZ clinics is that the organization has broad outreach methods that cover the entire population of the country. To gain an understanding of a mix of different population groups, the study consists of three populations: Southern, Rural Indigenous and Northern. The first population is the southern, which includes all non-Northern populations, such as those from Guatemala City. Most come from within the city and include both Indigenous and non-Indigenous Guatemalans. Guatemala City

comprises about 5 million people<sup>1</sup> (CIA Factbook, 2007), of the 11 million population of southern Guatemala. For these 5 million people there are multiple choices for eye care services. The Northern population represents less than a third of the population of Guatemala and the majority of the inhabitants are from rural or rural and isolated populations. In the Northern province the VZ clinic is the only permanent eye hospital providing ophthalmic care. This clinic is VZ's permanent branch, called Vincent Pescatore (VP). The third population is a rural isolated Indigenous population in which many of the people had never had eye care services before. Data for this population were collected at an eye camp (VP Eye Camp). Table 1 details the specific data sources for these populations. Note that the questionnaires and interviews were given only to women patients.

Table 1 Data by Population and Source

1. Northern Population	2. Southern Population	3. Rural Indigenous Population
VP Electronic Medical Records from one year of patient data	VZ Electronic Medical Records from one year of patient data-disaggregated by urban and rural location	VP Eye Camp Registration Forms given to all admitted patients
VP Questionnaire given to all admitted women patients by the clinic	VZ Questionnaire given to select women patients	VP Eye Camp Questionnaire given to select women patients
VP Interview conducted with select women patients by the clinic	VZ Interview conducted with select women patients by clinic	VP Eye Camp Interview conducted with select women patients by clinic

Using sequential mixed methods, each population is analyzed using quantitative and then qualitative methods. This is represented in Table 2, with quantitative data in purple and qualitative in green.

Table 2 Method Type and Source

Quantitative Data		Qualitative Data	
1. Medical records	2. Registration Forms	3. Questionnaires	4. Interviews
VZ Electronic Medical Records	VP Eye camp Registration Forms	VZ Clinic	VZ Clinic
VP Electronic Medical Records		VP Clinic	VP Clinic
		VP Eye Camp	VP Eye Camp

<sup>1</sup> Estimates for the population within Guatemala City vary by source. CIA World Factbook 2008 estimates that 5 million inhabitants live in the Guatemala City urban area and the total population of Guatemala is 12, 7000. This is an approximate estimate.



### **3.1.1 Quantitative Data**

The research undertook a secondary analysis of quantitative gender disparities in eye care service use. Using the same method, I also compared women across different geographic locations in order to encompass the differences found in the literature on healthcare needs between rural and urban Guatemalans in healthcare use (WHO, 2004; Ramos, 2003). The quantitative data consist of medical records and registration forms from three locations. The medical records are taken from two different clinics and the registration forms from an eye camp. The electronic medical records and registration forms statistics list which women are accepting treatment. The registration form can be found in Appendix 1.

### **3.1.2 Qualitative Data**

Qualitative data include questionnaires and interviews as shown in Table 2 were used to more fully understand the disparities between an intersection of gender and location found in the quantitative data analysis. Data were not available on the intersection between men and location and, thus, the qualitative research focuses on women's experiences. The questionnaires examine the reasons why women refuse treatment or do not come in for eye care. The questionnaire was translated from Spanish into English and can be found in Appendix 2. Next, I chose structured interviews to provide a deeper understanding of the questionnaire results. Through this secondary analysis, I hoped to gain insight into the barriers to eye care faced by different women. As with the questionnaires, comparisons are made among the interview results from the 3 populations.

### **3.1.3 Key Informant Interviews**

Six key informant interviews were undertaken to inform analysis of the data results and policy alternatives.

- First is the head councillor at Visualiza, Gilda Lopez (2009). She is a trained Guatemalan nurse and has contact with all patients and uses the medical records to record and access information on the patients' visual acuity, treatment history and medical background.
- Second is the councillor at the VP clinic, Yoli Estrella (2009). Her job is equivalent to Gilda's at the VZ.



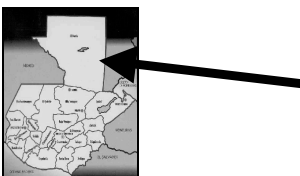
Visualiza electronic medical records keep track of all surgery patients by gender, type of surgery and the patient's location of origin. All patients for the year 2008 were extracted from the VZ database. The majority of the patients who attend this clinic come from within Guatemala City itself. The remainder come from all areas south of the northern province of El Petén<sup>2</sup>. See Figure 3 for the area of southern Guatemala and the location of Guatemala City.

*Figure 3 Map of Origins of Visualiza patients—Southern Guatemala*



The Northern medical records include diagnosis, gender and age of each patient, as well as a separate set of data revealing the consultations and surgeries by month. Each is disaggregated by gender. VP staff transferred all patient records from a 6-month period between February 2008 and August 2008 onto an Excel spreadsheet. See Figure 4 for location of the VP clinic in the northern province and where the majority of the patients originate.

*Figure 4 Map 4. The Petén- Northern Population*



The questionnaires and interviews were collected by the ophthalmic assistant. A recording device was used at the interviews. Upon consent, the ophthalmic assistant described details of the data collection and these are incorporated in the analysis. In total, thirty Indigenous and non-Indigenous women were interviewed. This is a breakdown of the interviewees:

- Vincent Pescatore: 11 patients and 1 cataract patient who declined surgery
- Vincent Pescatore Eye Camp: 6 non-cataract Indigenous patients
- Visualiza: 12 cataract patients

---

<sup>2</sup> Only one out of 21 locations outside of Guatemala City falls within the Petén. Therefore, the majority of the people coming from outside the city are within the southern population of Guatemala. See Appendix 3 for location breakdown.

### **3.3 Limitations**

Limitations to this study include missing registration forms from the VP eye camp. Because of these missing forms, details from 15% of the female population and 20% of the male population are missing. Details pertaining to age, literacy, glasses use and occupation are missing respondents. However, frequency of consults and treatment use by gender is not missing because of the order in which data was input into the Excel spreadsheet. The missing data is due to an error in the staff room in which data were transferred into electronic form from paper form. The largest limitation of the quantitative data collection is that the VZ or VP clinics failed to distinguish between Indigenous and non-Indigenous status.

Another limitation is the lack of qualitative data on men. Using an intersectionality approach, the intersection between location, Indigenous status and gender is not complete without men's experiences with service use. However the qualitative data collected and available were only with women participants. Future research is needed to fill this gap.

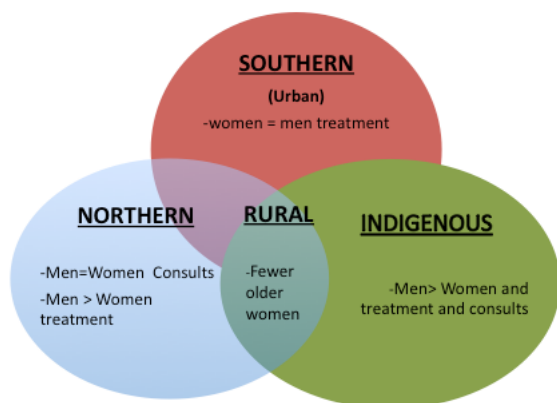
## 4: Descriptive Statistics and Results

I analyzed the following quantitative and qualitative data and present the results separately for each data type. The following sections are divided into: Electronic Medical Records, Questionnaires and Structured Interviews. The populations are: Southern, Northern and Rural Indigenous. After a given data section, I compare the results by population using Venn diagrams. The Venn diagram displays overall themes, noting trends in similarities and differences across populations.

### 4.1 Electronic Medical Records

Emerging themes from the quantitative findings are presented in Figure 5 below. There is no gender disparity in the urban clinic in treatment use. However, findings from the northern clinic, show a gender disparity in treatment use and in the Indigenous Eye Camp population there is an even greater gender disparity in service use and treatment use. A theme found in all populations is that older rural women rarely seek medical assistance. For the rural Indigenous population, there is a higher rate of literacy among the men, and there are gendered occupation roles. These findings may help explain the significant underuse of services by women compared to men in the rural Indigenous population. It was also determined that an increasing number of men received eye care than in the past.

*Figure 5 Medical Record Themes*



### Southern Population (VZ)

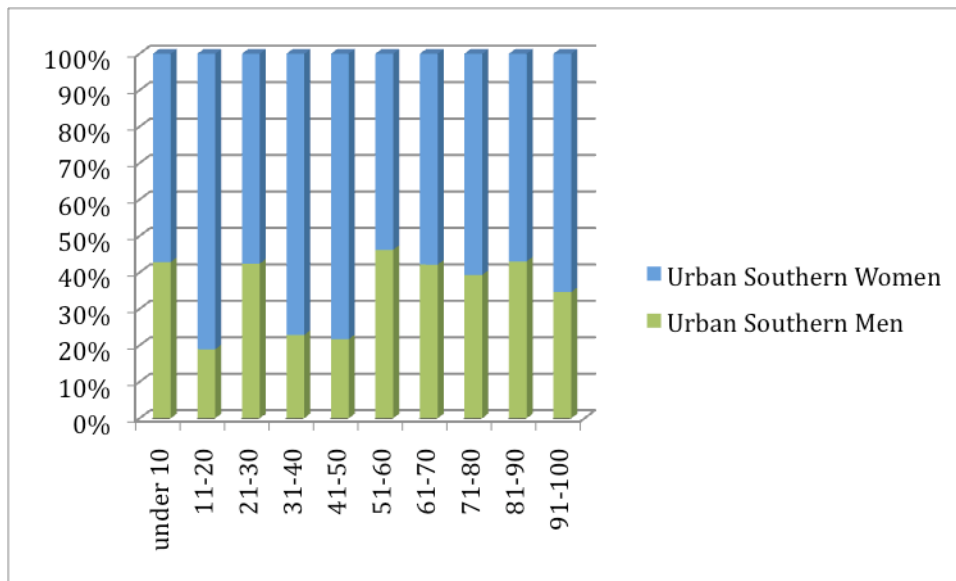
The first set of records is the VZ electronic medical records of surgical patients. The data were already collated by gender, location, type of surgery and age. I disaggregated between patients who come from outside Guatemala City—“Rural”—and patients from within Guatemala City—“Urban.” For a full list of patient hometowns outside the city, see Appendix 3. The distribution of Urban Southern men and Urban Southern women by age is presented in Table 3.

*Table 3 Surgical Treatment Use by Gender Among Urban Population- Visualiza Clinic Electronic Medical Records*

	Urban Men	Urban Women
<b>Frequency</b>	<b>427</b>	<b>658</b>
<b>%</b>	<b>39%</b>	<b>61%</b>

Table 3 indicates that of the urban Southern population receiving treatment, 61% are women and 39% are men. Based on international findings, women can be expected to account for between 60% and 65% of all cataract surgeries (Lewallen, & Courtright, 2006) and there is a higher rate of women blind due to cataracts in Guatemala in general (Beltranena et al., 2007). The number of women and men receiving treatment should be, therefore, proportional to the likely cataract prevalence by gender in the country as a whole. Table 4 displays the distribution by age.

*Table 4 Surgical Treatment Use: Percentage of Age Groups by Gender in Urban Population—Visualiza Clinic Electronic Medical Records*



In looking at the gender difference by age, there were more women over the age of 71 receiving treatment compared to men of the same age range; 42% were men and 58% were women between 71 and 80; 40% were men and 60% were women between 81 and 90; and 33% were men and 77% were women between 91 and 100. It is expected that there would be more older people than younger present for treatment since sight problems tend to increase with age, especially after the age of 50 (Vision 2020, 2009). Since the life expectancy was 65 for men and 71 for women in Guatemala in 2007 (PAHO, 2009) and because women have even more eye surgical need (PAHO, 2009), more older women should be represented than older men. This gender difference is not significant.

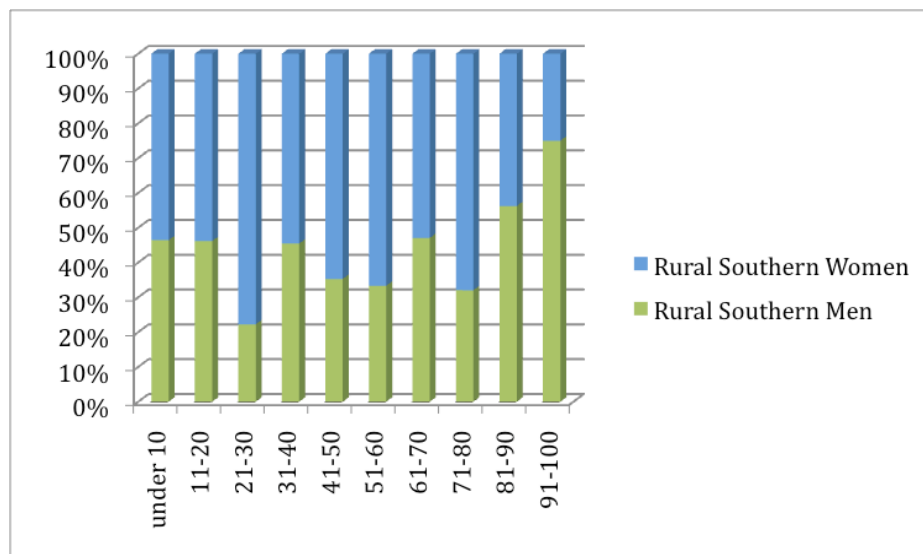
The results from the rural southern patients are provided in Table 5.

*Table 5 Surgical use by Gender in Rural Population- Visualiza Electronic Medical Records*

	Rural Men	Rural Women
<b>Frequency</b>	<b>119</b>	<b>176</b>
<b>%</b>	<b>40%</b>	<b>60%</b>

Table 5 shows that 40% of rural southern patients receiving treatment are men and 60% women. This gender difference is similar to the urban southern patient population, revealing no gender disparity for the overall southern population as a whole. Table 6 presents the rural population by age group.

*Table 6 Surgical Treatment Use: Percentage of Age Group by Gender in Rural Population—VZ Medical Records*



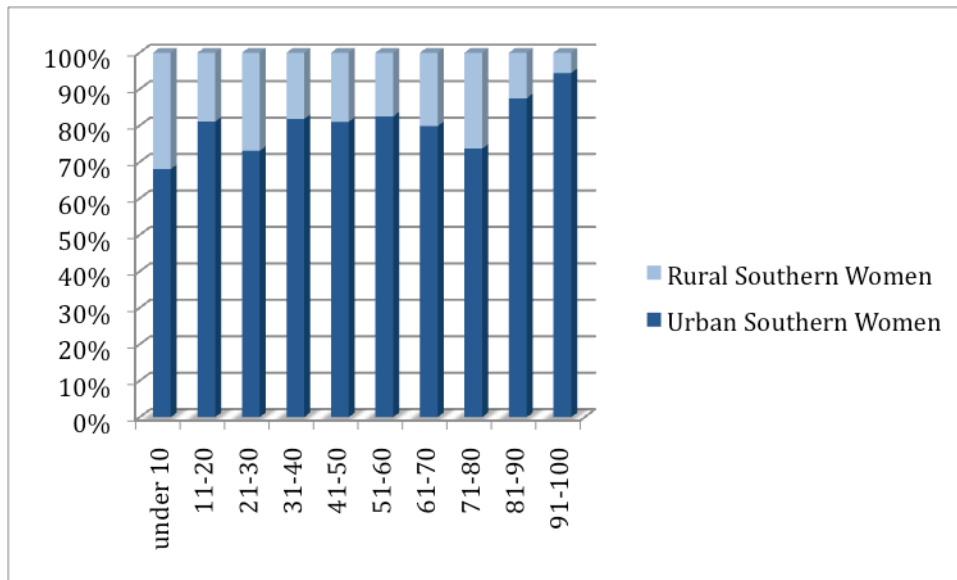
Comparing patients within the rural population aged 71 and older reveals a slight gender difference for the eldest two age groups. There were more men aged 81 and older in comparison to women of the same age, with 55% men aged 81 to 90 and 72% men aged 91 to 100. There is an underrepresentation of older women relative to the need. To understand the underrepresentation of older rural southern women, I first compare them to urban women first by total treatment use in Table 7.

*Table 7 Surgical use by Location Among Women—VZ Medical Records*

	<b>Urban Southern Women</b>	<b>Rural Southern Women</b>
<b>Frequency</b>	<b>658</b>	<b>176</b>
<b>%</b>	<b>79%</b>	<b>21%</b>

Urban southern women receive more treatment compared to rural southern women: 658 compared to 176. The urban southern population within Guatemala City constitutes less than half (5/12) of the population of the country and rural southern Guatemala comprises about one third (4/12) of the population. If eye symptoms are proportionate to population, roughly half of the female patients treated should be rural. The actual ratio is nearly four fifths urban, implying serious underservicing of rural women. Table 7 shows the age distribution of the urban and rural women.

*Table 8 Surgical Treatment Use: Percentage of Age Group by Location of Women—VZ Medical Records*





Comparing the two populations of women by age, there is a low representation of rural women aged 81 and older receiving treatment at VZ. There were 85% urban women between 81 and 90 and 92% urban women for the women between 91 and 100. Rural women are 15% of the women aged 81 to 90 and only 8% of the women aged 91 to 100. This is a large difference, though there is a great need in this population for eye care because the need for cataract surgery increases with age because the population of rural southern women is about half the population of women. This indicates the likelihood of barriers for rural southern women. Based on these findings, we begin to see the significant role that location plays and that an intersection of location, age and gender appear to play a role in eye service use.

Overall, the population data for surgery treatment use in the urban population indicates no gender disparity in the general population. Both rural southern men and women are underserved. Older rural women are less likely to receive eye care treatment. Barriers to treatment will be explored further in the qualitative data analysis. In order to address the barriers found by the rural women, the experiences of urban women will be explored.

Important to note is that the comparison is only made between men and women and between the populations of women, and not between men. A limitation of this study is that it does not include the comparison of rural to urban men. This was identified in the Limitation section.

### **Northern Population (VP)**

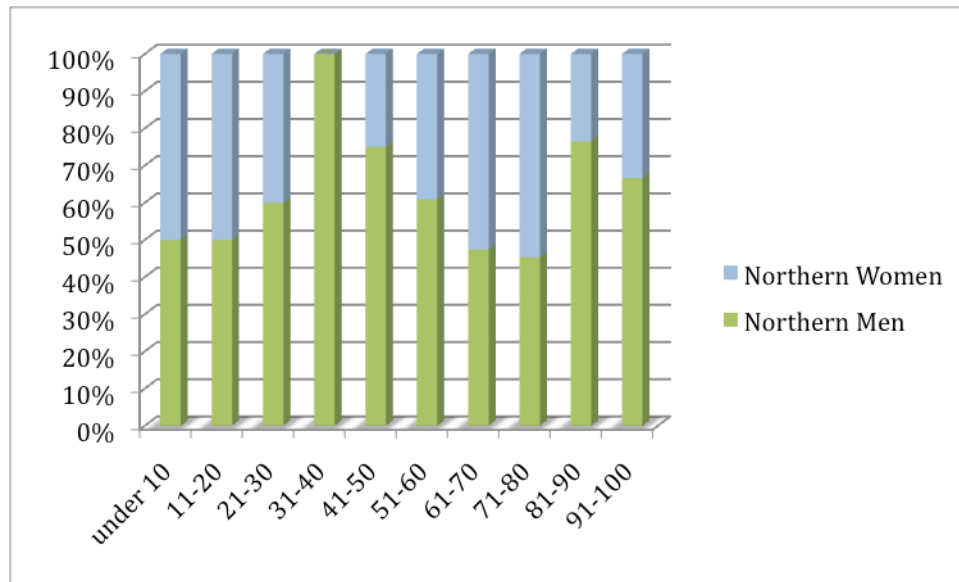
The electronic records for the Northern population are divided into two data sets. One provides consultation use by gender and age. The second includes both consultation use and surgical treatment use by gender. The records of patients with diagnoses of diseases other than cataract were discarded. Table 9 below shows the number of patients visiting the VP clinic with cataracts by gender.

*Table 9 Cataract Patients at Northern Population by Gender- VP Medical Records*

	<b>Northern Men</b>	<b>Northern Women</b>
<b>Frequency</b>	<b>92</b>	<b>74</b>
<b>%</b>	<b>55%</b>	<b>45%</b>

As shown in Table 8, of the cataract patients 55% are men and 45% are women. Table 10 compares patients by gender and age group.

Table 10 Cataract Patients: Percentage of Age Group by Gender in Northern Population- VP Medical Records



As seen in Table 10, older women are underrepresented in comparison to older men. Of those aged 81 to 90, 72% were men and of those aged 91 to 100, 65% were men. This reveals only 18% of those aged 81 to 90 and 35% of those aged 91 to 100 were women. The underrepresentation of older rural women is similar to findings in the south.

The second set of data for the Northern population includes total consults and total surgery rates by gender (Table 11).

Table 11 Northern Population by Consults and Surgery Use by Gender-VP Medical Records

	Consults	Surgery
<b>Frequency</b>		
<b>Men</b>	1734	317
<b>Women</b>	1635	198
<b>Percent %</b>		
<b>Men</b>	51%	62%
<b>Women</b>	49%	38%

The distribution of patients who come in for consults is 51% men and 49% women. The gender distribution for treatment is 62% men and 38% women. The disparity is most severe for treatment. This disparity is similar to findings of gender and blindness due to cataract in previous studies across the country (Beltranena et al., 2007).

In conclusion, there is a gender disparity in the number of people coming in for treatment in the northern population. In comparing the rural southern to the northern population, there is a

similar trend in underrepresentation of older women. This underlines the finding that age and rural location are barriers to eye care treatment for women.

### **Rural Indigenous Population (VP Eye Camp)**

Data from the registration forms for the rural Indigenous population are presented in Table 12.

*Table 12 Indigenous Population Medical Records Results for VP Eye Camp Records*

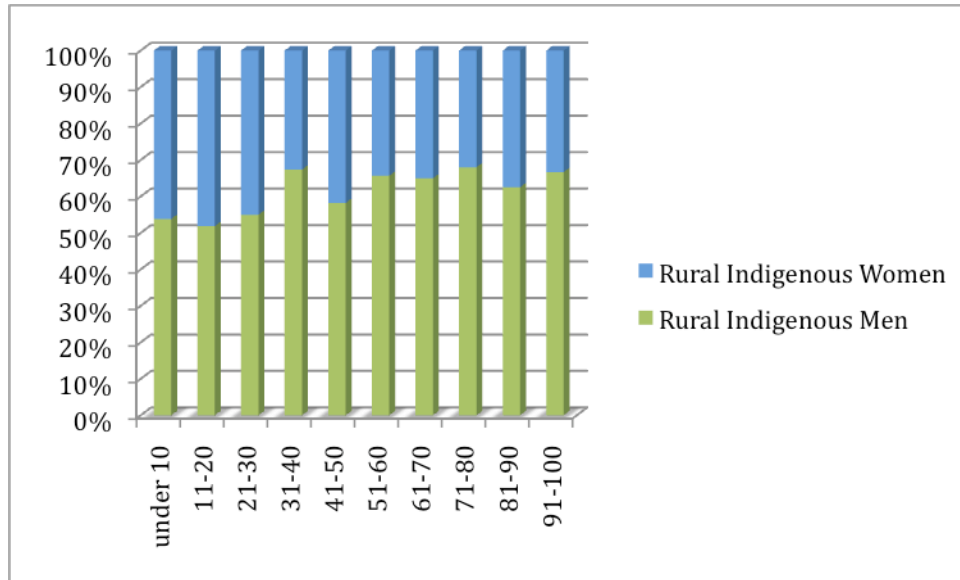
	Frequency		Percent	
	Men	Women	Men	Women
<b>Patients examined</b>	673	449	60%	40%
<b>Cataracts Detected</b>	45	38	54%	46%
<b>Cataracts Completed</b>	42	22	66%	34%
<b>Cataracts Not Complete</b>	13	16	29%	42%
<b>Other Surgeries</b>	2	0	100%	0%
<b>Surgeries completed</b>	47	22	<b>68%</b>	<b>32%</b>

Gender disparity by service and treatment use is clearly demonstrated in Table 12. Of the total number of rural Indigenous patients examined, 60% were men and 40% women. This reveals that fewer women are come for eye care than men.

At this outreach clinic 68% of cataract surgery patients were men and 32% women. There were also fewer women than men detected as having cataracts; 38 women compared to 45 men. Of the 38 women with operable cataracts, 44% accepted treatment. Of the 45 men with cataracts, 66% accepted.

In addition to gender, other patient characteristics documented in the registration forms included: age, cataract diagnosis, literacy, glasses use, occupation and visual acuity. As stated in the Limitations section, forms for 16% of the females sampled and 20% of the men sampled are missing. The disaggregated data in Tables 13 and 14 do not include the missing patient records. The patients by age and gender are presented in Table 13.

Table 13 Patients by Percentage of Age Groups by Gender in Rural Indigenous Population— VP Eye Camp Registration Forms



From Table 13, we see that older women are underrepresented given that life expectancy for men is 65 and for women 71. 60% of the patients aged 81 to 90 are men and 65% of those age 91 to 100 are men; Women make up 40% and 35% of the age groups respectively.

Further findings from the registration forms include measured visual acuity by gender. To compare data on visual acuity, patient records were grouped into three different sight categories: Normal, Low Vision and Blind<sup>3</sup>. The average age was calculated for each category.

Literacy is another variable measured and sorted by gender. To understand how many patients had previously received eye care services, the use of glasses was used as a proxy. This is a commonly used measure in eye studies (Wright, 2008). Results of visual acuity, literacy and use of glasses are presented in Table 14.

<sup>3</sup> This is based on the visual acuity of the best eye To sort the patients’ visual acuity, the legal definition of blindness at less than 3/60 (0.05) as defined by the WHO (Murdoch et al, 1997) is used. Patients with a visual acuity that fall into this category are designated Blind. The next category is Low vision, which includes patients with a visual acuity between 6/18 (0.33) and 20/200 (0.1), also taken from standards used by the WHO (Mehr and Fried, 1975). Patients with a visual acuity better than 20/200 are designated Normal.

Table 14 Literacy, Visual Acuity and Previous Eye clinic use by Gender-VP Eye Camp Registration Forms

Variable	Response	Female	Male
<b>Literacy</b>	Yes / No		
% Literate		<b>28%</b>	<b>60%</b>
% Illiterate		72%	40%
<b>Glasses Use</b>	Yes / No		
% Use Glasses		<b>7%</b>	<b>16%</b>
% No Glasses		93%	84%
<b>Blindness prevalence by gender</b>	VA <6/18 VA > 6/60		
% Blind among same gender		<b>12%</b>	<b>9%</b>
Average age of Blind among same gender		60	67
<b>Low vision prevalence by gender</b>	VA > 6/60 VA < 6/18		
% Low vision among same gender		<b>31%</b>	<b>25%</b>
Average age of Low Vision Among same gender		53	57
<b>Normal</b>	VA > 6/18 VA < 20/20		
% Normal among same gender		<b>54%</b>	<b>64%</b>
Average age of Normal among same gender		37	40

As shown in Table 14, the literacy rate is much higher for men than women, with 27% of women and 60% of men claiming literacy. Seven percent of women and 16% of men had previously received eye care.

As expected, the incidence of reduced sight increases with age. The average age of the Blind women is 6 years younger than the average age of the Blind men (60 versus 67 respectively). This emphasizes the underrepresentation of older Blind women. Nine percent of men are Blind compared to 12% of women. This reveals either that women tend to wait longer for service or that they only come in with more severe blindness. There was a low incidence of females attending the eye camps who had previously had eye care (7% of the female population). Table 15 breaks down the registration forms at the eye camp by gender and occupation.

Table 15 Occupation by Gender- VP Eye Camp Registration Forms

Occupation	Women	Men
Housewives	95%	0%
Teacher	0.03%	0%
Midwife	0.03%	0%
Unknown*	0.9%	3%
Students	3%	3%
Seller	0.6%	1%
Farmers	0%	81%
Wood Chopper	0%	0.2%
Carpenter	0%	0.2%
Mayor	0%	0.2%
Seller	0%	0.4%
Drivers	0%	0.4%
Pastor	0%	0.2%
*These participants are volunteers at the eye camp who had their eyes checked. Their occupation information is not available.		

Table 15 reveals that of the women, 95% of the women are housewives and 81% of the men are farmers. The rest of the men had a wide assortment of occupations, all outside the home.

In summarizing, some gender disparities were found, but more important was the intersection of location, Indigenous status and gender. As such, marked severe gender disparity in eye care consultation and treatment exists in the Indigenous population. Many factors contribute to this disparity. There is a gender difference in occupational roles. Women are uniformly housebound, which appears to be a barrier to service. The lower literacy rate of women compared to men in the rural Indigenous population will be discussed in the analysis of barriers women face to eye care access. Gender disparity in treatment use also exists in the northern population, pointing to the role of rural locations as barriers to treatment. Older, rural women in all populations are underserved, even compared to older men. Lastly, urban southern women have access to eye care equal to their male counterparts, emphasizing that rural location and are barriers to service use for women. This divide increases with age and Indigenous status. Based on these findings, we begin to see the significant role that location plays and that an intersection of location, age, Indigenous status and gender affect eye care treatment use.

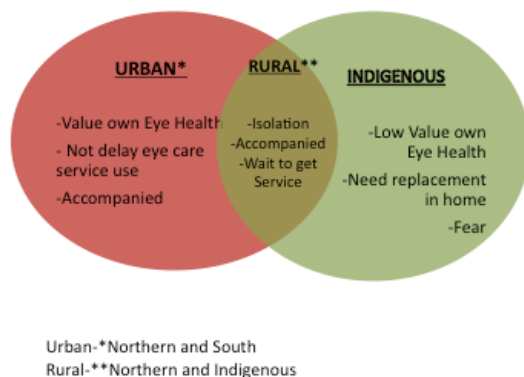
## 4.2 Questionnaires

Questionnaires are a vehicle to provide further understanding of barriers and motivations for women to seek eye care services. Because location is a large factor in predicting eye care use, the southern population is divided into urban (from Guatemala City) and rural as shown in the

quantitative data and questionnaire results. This divide is consistent with literature findings. For example, Michel et al. (2006) find that regardless of Indigenous status, there exists a division between rural and urban women’s views of healthcare in Guatemala (Michel et al., 2006). It is important to remember that these results are based on a study of only women.

The themes arising from the questionnaires results are: Priority of Condition, Accompaniment, Isolation and Fear. All respondents placed importance on Accompaniment and all rural populations respondents indicated that Isolation was a barrier. Values own eye health is a theme that emerged from urban respondents. Two unique findings among the rural Indigenous population are fear and low Value of Own Eye Health. The latter is in contrast to Value Own Eye Health. Questionnaire findings also reveal a divide within the northern population between rural patients and those living close to the clinic—urban patients. These northern urban respondents had results similar to the urban respondents from Guatemala City. When appropriate, urban (Guatemala City) and northern urban populations are grouped together as “urban population”. Questionnaire results presented in Figure 6 present the overall themes to be used for the triangulation of data.

Figure 6 Questionnaire Themes



See Appendix 4 for a description of how the variables from these questions were defined, measured and how the results were interpreted. Questionnaire results are given in Appendix 5.

### **4.2.1 Value own Eye Health**

The urban population of women in Guatemala City and those in the Northern clinic who live near the VP clinic—thus, urban populations—tend to rate their eye problems as bad or very bad. All of the urban respondents had previously been to an eye clinic and did not delay seeking eye care when conditions developed. This suggests that urban women have the opportunity to obtain care.

In contrast to the urban women, Value own Eye Health was a lower priority for the rural populations. This finding was more pronounced among the rural Indigenous population. This may play a role in explaining why this specific group had not previously sought eye care. Of the Rural Indigenous questionnaire respondents, 95% had not received eye care prior to the eye camp. The rural Indigenous women are far less likely than others to have had care previously.

### **4.2.2 Accompaniment**

Accompaniment was important for all populations of women. A unique finding was noted among the urban women in Guatemala City. Respondents from Guatemala City more frequently had relationships with other blind women and knew more people through VZ or other eye clinics. The Guatemala City women had heard about availability of eye health services from various sources including people they knew well. Most urban women had heard of the clinic from friends or family. In other populations patients had heard about eye care services through other contact such as advertisements and occasionally from strangers.

Accompaniment appears to have significance; virtually all of the women who appeared at the clinics were accompanied. Those without connections to family, community or others likely experience difficulty in coming in for service.

### **4.2.3 Isolation**

Isolation is a theme found among the rural populations. Northern rural, Rural Southern and Rural Indigenous women had not been to a clinic previously because of lack of local facilities. Most Northern rural women knew other women with low vision or women who were blind who were not seeking eye health services. Even though they knew each other, they still felt isolated from one another. Of the rural Indigenous women, two-thirds did not know other women who were blind or had low vision. This is in contrast to the women in the urban populations who were more likely to know other women blind or women with low vision. This suggests a



difference in bonds or communication among rural Indigenous women. Since the majority of the women were housewives, as indicated in the Registration Form results, the lack of relationships may be the result of social isolation and physical distance.

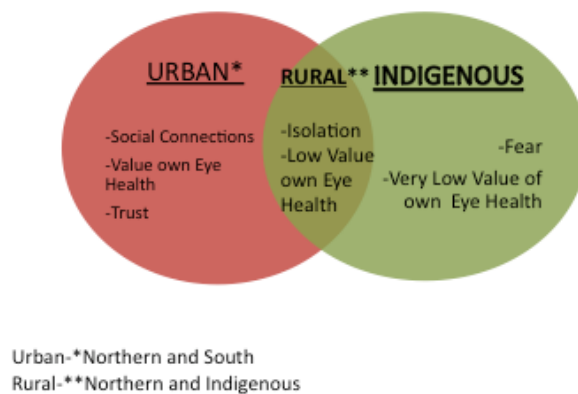
#### 4.2.4 Fear

Fear as a barrier to eye care service use is a finding unique to the Rural Indigenous women. The findings of Fear and Isolation as barriers were used to probe interview participants for further understanding.

### 4.3 Structured Interviews

Themes found in the interview process substantiated the link between eye care use by women and location. The divide in the populations living far from healthcare services—rural patients—and those living near services—urban patients are consistent with Questionnaire findings. The emerging themes from the interviews include Social Connection among the urban patients in contrasted with that of Isolation in the rural populations. Also, Fear was only found in the rural Indigenous population. There is also a divide in value placed on one’s own eye health; urban women placed a high value on their own eye health while rural women did not. Rural Indigenous women valued their eye health even less than the other rural populations. The shared and unique themes within and between the populations are presented in Figure 7.

*Figure 7 Interview Themes*



These themes in Figure 7 emerged through a thematic analysis of the interview transcripts. I coded and categorized participant responses in order to compare and contrast experiences within and between the data sets by population. I used the findings from the questionnaire and quantitative results to inform my analysis. Descriptions of the interview process are included.

#### **4.3.1 Theme of Social Connection**

Social connection to others is a theme that emerged only among the urban population in Guatemala City. Many of these women voiced the importance of social connections as an integral component to service. For example, a woman aged 69 said, “I have my husband and my daughter. I can’t imagine coming here alone.” This support was also found to go beyond the immediate family to a connection in the broader community. Those who accompanied women in the urban clinic included friends, neighbours, co-workers or distant relatives. Being “plugged in” to a social network outside one’s family reveals many opportunities to find different solutions to eye health problems. Through these connections, many of the women were led to the eye clinic.

Furthering this theme of social connection was that the urban patients knew of different eye care services available. A woman at the VZ clinic said that “I went to the university hospital but they didn’t give me very good care. It was also much more expensive. I think that’s why so many people come here [Visualiza].” This comparison of services gives a sense of broader sources of information regarding the medical community. The result is a confidence in the service based on testimonials.

The Northern urban patients who live near the VP clinic also shared knowledge, support and understanding of eye care. Women who lived close to the clinic also had a greater understanding of their treatment needs and came in for care as needed. This is an expected outcome based on findings in India where eye literacy is a major predictor of eye care service use (Nirmalan et al., 2003), but location appears to be a predictor in the Guatemalan context.

#### **4.3.2 Theme of Isolation**

The theme Isolation was found among the rural populations, in sharp contrast to the theme of Social Connection found among the urban populations. The descriptions of experiences in seeking eye care among rural women demonstrate a lack of social connection because there is a sense from the interviews that each woman is in isolation from others and from services.

Most of the rural women expressed little concern or knowledge about other women. When northern rural patients were asked about other women, only one woman said she knew of someone who lived elsewhere with eye problems but she gave no details. Similar findings were found in the rural Indigenous women, where few had knowledge of other women with sight problems. This is also substantiated by a number of rural Indigenous older women who came in for care based on a chance meeting. For example, an Indigenous woman aged 49 knew of the eye camp because she happened to be walking past the site of the eye camp. This reveals limited social connection.

The theme of geographic Isolation repeated itself in the analysis of the transcripts of the interviews with rural women. A young woman in the northern clinic, aged 34, spoke of her community not having a clinic as a barrier for seeking care. She said this is a problem that should be addressed because of the inconvenience of travelling to VP. This is not surprising considering that the northern population is scattered (Rehmi, 1999), except for those living near the clinic. Distance is also acknowledged as problematic to many rural Indigenous women. Many described impassable roads or non-existent buses. An Indigenous woman at the eye camp aged 54 said that she could not access the roads in the past because there were not proper roads. This likely represents one of the barriers for older women in rural populations. This finding echoes research in other jurisdictions that studied gender and eye health, such as in Southern India, which demonstrate that older women are even more negatively affected by a lack of close services (Nirmalan, 2003). The theme of Isolation in relation to distance is consistent with Guatemalan study findings by Ramos (2003), who found that healthcare services for Indigenous women in Guatemala are either non-existent or too physically far away. Also, WHO records indicate that only 11% of Guatemalans have access to healthcare services because of the distances they must travel for services (WHO, 2004).

Isolation is also suggested as a theme from the descriptions of the rural women's experiences with the clinic processes both at the northern clinic and at the rural Indigenous eye camp. During their visits the women were generally silent in the clinic and the women interviewed were also less comfortable with the service delivery routines compared to the urban patients. For example, the need to come in early for care and check in was new to a rural woman, aged 62, at the northern clinic. She said that she did not know of the service procedure or whom to ask about it. This is similar to findings of reproductive healthcare in Guatemala. Indigenous pregnant women do not seek medical attention for similar reasons (Prensa Libre, 2009). Findings in a newspaper article of this investigation reveal that being unaccustomed to regular check-ups

and feeling outside their own traditions in the clinical setting, are barriers to prenatal care use (Prensa Libre, 2009). This sense of being unaccustomed to the service delivery process stands in contrast to the experience reported by urban patients at both VP and VZ clinics, who seemed more comfortable about speaking to their experiences.

Rural Indigenous women also demonstrated in their interviews that they were culturally isolated from the western medical system. This cultural isolation exists between the women and the system of eye care delivery, which originates in a non-Indigenous culture. For example, in their interviews most of the women constantly referred to “them” and “others.” These terms were counted 23 times in a 15-minute interview with one woman aged 33. The response “them” refers to the people organizing the eye camp. The word “them” refers to both the male leaders in their community who organized the eye camp and the eye care organizers from the VP clinic. The feelings that these women express are differences between them, Indigenous women, and the western medical system. This is a trend found in other studies of women’s health in Guatemala. One such indicates medical service use was directly proportionate to the women’s beliefs in western or European ideals (Goldman and Heuveline, 1995).

### **4.3.3 Theme of Fear**

In the examination of transcripts of the rural Indigenous patients, a theme of Fear emerged as well as in the descriptions of the patients’ behaviours during the eye camp service delivery process. This fear is unique to the rural Indigenous and likely in response to and reinforced by Isolation. Fear was determined by the manner in which the women spoke in the interviews at the rural Indigenous eye camp. Their answers were short and simple, and there was often a hesitation when they answered. Many avoided eye contact and showed other kinds of discomfort. For example, a rural Indigenous woman aged 29, when asked where she had heard of the eye camp, replied quickly “Don’t know.” After a few warm-up questions she answered in fuller sentences, but maintained the look of discomfort. Women presented body language that portrayed inexperience interacting with large groups. Many of the women interviewed were reluctant to join the crowds in an eye camp station. Women’s discomfort with the system of eye care implementation suggests that medical services are feared at times.

Fear is a common theme in literature on barriers to healthcare services experienced by Indigenous Guatemalan women. For example, the Guatemalan newspaper *Prensa Libre* (2009) reported that rural Indigenous pregnant women’s reasons for not seeking medical attention included: fear, being unaccustomed to regular check-ups and western medicine falling outside

their traditions. This is due to the difference between medical systems and the systems to which Indigenous women are accustomed, as mentioned in the theme of Isolation above. This often creates miscommunication, due to cultural, religious and post-colonial power differences between the healthcare professionals and the Indigenous women (Vlassoff's, 2008).

Results from my secondary analysis of the interviews, also find Fear manifested itself in discomfort and mistrust with the healthcare professionals. For example, a 64-year-old Indigenous woman who came from a distant village expressed discomfort in the whole examination process and had many troubles understanding the procedures, such as reading the eye chart. She expressed great reluctance to coming in to seek care. Vlassoff's (2008) overview of health service use across Latin countries found a pattern of mistrust among Indigenous women with health services in general. This report found that Indigenous women are not able to express their thoughts and feelings to health professionals due to differences in language and a high incidence of illiteracy (Vlassoff, 2008). From Vlassoff's (2008) interview findings, the women felt that health personnel did not respect deep-seated cultural norms. Most women interviewed felt health providers tend not to believe the women's description of their symptoms (Vlassoff, 2008). Thus, this literature parallels the theme of Fear found in this study among rural Indigenous women. This mistrust or fear of Western medical practitioners has negative consequences because most eye health maladies can only be treated with western medicine.

All of the rural Indigenous women interviewed demonstrated obvious discomfort in being asked questions about themselves without a man answering for them. During the interview process it was common for men to attempt to be involved and women to look towards men for their responses. Interactions between men and women outside the interviews also suggested women's compliance with men. It was also observed that men overruled women's treatment choices and women readily complied. A woman aged 34 said her husband has the authority in her family and would make healthcare decisions for her. Subservience to men as authority figures in healthcare decision making is also found in literature on Indigenous Guatemalan's health studies. Vlassoff (2008) found that without the consent of and/or the presence of their husbands, Guatemalan women would not come in for service. Male involvement in women's health was also studied by Carter (2002), whose findings reveal men's perspectives about their wife's health affected the women's behaviour and service use. Consistent with this finding, Indigenous women often require their husband's permission to visit a medical practitioner (Michel et al., 2006). This parallels eye study findings mentioned in the Literature Review section. Women in Tanzania often do not have authority to seek eye care services in their families and if they sought care

without permission there could be dire consequences (Lewallen, et al.,2008). The result may be a fear of seeking services.

#### **4.3.4 Theme of Trust**

Trust is a theme unique to the urban populations and in opposition to the Fear found among the rural Indigenous population. Urban women looked to trusted people who knew of the eye care services available. Faith in these individuals led to trust in doctors. One woman said that she follows her doctor's orders and came in for treatment when it was needed. This implies trust in the western eye care system by the urban population. This applies to the VZ doctors specifically.

Most of the urban women patients interviewed were repeat patients and readily accepted treatment. This implies that a degree of trust was formed. Trust is also implied in the seeking of care soon after the onset of eye problems. In choosing VZ clinics, there is an implied trust either because of the relationship to people who referred them or trust in the VZ system of healthcare.

#### **4.3.5 Theme of Value Own Eye Health**

Though there is an understanding of the importance of money in obtaining care, the urban women expressed the need and priority to seek eye care treatment. For example, a woman at VZ aged 55 stated: "I could not come in for care before because we had to pay the electricity bill for my family. We need it. But after we could pay the bill then we were able to pay for my eyes...I need my eyes." This reveals the priority of eyesight for this woman and her need for health care. Also emphasizing the importance of sight, a younger non-Indigenous patient aged 23 at VZ said: "I know I need this [eye care service], but I'm used to coming because if I can afford it so then I go. It's important to me...of course eyesight is important in your life...you need to do your job and to do anything!" She understands treatment is needed and a priority.

As mentioned above, the interviews reveal that the urban women use eye care services quickly after the onset of an eye problem. For example, one woman at VZ aged 41 says: "my eyes started to go bad last May and then I went to see doctors right after...My surgery was in June." This immediacy of eye care service utilization was not the case in any other population interviewed. Such a quick decision implies the knowledge of the eye care system, trust that it is the right treatment option, and her ability to obtain the services.

Valuing of one's eye health needs is a theme that also plays out in the form of gratitude. The women from Guatemala City were expressive in demonstrating how the clinic services met their needs. The women were highly appreciative, and in fact, amazed at what the VZ service did for them. An urban woman aged 41 said: "We went everywhere but nowhere does what [VZ] does. It's incredible. I had surgery on my right eye the other week and now I'm having my left eye done. It's incredible." The degree of gratitude indicates the high value the patient places on sight and that the service addresses her health needs.

#### **4.3.6 Theme of Low Value One's Own Eye Health**

The rural populations do not appear to place importance on their own eye health in the same way as do the urban populations. The most obvious indication of the rural Indigenous women not valuing eye health is their disinterest in the eye camp. The rural Indigenous were not interested in eye services in general and did not express any gratitude for the services, except the cataract patients. The rural Indigenous women showed little interest in the interview topics related to health and making eye health a priority. For example, one woman age 35 spoke of the disadvantages of her poor eyesight, but did not speak about her desire for eye care. The manner in which she spoke of eye care services was dispassionate. She also spoke with little interest in the eye camp in general or for herself.

Some rural women only came in for services because their husbands were seeking eye care. Even though the women had eye care problems, they had not sought care previously and, in this care, only came in because their husband needing the care. A Northern rural woman aged 62 came in with her husband and explained that her eye sight had begun to fail 6 months previously, but that they were seeking care for her only because her husband's sight had recently become a problem. This is consistent with findings on parasitic illness schistosomiasis in which women tend to report their illness later than men (Vlassoff, 2008).

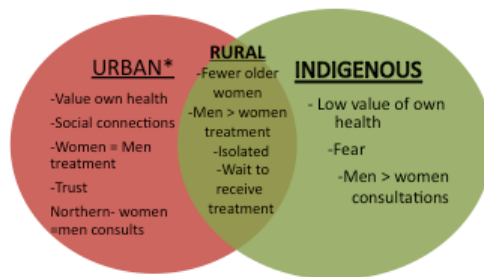
Findings from the interviews reveal a contrast between the urban and rural populations and at times a divide between the rural Indigenous and other populations. Themes of Social Connection and Trust emerged among the urban populations that led them to eye care service use. Fear and Isolation are themes found among the rural populations, which is contrast to themes of Social Connection and Trust. Rural populations can use the success found in urban populations to overcome barriers to services. This is explored further and affirmed during the Triangulation of data process.

## 4.4 Triangulation

In order to verify the multiple methods, I triangulated the data. This involved a cross-examination of the three data sources— Electronic Medical Records, Questionnaires and Interviews. I then triangulated the three data sources and concomitant findings to compare potentially opposing and shared themes. Significantly, there was congruence in the findings across the various sources.

The themes Trust and Social Connection found in the urban populations correspond to the Value own Eye Health and lack of gender disparity in eye treatment use only found in the urban population. Relatedly, the theme of Isolation found in all rural populations is likely a barrier to Trust and Social Connection. This is verified by the gender disparity in eye treatment use and the Low Value of own Eye Health found in the rural populations. The theme Very Low Value of Eye Health noted in the rural Indigenous population is likely affected by the presence of Fear found among this population. Further verifying this link, a high gender disparity in both consultation and treatment use found in this population. These themes are presented in Figure 8.

Figure 8 Triangulation



### 4.4.1 Social Connection, Trust and Isolation

The interview themes of Social Connection and Trust in the urban populations were motivators to successfully obtaining eye care treatment. I draw this conclusion from the fact that there is no gender disparity in eye treatment use in the urban population, according to the



quantitative data. Also, the theme of Accompaniment is found in the Questionnaire results, which is substantiated by the interview theme of Social Connections in the urban population. Congruent with these results, key informant Gilda clarified that female patients almost always come to the clinic accompanied for eye surgery. With the high volume of accompanied women in the urban population, it is likely that the acquired social connections provide women opportunities to come to the clinics, and the high level of trust allows them to accept the treatment.

Rural populations did not display Social Connection or Trust and the gender disparity in eye treatment use was prevalent. This is even further substantiated because the theme of Isolation among the rural population is in opposition to Social Connection and Trust. Older southern rural women are less likely left to take advantage of services that require social connections because of their age and isolation from communities. In the southern population, only rural older women displayed themes of Isolation. These findings are supported by one of my key informant interviews with VZ staff Gilda (2009), who noted that older women wait longer to come to the hospital than men, and that these women's eye conditions are more advanced than men in general when they receive treatment.

All rural populations presented a theme of isolation, as seen in Chart 5. This is an obvious barrier to treatment use when comparing quantitative findings of gender disparity in the rural populations to the theme of Isolation found in the qualitative results in both Questionnaire and Interview methods. This is consistent in the rural populations because of the high incidence of blindness and low service use found in the quantitative data.

In the rural Indigenous, the quantitative results find that blind women are younger than blind men. This points to the underrepresentation of older women in the rural northern population and surgical rural patients in the south. This is also likely verified by the quantitative finding of low incidence of Indigenous women compared to men who had previously had eye care and who had attended the eye camp. Also consistent with these results is the statement made by key informant Rinard (2009). Rinard argues that Guatemalan rural families often do not want to invest their resources to send women a great distance for treatment. She states that families are afraid of women travelling alone. Results from several research methods support the conclusions that rural women experience Isolation.

#### **4.4.2 Fear**

The theme of Fear only in the rural Indigenous population, is verified by the questionnaire and interview findings and in comparing the quantitative data. Furthermore, key informant Rinard (2009) argues that there are apparent race issues and problems of trust among Indigenous populations. Reviewing the quantitative results, the rural Indigenous population had the greatest gender disparity in consultation and treatment use. This further validates that the experience of isolation and fear create barriers for these women. Also 95% of rural Indigenous women had not received eye care previously and that women declined surgery more often than men. The quantitative data showing that the majority of the rural Indigenous women are housewives leads to the conclusion that these women are most likely to be isolated in homes. This results in fear because the women have become unaccustomed to contact with people or places outside their home or community. This is in contrast to men, revealing that the gender divide may further explain the gender disparity in eye service use found in the quantitative results.

#### **4.4.3 Value Own Eye Health**

The Value Own Eye Health theme found is proportionate to the gender disparity found in treatment use. The themes of Value own Eye Health and Low Value own Eye Health were found to authenticate the difference between the values urban (high value), rural (low value), and rural Indigenous (very low value) placed on their own eye health. The more Trust and Social Connection found in a population, the more patients portrayed qualities that reveal the theme Value own Eye Health. The presence of Isolation is congruent with Low Value of own Eye Health in the rural populations. Isolation, Fear and Very Low Value own Eye Health was found in the rural Indigenous population.

This also parallels the questionnaire finding that urban women tend to subjectively rank their eye problem as “very bad”. In contrast, the rural population were more likely to see their eye problem as “bad” and in the rural Indigenous “a little bad.” This further substantiates the findings from questionnaire results that this population of women have Low Value own Eye Health and Very Low Value Eye Health respectively.

### **4.5 Discussion**

Both commonalities and differences between populations are useful to consider when proposing policy alternatives. The gender disparity found in different population demonstrated by

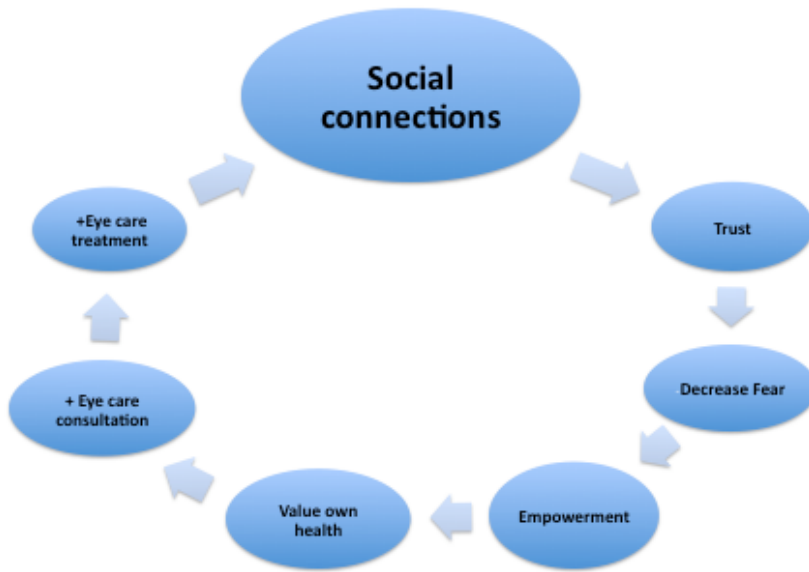
the data finds women's lower social status compared to men in the rural and Indigenous populations. Given that the data also show that many women do not value their own eye health, however, my study points to the need not to not only for alignment gender roles in these populations, but empowerment of women through appropriate policy alternatives. This includes specific attention to older rural women.

For the Indigenous population, an added barrier to eye care service use is fear. Conversely, trust was an important factor for the urban population, which had more gender equity in treatment use. Extrapolating from these results, we can posit that decreasing fear opens up opportunities to increase treatment use for the women Indigenous population. This involves greater trust in the medical care system, such as that felt by the female urban population.

Another factor that appears to increase treatment use by women in the urban clinic is social connection. Trust is likely gained through these connections, which embed the women in social networks. Social connections increase network opportunities that lead to greater knowledge of eye health and, in many cases, treatment. Social connections also increase opportunities to recognize eye care options as well as support for the patient's treatment decisions, which further empowers women. Social connections increase chances for accompaniment and increase opportunities to find replacements in the homes, which is especially useful for women living in largely isolated conditions. Also, accompaniment is important because as a result of the killing of thousands of men in the civil war, many women in Guatemala are widows without family (Doiron, 2007). Increased social connections also decrease isolation, which would be particularly important for the northern and Indigenous populations of women, for whom isolation often leads to lack of treatment for eye disease.

Since findings reveal that eye care consultations likely result in treatment, support for women that leads to knowledge of and access to these consults is key. This chain reaction, starting with Social Connections, is presented below in Figure 9.

Figure 9 Model to Increase Treatment use by Women



As mentioned earlier, findings for the rural populations and the rural Indigenous population indicate a variation within the population of women in Guatemala. This difference amplifies the obvious differences across the 3 populations and that alternatives must address local need. In conclusion, to reach the elders and to begin to get them to “plug in” to social networks—or at least one that leads them to eye health care—may require reaching them in their homes.

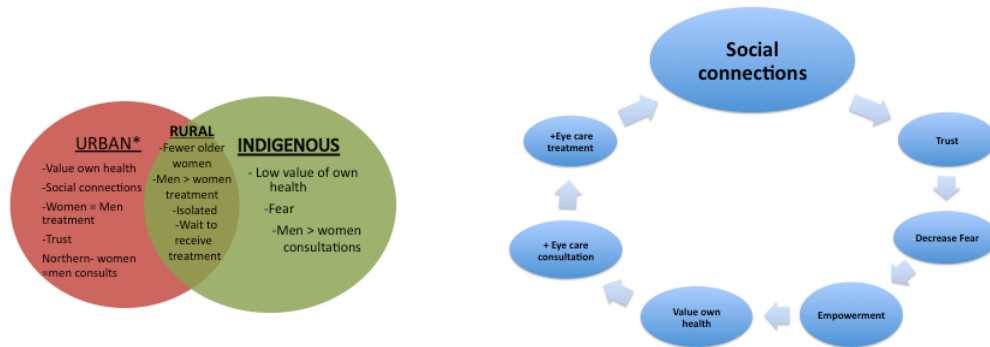
## 5: Policy Alternatives

Policy alternatives are options that would address the issue of eye disease among women to increase treatment use in all areas of the country. This involves both increasing the number of women entering health clinics in the rural clinics—especially older and Indigenous women. An objective would be to implement changes that increase social connections within the female populations. The following alternatives aim to foster social connections that increase mutual understanding, trust and empowerment.

Policy alternatives must have at their foundation, sensitivity to Indigenous populations. It is equally important to make clear, however, that no traditional or alternative medicine can replace surgery for cataract patients (Gilbert, 2010) or lenses for patients with refractive error. All alternatives involve surgical procedures, glasses use and other ophthalmic treatment used in western medicine.

Also important to note is the historical and political context of Guatemala, where the effects of colonialism are still being felt. David Green (2009), international eye care consultant and one of the study's key informants, argues that after centuries of people fighting, many Guatemalans want to maintain the ethnic and social stratification, as it continues to advantage the wealthiest non-Indigenous. There is also a severe undercurrent of racism in the country (Green, 2009). Epidemiologist Dr. Ken Bassett (2009), another key informant, argues that “helping Indigenous people can get you killed [by the government]” in Guatemala. This is a common occurrence throughout Guatemala. With this knowledge in mind, Green (2009) suggests that a successful approach to addressing the question of eye care among women should not involve the government. Therefore, the policy alternatives in this study do not involve direct involvement with the Guatemalan government. Data results, from the above analysis findings presented in Figure 8 and 9 from above and copied together below in Figure 10, are used to inform the policy alternatives.

Figure 10 Triangulation and Model to Increase Treatment Use by Women



## 5.1 Option 1- Status Quo

The first option is Status Quo. Currently, quantitative data is disaggregated at Visualiza clinics by gender and age but ethnicity is not recorded. Knowledge of treatment rates of women in other clinics and organizations is limited. Care is provided both publicly and privately, with public services limited, care quality low and concentrated in a few, mainly urban, locations.

All subsequent options include a written memo to make public the gender disparity in eye treatment use in the rural population and the difference in use by gender, location and Indigenous status. The memo would be given to all Guatemalan and multiple international eye health organizations, Guatemala university hospitals and all accessible clinics in Guatemala, to draw attention to the gender disparity and difference in treatment use by age and location. The memo would include a recommendation to disaggregate data by gender and other characteristics, such as location and race. The goal of the memo would be to encourage data collection that would continue to monitor gender disparity. It would also educate administrative staff, doctors and other healthcare professionals about the underserved populations. This would foster a limited social connection between women and the clinics through increased understanding on the part of health professionals and the opportunity for future change. Trust, women's empowerment and sustainability are not addressed.

## 5.2 Option 2- Health Promoters

Option 2 would link rural women to Guatemalan eye clinics by increasing the role and number of health promoters. There is already a cohort of these promoters currently employed at the VP clinic who conduct outreach in villages. They serve as the core group who reach rural Guatemalans. This outreach could be expanded to include the needs of women and especially Indigenous women. This option would extend social connections to reach all women throughout Guatemala, including older women in remote villages.

Currently, the health promoters train students, conduct outreach in different villages using mini-eye camps, and teach classes on how to detect eye conditions. This is completed through four-day in-person hands-on training at health promotion schools in the Petén. There is a partnership between the Health Promoter school and VP. The health promoter students learn different areas of health in order to provide care and refer patients in their villages who need healthcare but lack services. These health promoters take these eye health classes from the VP health promoters together with other areas of health, consecutively in a multiple-day period.

To address the lower use by rural and Indigenous women, this option would have to include gender training to VP health promoters, informing them of the lower rates of rural women, rural Indigenous women and older women. Training would increase awareness of women's needs and would draw on research results from this thesis. The VP health promoters, would then transfer this learned knowledge into a gender sensitivity training component to their students within the four-day training period. Such training would include a presentation of the gender difference in take-up rates and the need for outreach specifically targeting women. Targeting involves increasing social connections through advertisements, partnering with community leaders and word of mouth. VP health promoters would teach the new promoters to go door-to-door to seek older women in their communities if they found that women are not coming to them with eye health problems. With this awareness, each health promoter would be able to communicate back to VP any barriers these women experience in coming to the clinic, such as transportation difficulties. The result would be to reach populations of isolated and disconnected women, such as those identified in my research results.

Social connections would be enhanced through this option. Health promoters are key figures in their communities, aware of and promoting women's health. This strengthens social connections such as opportunities for accompaniment and knowledge of services. These social connections decrease fear among the women regarding the eye care service process based on the

relationship to one's own health promoter in one's own community. The result would be a bridge between the female community members and the clinics.

Gender sensitivity and promotion of women's needs and diversity training by both women and men increases opportunities to empower women. Since health promoters are just as likely to be women as men, having both females and males promoting women's health is empowering for women. This involves increased social connections among women and men, involving women in social life. This also further increases opportunity for accompaniment and building trust, as presented in Chart 5, copied below from the Discussion section.

To measure the effectiveness of the option, I propose using a control group. Health promoters would teach new health promoters with the new gender inclusivity component, but two groups would not include gender sensitivity—the two control groups. The villages for these two groups would have to be similar in population size to the villages in which the health promoters given gender training are, in order to make appropriate comparisons. All new promoters would receive referral pads of paper, as they do now, and the two control groups would use the same colour referral paper as the ones currently being used (white and blue); the gender sensitivity group would use a different coloured paper (yellow and blue). The different coloured referral pads would be used to track which promoter from which group referred a given patient who is brought to VZ clinics for treatment with the referral paper. The referral paper is always brought in with the patient when referred by a health promoter. After 2 months, the total number of women referred by each group would be collected and the colours of their referral papers (yellow and blue corresponding to the gender sensitive promoters; white and blue corresponding to the control groups) would be recorded. Any referral from a village other than the new groups would be disregarded in this evaluation. Comparisons would be made between the two aggregate totals of women patients from each group. The proportion of female to male patients would reveal the effectiveness of the gender sensitivity training in increasing treatment use among women and other disadvantaged groups. Attention would be needed as to the Indigenous status of these patients would be required in order to monitor the need among the Indigenous populations.

### **5.3 Option 3- Campaign**

Option 3 would be a promotional campaign co-sponsored by partner NGOs across the country that would have the goal of increasing social connections among women and between women and eye clinics. Key informant David Green (2009) originally proposed this option in his key informant interview. Organizing would include door-to-door screening to measure the need



in specific villages, create public service announcements, advertise and hold town meetings to spread awareness. Children would also be recruited to reach grandmothers and mothers through their schools. The screening would be free to the patients and the treatment, if needed, would be free or subsidized. The campaign would involve organized transportation to the eye clinics when patients are referred back to eye clinics. Such a campaign would require collaboration among different international and local human rights organizations. Research has already shown that the use of multiple social networks including non-government and private-public sector relationships has tremendous potential to increase access to and the quality of women's health services in Latin America (Levine et al., 2004).

As well as widespread awareness campaigns and large-scale publicity puts women's health in the spotlight and door-to-door campaigning reaches isolated women. As mentioned in the interview section, findings indicate that women who seek services tend to be accompanied. One 72 year old captured the problem with isolation when she reported in her interview that she did not go to a clinic before because, "I am single. It's just me." She was able to come to the eye camp that day with a group of women from her neighbourhood, but could not in the past because of lack of accompaniment. A promotional campaign increases social connections between women in drawing attention to women who are often not socially present, by reaching them door-to-door and through awareness of other women by women. This involves women of similar backgrounds in terms of location and Indigenous status, seeking fellow women with similar experiences.

The campaign would utilize social marketing, which applies commercial marketing techniques to promote behavioural change (Grier and Bryant, 2005), such as the use of eye health services. For social marketing to be successful, it must offer benefits that the "consumer" sincerely values (Grier and Bryant, 2005). For example, education and promotion of eye care use is most effective when the goals of society are consistent with those of the target audience. The costs of changing must be low and the resources needed to change readily available (Grier and Bryant, 2005). Therefore, decision-making and leadership for this campaign would have to take place at the local level.

A common challenge in using promotional campaigns is maintaining ethical practices (Grier and Bryant, 2005), such as working with populations with differing values and beliefs. However, this option would utilize existing organizations, especially Visualiza, as a key resource. As with all its initiatives, Visualiza would negotiate details of the campaign with local partners and community leaders. Since values differ by female population by region in Guatemala, community decision-making targets each population to address their own local needs. Also,

awareness for Indigenous women who solely use Indigenous medicine would be targeted in talking circles or other educational awareness programs in the campaign. The specifics would be decided upon by local women and women leaders. In addition, the locals, prior to the campaign, would decide the organized transportation to and from the clinics, accompaniment, and the length of the campaign.

To test the effectiveness of this option, Visualiza or a partner organization would conduct a longitudinal study before and after the campaign. This survey would be best carried out through collaboration between local and international NGOs in which a community is identified and sample size calculations executed. A test run using an eye camp would determine acceptance rates of consultations and treatment use. This is standard practice for testing blindness prevalence around the world (Green, 2009; Gilbert, 2010). Success of the event is measured by the use of eye care services by women and the resulting prevalence of blindness and low vision in women. Also measured would be the surgery acceptance rates. If the campaign were found effective, a repeat campaign would be implemented every 5 to 10 years.

#### **5.4 Option 4- Diversity Officer**

This option mirrors a similar program at an eye clinic in Tanzania (KCCO, 2009). Similar to the Tanzania employee at KCCO titled “Gender Officer”, a current Visualiza employee would be given the new job title “Diversity Officer”. The staff member would be responsible for monitoring data, monitoring service use and treatment rates. She or he would recognize different women by an intersectionality of their ethnicity, age and location and based on who needs help being reached for eye care. This Diversity Officer would be responsible for attaining equity in eye care service and treatment use by first monitoring and then, when needed, taking appropriate steps to reach the women who are accessing eye care services. The officer would create programs and make outreach changes that are appropriate and specific to the group being targeted. The scope of the possibilities of what they can do to target these people for would be broad. Her position would give accountability to someone to monitor women’s needs.

This option involves drawing on health care staff members who are educated in and motivated to reduce gender inequity in access to eye care services. It would be best to choose a local staff member who currently has a relationship with local communities, or has the ability to build relationships with local leaders, which is how the Tanzanian clinic’s gender officer at KCCO was chosen. This employee responsibility would be in addition to or instead of their current title. Alternatively, a new employee could be hired if NGO partner funding permits. A

woman with a high position who can rally women on a large-scale increases social connection between women and empowers women would be an asset.

In addition, this woman would adapt to the Guatemalan context by also monitoring service use of women based on intersections of their Indigenous and rural status and age. Drawing on intersectionality and postcolonial approaches, this option empowers all women including all of their intersecting identities. Empowerment is accomplished by involving these women in social life and with recognition of women's needs by men. The different tactics the Diversity Officer may use to increase service use by women and others who are not receiving care involves attention to women's needs in communities where women's needs are not being met.

To meet the needs of different populations such as the rural Indigenous population, staff member with an Indigenous status would be needed in the northern clinic. The Diversity Officer at VP would be able to organize women to promote the eye clinic services and to raise awareness in rural villages and Indigenous communities. Having women in all villages, including the more isolated and disconnected women, would greatly improve social connection between women and between women and men in all areas of Guatemala. This furthers the ability to strengthen and extend social networks that build trust.

Social connection to others through the role of the Diversity Officer aims to increase trust and decrease fear of the non-Indigenous run eye care system. Trust would also open up opportunities for women to go beyond their homes and outside their communities to seek eye care treatment. This has great promise for empowerment in having a more social involvement by women. As a woman with a high profile position, working with men and a non-Indigenous organization, the Diversity Officer would be influential and can make a large impact. The effectiveness of this option would be measured using longitudinal evaluation of take-up rates before and after the Diversity Officers' interventions in the north and south. Differences between the north and south would be documented and evaluated.

## **5.5 Option 5- Female Sentinels**

Option 5 involves the employment of "Female Sentinels," another position piloted at the Tanzanian eye clinic called KCCO (2009). Female Sentinels are field workers who travel into villages to rally women to seek eye care. The sentinels work with community leaders such as healthcare promoters, but only seek women. The sentinels are local women who work with

KCCO staff who travel door-to-door to seek women who may need eye care services. This may provide opportunities for women to organize accompaniment among themselves as well. Courtright and Lewallen (2007) find that having key members in the community give information about surgery and treatment results in greater understanding of treatment options by women. This is borne out by the findings in the urban population in the present study, where accompaniment and social connections is a theme and women in rural populations and with Indigenous status are targeted.

This option draws on examples seen at the northern clinic in which community members who were approached by health promoters and diagnosed as needing clinical treatment rallied together to travel to the clinic in a large group. These people, who were normally alone, came in for care because of the outreach and resulting accompaniment initiated by the local neighbours. These findings are similar to those emerging from a Malawi eye clinic in Lilongwe, where accompaniment was found to increase the chances of women, and especially divorced or widowed women, coming in for treatment (Venkataswamy, 1990). Having female sentinels in one's community enables women to rally themselves through awareness of multiple women in needing eye care services or for the sentinels to rally the women to seek healthcare.

The relationship of the local woman with the women in need of eye care in their community creates new lines of communication or builds on communication already in place. Building social relationships strengthens social connections between women and increases opportunities for support and accompaniment. Working together in this way also addresses fear. This leads to empowerment in organizing women on a large scale and from having a female employee in a prestigious position to strengthen social connections. This is accomplished through the flexibility of the sentinel's role in promoting women's eye care needs. For example, the sentinels also reach older women by going directly into homes, providing a connection between women of all ages.

Flexibility of the use of the sentinels also includes different sensitivity to diverse needs and perceptions of health. There would need to be multiple sentinels employed, at low cost, in order to meet the needs of different women and a diversity of populations, including men. As a result, the different women in different communities establish trust in the eye care system. In conclusion, reaching women by entering their homes has the potential to reach multiple generations of women. This option then lends itself to sustainable change in having the younger generations of women and girls learning about their eye care needs in the present and future

## 5.6 Option 6- NGO Collaboration

Option 6 involves promotion of women's, Indigenous, and health rights through permanent partnerships between Guatemala women's groups and other social justice NGOs. A VP ophthalmologist and permanent resident in the Petén, Dr. Linda Novak, one of my key informants, argues that there is a fragmentation of different human rights NGOs and healthcare delivering groups in the Petén and throughout Guatemala (2009). For example, organizations such as Flying Doctors (World Health Organization), Doctors without Borders and eye clinics sponsored by the Venezuelan Government conduct sporadic initiatives in Guatemala. Novak (2009) contends that sporadic resources and band-aid efforts to resolve problems have less of an impact on the people. In other words, this does not development work that has sustainable effects. Permanent collaboration of Guatemalan and international NGOs and women's groups could result in education and development has the potential to achieve a more effective and efficient difference. With a greater focus on women, this option has even greater potential for sustainable and effective use of resources aimed at women that results in the empowerment of women.

Partnerships involve more communication with other organizations such as the UN and European and North American non-profits. The international organizations that might collaborate to address violence against women, peace, access to sanitary facilities, fair trade, racism and legal rights<sup>4</sup>. Guatemalan organizations include similar types of human rights groups<sup>5</sup>. Partnering social justice groups with a focus on women, encourages and empowers women to a higher level of decision-making and jointly addresses violence against women through the many NGOs that seek to end violence against women in Guatemala. These ties to other organizations would strengthen the efforts of these organizations, pool resources for effectiveness and also provide different populations with what they need to meet their unique needs. This has the potential to help all Guatemalans, both female and male.

Once collaboration is made between different groups, the next step would involve an eye camp in those areas where a high prevalence of curable blindness and low vision is detected. Once this area is detected, the invitation for collaboration could be made to work together to make decisions with the locals. This component is based in part on programs to increase eye care

---

<sup>4</sup> International organizations may include the Peace Core, Red Cross, Rotary Clubs, Peace Brigades International, International Centre for Human Rights Research, the Institute for Trafficked, Exploited and Missing Persons, Women's International League for Peace and Freedom, and HIJOS (Sons and Daughters for Identity and Justice Against Forgetting and Silence).

<sup>5</sup> Guatemalan organizations may include Organization of Women for Resistance, National Union of Guatemalan Women, Centre for Legal Action in Human Rights and El Porvenir.

service used by women that is done in Nepal where there is a partnering of women and self-help groups with eye care organizations (Gilbert, 2010). In Nepal, organization by Nepalese men and women to collaborate with women's groups was based on the recognized and desired need to increase up-take of eye care services for women by locals. Similarly, in Tibet, there has been a partnering with nunneries. This collaboration has been useful in reaching more women (Seva Canada, 2010).

In Guatemala, this partnership may be difficult. According to my key informant interview with Dr Suzanne Gilbert (2010), this process is not easy unless the recognition and action taken is begun by locals because this is not a natural relationship; much time and negotiation is required, Similar barriers are likely to be encountered in Guatemala because of the slow pace of development and organization due to differing cultural needs, the political climate and economic limitations. The invitation process would need to be decided upon by the Guatemalan organizations, with recommendations made by contracted consultants, chosen international organizations or, only by the Guatemalan organization(s).

The potential for greater economic donation is increased, however, through multiple international organizations involvement and the parallel goals in increasing social justice. Having international NGOs involved increases the donor base for current NGOs that are struggling. Collaboration spreads awareness of need in Guatemala in the respective countries in being invited to collaborate with Guatemalan organizations.

## 6: Criteria

I now want to outline the criteria I used to evaluate the six proceeding options. These criteria include: Cost, Political Feasibility, Ease of Implementation, Equity, Efficiency, Effectiveness and Sustainability. Most are measured using subcategories. All are measured using a numeric scale between 0 and 4, most on a Likert scale, which measures relative weight of each number in accordance to their numeric value. My key informants did the ranking for some, based on their extensive knowledge of eye care development in many developing countries and their knowledge of Guatemala. Other criteria evaluated by awarding a value between 1 and 4 based on the frequency of an action or presence of an entity, corresponding the value of 1 to 4 on the frequency. For example, if a criteria involves comparing the number of changes to the constitution, if 2 changes are required the option receives a 2; if it requires 3 changes, it received a 3; and so on.

The first criterion evaluated by my key informants is Cost. Cost is measured by: cost to implement; cost to evaluate; and international donor buy-in. The first two are ranked based on dollar amounts between no funds—0—and very high funds—4—as an overall option. The third is the interest of an international donor to fund a grant or donate to the program and the key informant evaluated the likelihood of an option being of interest to donors. On a scale between low interest—0—and very high interest—4—each option is evaluated independently as an overall option. The second criterion is Political Feasibility, measured as Risk of the overall option. A score of 0 is given to an option with no risk and a 4 is given to an option with very high risk.

The third criterion is Ease of Implementation. This is subcategorized into: Community Cultural Barriers; Scale of Organization needed; and Local Worker Acceptance at organization level. The key informant ranks these three categories, on a scale between 0 and 4, and the corresponding 6 options. Community Cultural Barriers are ranked a 0 if there are foreseen large cultural barriers and a 4 if there are limited barriers. Scale of Organization is ranked between 4—limited scale of organization—to 0—high scale of organization. Local worker acceptance is ranked from high acceptance—4— to low worker acceptance—0.

The fourth criterion is Equity, measured by both Horizontal and Generational Equity. Horizontal works as a distance barrier and cultural barrier since distance tends to decrease use in

Status Quo. To measure women across locations, the ability for an option to reach short and long distances is measured. A ranking for an option is based on its ability meet the 5 geographic areas of Guatemala. To meet: southern villages, urban areas, locations in the Petén close to the eye clinic, rural Petén villages and very far locations from clinics in any area of the country. Generational equity is evaluated by the ability to reach older or younger women and girls. The ability to only meet one age population group, an option receives a 1. An option receives on a scale up to 4 with the ability to meet a distribution of young (0 to 30 years), middle aged (31 to 60), older (61 to 60) and very old (71 and older) populations.

The fifth criterion is Efficiency, based on time. The timeframe needed from the beginning of implementing a policy option to the start when increased use of treatment use by women is found through outcome measures. Timeframe is measured by time in months based on option description whereby 4=0 months (immediately), 3=3 months, 2=6 months 1=9 months 0=12 months or never.

The sixth criterion is Effectiveness. Effectiveness measures the increasing in total women receiving treatment. This is ranked for each option from a 0 to 4, 4 effectively increasing the number of women and 0 for options that do not increase the up-take of women. A key informant—on a scale of 0 to 4—ranks the options.

Seventh is Sustainability, including two measures Presence of an Enforcing Body and Attention Over Time. For international development, more presence of outsiders bringing in social justice attention has a great impact for development, putting pressure on the government for the in the short and long run (Doiron, 2007). Presence of an enforcing body is ranked not on a scale but based on the corresponding number of enforcing bodies present in a particular option. For example, the presence of 3 enforcing bodies in an option receives a score of 3.

Sustainability is also evaluated based on ability to document over time. The position is either permanent, in which the option would receive a 4, or more sporadic, in which the option would receive a 2. This corresponds to the funding periods, attention to the issue of gender and maintaining attention. This is rationalized based on either an ongoing basis or an event with less frequency.

Political feasibility is measured through risk. The scores are awarded based on key informant ranking. Risk is given double the weight because of recommendations made by key informants regarding any organized development or change. Political risk is weighted heavier because of the barrier in Guatemala to implement anything is dependent on this criteria. The



power of the political elite, especially in post-colonial country, have the ability to trump any large or small scale initiative if it contradicts the government’s political agenda. Double the score will be given to all options. All criteria and option titles, measures and subcategories of criteria are presented in Table 16 below.

Table 16 Criteria Matrix

			1	2	3	4	5	6
			Status Quo	Health Promoters	Campaign	Diversity Staff	Female Sentinels	Partner NGOs
CRITERIA		Measure						
<b>Cost</b>	Organize	Scale						
	Implement	Scale						
<b>Political Feasibility</b>	Intl Donor buy-in	Scale						
	Risk	Scale						
	(Double)							
<b>Ease of implementation</b>	Community Cultural Barriers	Scale						
	Scale of Organization needed	Scale						
	Worker Acceptance at organization level	Scale						
<b>Equity</b>	Horizontal	Scale						
	Generational	Scale						
<b>Efficiency</b>	Timeframe	Scale						
	Controlled	Scale						
<b>Effectiveness</b>	Increase total women	Scale						
<b>Sustainability</b>	Enforcing bodies	Scale						
	Attention over time	Scale						
<b>TOTAL</b>								

## 7: Evaluation

In this chapter, I evaluate the six policy options based on the criteria I have discussed above and rankings of these criteria by key informants. Table 17 shows the distribution of ranking. The total sum of each option is tallied at the bottom of each option. Scores of 0 are unfilled, scores of 1 and 2 are purple and 3s and 4s are green.

Table 17 Evaluation Results Matrix

			1	2	3	4	5	6
			Status Quo	Health Promoters	Campaign	Diversity Officer	Female Sentinels	Partner NGOs
CRITERIA		Measure						
<b>Cost</b>	Organize	Scale	4	2	2	1	1	1
	Implement	Scale	4	2	2	2	1	1
	Intl Donor buy-in	Scale	4	2	2	1	1	1
<b>Political Feasibility</b>	Risk	Scale	2	3	3	2	1	4
	(Double)		2	3	3	2	1	4
<b>Ease of implementation</b>	Community cultural barriers	Scale	4	2	2	1	1	3
	Scale of organization needed	Scale	4	2	1	3	1	3
	Worker acceptance organization level	Scale	4	2	3	2	1	3
<b>Equity</b>	Horizontal	Scale	2.5	4	2.5	2.5	4	4
	Generational	Scale	1	2	2	3	4	2.5
<b>Efficiency</b>	Timeframe	Scale	0	2	3	4	4	2
	Controlled	Scale	0	4	2	3	4	2
<b>Effectiveness</b>	Total women	Scale	0	4	3	2.5	4	3
<b>Sustainability</b>	Enforcing bodies	Scale	0	2	3	3	3	4
	Attention over time	Scale	4	4	2	4	4	4
<b>TOTAL</b>			<b>33.5</b>	<b>40</b>	<b>35.5</b>	<b>36</b>	<b>35</b>	<b>41.5</b>

Two informants evaluated specific sections of the above table as outlined in the Criteria section. Julie Rinard carried out evaluation of Political Feasibility in terms of risk. Her years of experience in Guatemala with community members have given insight into the ground level

political climate in the communities and at the political level. Rinard's expert evaluation is also used to rate the ease of implementation of the options, drawing on her knowledge of past and current cultural practices and relationships at the community and organization levels.

Cost, Sustainability and Efficiency are ranked by Dr Suzanne Gilbert. The criteria for each are marked comparing their subjective experience with what has worked in other jurisdictions in terms of cost and effectiveness according to Dr. Gilbert. Applicability to the Guatemalan setting based on the evaluation of the local workers, completed by the Vladimir Barrios from the VP northern clinic.

Local workers include the organization staff such as Visualiza or any other organization employees involves. Administrative director Vladimir Barrios from VP evaluated the cultural barriers and local acceptance at the community level terms of ease of implementation. Julie Rinard ranked Political Feasibility and Scale of Organization as a measure of Ease of Implementation. This is based on her subjective ranking of how politically feasible each option is according to her knowledge of the Guatemalan government and her past experiences doing development work in the country. Her experiences also are the reason she was chosen to rank Scale of Organization, which the human resources needed, number of people involved and to ask for permission and the complexity of the options.

### **Cost**

As mentioned, Dr. Gilbert ranked cost, except for Status Quo. Status Quo receives a 4 in all subcategories and, thus, receives the highest score overall for not requiring further costs. Regarding organizational costs, Option 2 and 3 receive a 2, Option 4, 5 and 6 a 1. For Cost to implement, Option 2,3 and 4 receive a 2 and Option 5 and 6 a 1. For donor buy-in, Option 2 and 3 receive a 2 and Option 4,5 and 6 receive 1.

### **Political Feasibility**

For Political Feasibility in terms of risk, Status Quo receives a 2 because of the risk involved already in accessing all populations and violence that is potential in the urban settings. Option 2 Health promoters gets a 3 since they are already doing something similar, a gender focus has less danger because it is working more with known community leaders and not ad hoc strangers. Option 3 Campaign gets a 3 for the same reason that Option 4 receives a 2 as a gender staff implemented because it is similar to Status Quo. Option 5 receives a 1 since there is little risk on a political scale. There is a risk for the woman to be active in the community and go into unknown communities. There is still risk in her working with community leaders in such

communities. Option 6 has the highest rank—4—for lowest risk from having international support.

### **Horizontal Equity**

Horizontal Equity is equity across different populations within a similar income group. For Horizontal Equity, Status Quo receives a 2.5 based on meeting the urban population and northern population, but lacking in the rural villages in the north and isolated villages. Option 2 receives a 4 for reaching the more isolated Petén villages. Option 3 receives a 2.5 for reaching all except the rural north and isolated rural villages. The half a point is for reaching some rural northern villages. Option 4 receives a 2.5 for not reaching rural north or isolated rural villages. Option 5 receives a 4. Option 6 receives a 4 as well with partners greatly increasing exposure across the country.

### **Generational Equity**

Generational Equity is equity between Guatemalans from different generations including past and future generations of people. For Generational Equity, since Status Quo meets more middle-aged women than other age groups, Status Quo receives a 1. Option 2 is given a 1 because, like the status quo, there is no attempt to meet older or younger women. Option 3 receives a 2 for missing the oldest population in an eye camp similar to the status quo, except in targeting some homes where older women live. Though, this option relies more on publicity that is not targeted at the oldest generation necessarily. Option 4 with a Gender Staff has the promotional tools to reach the oldest and older women and use tools to find out which specific age groups to target and, thus, receives a 3. Option 5 targets all ages including older women in going door-to-door similar to option 4 and, thus, receives a 4. Partnering groups acts like a campaign in reaching women except has more ties to smaller groups that reach some more older women but maintaining an age balance is difficult to meet with more isolated information and, thus, receives a 3.

### **Efficiency**

For Efficiency, Status Quo is given a 0 for long term or no results. Option 2 would take 2 months from training the health promoters and them training others to waiting for referrals to come in. Option 3 would take about 2 months from the start of the campaign publicity to measuring outcomes. Option 4 would take about one month to start seeing more female patients come in after employing the Gender Officer. Option 5 would take about a month to begin to bring in more women. The beginning would be slower and likely grow exponentially once they

penetrate unknown areas through community partnering, though not included in this evaluation. Option 6 would take about 2 months to start to have the women's groups engaged with community leaders and have female patients increase treatment use. Status Quo would take a long time to begin to see results or possibly not see results. 0 is given to Status Quo for either no result or long term results. Options 2, 3 and 6 are awarded a 2 for taking about 2 months and Options 4 and 5 receive a 4 each for taking one month.

### **Effectiveness**

For Effectiveness in increasing total women evaluated by Ms. Rinard, Status Quo gets a 0 based on gender differences in the findings above in the quantitative data results. Option 2 with Health Promoters promoting gender sensitivity earns a 4. Women's health campaign gets a 3. Option 4 Gender staff member gets a 2.5 and is dependent on the type of staff member hired. Option 5, female sentinels gets a 4. Partner Eye NGOS with women's group gets a 3.

### **Sustainability**

For Sustainability in terms of Number of Enforcing Bodies, Status Quo receives a 0. Option 2 has at least 2 international donors: the partner Seva and the organization providing the grant. Option 3 earns a 3 from international buy-in, there would be multiple donors and organizations involved. Option 4 receives 3 from having Visualiza accountable having a staff on payroll, the NGO and grant provider. Option 5 is the same as Option 4 and, thus, earns a 3. Option 6 receives a 4, having multiple types of NGOs at the international level. Sustainability with respect to Attention over Time, all options receive a 4 for long-term, ongoing attention. The exception is Option 3, receiving a 2 for less attention on an ongoing basis.

## **8: Recommendation and Conclusion**

Based on the evaluation of the options, including the use of key informants' evaluations, Option 6 and components of Option 2 and Option 4 are the chosen courses of action recommended to address the policy problem I identified at the outset of this research. Option 6, which involves partnering international, national and local NGOs to create a space for shared learning and action, has great potential for increasing women's empowerment, social connections and use of eye care services by women. This option is sustainable and has great potential for meeting women's needs in addressing confronting multiple barriers that women face. This option would also put pressure on the Guatemalan government to provide eye health services as well as services in other areas of health, which further leads to development and sustainable change.

Option 6 also addresses the conclusions of the findings in this study, which emphasize the need to focus on rural and Indigenous populations. Rural men, including Indigenous, can also be reached. From the limited findings on rural men in this study, there are likely disparities between rural men and rural Indigenous men and older men are also likely underserved. The needs of these men are likely addressed in Option 6. In a collaboration among a variety of human rights groups, populations in need would be recognized and able to participate. Monitoring the needs of the Guatemalan population through the Memo could help identify who needs to join this collaborative group.

This option also draws from anecdotal recommendations by Guatemalans, Canadians and Americans living in Guatemala, which furthers its ability for acceptance and feasibility. For example, a Guatemalan church minister who conducts social justice work in the Petén remarked that NGO work conducted by international agencies is helpful, but that there is a need for more cooperation between the organizations and between the international and Guatemalan organizations. He expressed a desire to hold international organizations that perform aid relief more accountable. For instance, the Venezuelan government as well as the an international eye organization Orbis that use Flying Doctors who conduct sporadic outreach to give eye surgeries in different developing countries, but the work they do leaves many gaps in service delivery. Post-operative care needs are often omitted or left for the permanent organizations as VZ to

“clean up”. Collaborations between local and international NGOs would greatly add to efficiency of social justice would result in higher quality eye care.

To implement this option first requires communication between partnering NGOs including women’s groups. This can begin with the memo I discussed earlier on gender disparities and women’s low rate of eye service use. It could be widely distributed to all relevant organizations. Next steps would involve collaboration of the organizations to combine agendas that lead to reaching more women with eye care needs. This might take the form of a conference or e-sharing space. Having different bodies involved increases accountability to the issue in sharing the responsibility of increasing service use by women. Sharing the work also increases social connections, which also increases effectiveness. Attention to the issue is increased, which pressures the Guatemalan government to make public change (Doiron, 2007). Also, effectiveness in empowering women in Guatemala on a large scale is increased by having such widespread attention brought to the issue and by assuring the involvement of women in the process.

Based on the evaluation of the options, the use of promoting diversity training among the current VP health promoters is also recommended. Even if the referral system remains the same, an evaluation before and after the use of promoting women training in teaching health promoters will be useful to demonstrate the potential for this training. In addition, based on this same evaluation, I recommend naming a current staff member from each VZ and VP clinic as Diversity Officers. These persons would have the added duty of monitoring women’s use of eye care services.

Important to recognize is the lack of men in this study. More research is required on the needs of rural and rural Indigenous men. Findings from this research suggest that these men may be underserved. Recommendations do not specifically address men but may be beneficial and applicable to men as well as women. It is logical to assume that diversity training for health promoters should include men who may be underserved. And NGO collaboration could include human rights groups that are applicable to marginalized men. More research is needed for verification.

Barriers in implementing these recommendations may include increased vulnerability of all women from a backlash by the Guatemalan government or through increased violence against women by men in reaction to the increased status of women. However, if multiple organizations were involved in a partnership, the goal of incremental change and the use of local community leaders to judge what changes are feasible for each step of the process would decrease this risk. Backlash is a risk in the case of any policy change affecting Guatemalan people on a large scale

because of corrupt practices in the Guatemalan government and the climate of violence. Having a greater number of organizations involved decreases risk due to more international attention and pressure (Doiron, 2007).

This policy recommendation could also be considered for other Central American countries and in South American settings because of similarities in Guatemalan and other Latin and Indigenous cultures and colonial legacies. Countries like Peru, Bolivia, El Salvador and Honduras, where the population makeup is clearly parallel, might profit from the recommendation. Currently, there are no gender sensitive eye programs that target women anywhere in Latin America, even while the need for it is great (Gilbert, 2010). Thus, the applicability of my recommendations appears to be quite high.

Lastly, the implementation of eye health initiatives and collaborations with multiple NGOs could easily be transferred to other areas of health needs and to other social justice needs. The different social justice issues focused on in each organization can be jointly addressed, since they are more powerful when they are addressed together. There is much overlap in the goals of each organization because most are combating human rights violations and attempting to increase economic development. Together they can more effectively address these multiple oppressions. Personally adding other areas of health to eye camps is easily feasible, such as including hearing checks, mammogram screening, cervical cancer screening and immunization clinics. Second, other areas outside health such as micro financing—suggested by David Green as of great utility among Latin countries for economic development (2009)—self defence classes, and skills building can easily be combined in the outreach camps to promote development. Such development training can be of use to both women and men and within different sub-populations.

This policy option may be useful to implement in other Latin American countries. Guatemala and other Latin American countries share a similar history of war, colonization by the Spanish and Latino culture. Since gender disparity in access to eye care treatment exists in many developing countries, and since this study reveals a similar trend in Guatemala, other Latin American countries may also have a similar disparity. Although this capstone serves as a starting point for research in these other Latin American countries, further research is needed on gender and eye care within each specific country. This is necessary to understand the specific needs of each population within a given country.

Future research is also needed on Guatemalan women's non-reproductive health outside of eye health. These areas of healthcare need to be investigated in order to understand what type of service delivery is appropriate for different populations of women. As a human right and a



right stated in the Guatemalan constitution, women deserve to have all of their health needs met. Despite this, gender disparities may persist in accessing other areas of health. The largest limitation of this study is not having qualitative data on men in order to understand the intersection of location, age and Indigenous status among men. Future studies using an intersectionality framework are needed to examine areas of health for all men and women. Comparisons between rural and urban men and women are needed to further explore health issues by location. As well, if these studies utilized an intersectionality framework, both Guatemalan men and women would likely benefit because of the ability to see all people and the different needs of different people. The needs of the different people need to be assessed in order to avoid marginalizing a group or groups.

In conclusion, through the use of mixed methods, this research project has demonstrated that gender inequities in access to eye health care services and low rates of service use by women exist in Guatemala and differ greatly by populations of women. I have also shown that there are options for addressing the policy problem I identify at the outset: that too many women have untreated eye problems. Of these options, the best, places on clear criteria, is greater partnering between local and international organizations to decrease barriers to eye care service use by women. The first step towards changing the status quo is to disseminate knowledge of this gender and ethnic disparity to different organizations. Empowerment of women and involving them in decision making will help lead to a new generation of women who can ask for and accept eye health care treatment. Collaboration between organizations has the potential to lead to sustainable social change through development. Visualiza has had great success in reaching many marginalized Guatemalans and it is an organization with great potential to lead to further development by empowering and reaching more women. Implementing programs in Guatemala that target women empowers them, and the result is potentially meaningful economic change and development.

## Appendices

### Appendix 1: Eye Camp Registration Form

Name _____		Patient # _____	
Town _____			
Occupation _____		Age _____	
What is the main problem with your eyes? _____			
_____			
-			
Do you use glasses?		Y/N	
Do you know how to read?		Y/N	
Do you have problems with Reading far away?		Y/N	
Do you have high pressure?		Y/N	
Do you have diabetes?		Y/N	
Far sight: R 20/ _____		Near sight:	
L 20/ _____		both 20/ _____	

## Appendix 2: Questionnaire

<p>1. Where did you hear of our services? _____</p>	<p>5. Age: _____ years</p>
<p>2. Sex: <input type="checkbox"/> Female <input type="checkbox"/> Male  Do you know a mid wife whom you trust? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>6. How much did it cost to come here today? Transportation Q_____ Paid work lost due to this appointment Q_____</p>
<p>3. The worst your vision has been:  <input type="checkbox"/> A little bad <input type="checkbox"/> Bad <input type="checkbox"/> Very bad <input type="checkbox"/> Severe</p>	<p>7. Did you have to have someone come into your home to take your place to do housework in order to come today? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>4. When did your low vision start? _____ Ago</p>	<p>8. Did someone accompany you here? If yes, who? _____</p>

9. Before today, had you been to a clinic? If not, why not come straight away?

\_\_\_\_\_

Second reason? \_\_\_\_\_

Third reason? \_\_\_\_\_

10. Do you know a woman with low vision and has not been to a health clinic for help?

No  Yes

In your opinión, why did she not come? Tell me more \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Appendix 3: Visualiza Record-Patient locations

1	Alta Verapaz
2	Baja Verapaz
3	Chimaltenango
4	Chiquimula
5	El Progreso
6	Escuintla
7	Jutiapa
8	<b>Petén</b>
9	Retalhuleu
10	Sacatepequez
11	Solola
12	San Marcos
13	Santa Rosa
14	Zacapa
15	Suchitepuquez
16	Quetzaltenango
17	Hueuetenango
18	Jalapa
19	Quiche
20	Totonicapan
21	Izabal

The areas of the Peten are bolded to shows the small representation of the different locations in which the patients come from.

## **Appendix 4: Description of the Variables from Questionnaire**

Variable responses requiring either a “Yes” or a “No” answer were added up for each population under study. The variables and responses are presented in Table 13. They include “Need replacement,” a variable to understand if the woman needed someone to replace her at work or in her home to do housework while attending the clinic. Another is whether the patient was accompanied to the eye camp or clinic. The variable “Know women low vision” is used to measure the degree to which the respondent has a connection to other female community members who are blind or have low vision. This was measured by asking whether the woman knew other women with low vision or who are blind. The answer to “Gone to clinic before” indicates whether participants had attended any eye clinic prior to the day of collecting questionnaire responses.

The variable called “Cost to come” is used to gain an understanding of cost barriers. Each respondent provided the one-way transportation cost that it cost her to come to the clinic or eye camp on the day that the questionnaire was collected. The cost is measured in Quetzals, the Guatemalan currency. The average cost among all the responses in a given population was calculated and is indicated in Table 13.

Another variable measures the respondent’s subjective view of their respondent’s own eye condition. A Likert scale was used between 1 and 4 called “Subjective Ranking of Eye Condition” in which 1 indicated “a little bad,” 2-“bad”, 3-“very bad” and 4-“severe.” Each population’s responses were added and the average total number is given for the women of each population in Table 13.

Open-ended questions were standardized and collated and both open-ended and closed ended question responses are also presented in Table 13. One open-ended question that was collated stems from the variable measuring barriers to eye care. The question asks why respondents had not previously been to a clinic for eye care and is labeled “Reason not go to clinic before.” Respondents gave multiple responses including the answer “no sabia” which translates in this context to “I didn’t know of one.” This response was collated with the response “No Clinic” based on the rationale that both not knowing of a clinic and lacking a clinic stems from the same barrier, which is that those who answered with these responses did not have a clinic accessible to them. Two similar responses to this variable were collated: “Transportation Costs” and “No Money.” The transportation cost to the clinic comes from the same barrier as which is from having no money, which stems from income insecurity.

All “Reason not go to clinic before” responses were easily grouped and the frequency of each response was tallied. The three most common responses are presented in Table 13 from those appearing at the highest to lowest frequency. The variable called “Know women low vision” also included a second question if the respondent answered, “Yes” to the previous question. Then the respondent were asked “Why she not come,” a question used to understand the barriers that the respondent believes the woman she knows who has not sought eye care, faces in seeking that care. The responses were standardized and collated using the same method as the variable responses to “Reason not go to clinic before.” The three most frequent responses are presented in Table 13. The variable “How know about service” seeks to find out how the patient had heard of the Visualiza services. This is an open-ended question and was easily collated based on very similar responses. The three most common responses are presented in order of highest frequency using the same method as “Reason not go to clinic before.”

## Appendix 5: Questionnaire Results

Variable	Response	Indigenous Rural (VP eye camp)			Southern Population (VZ)			Northern Population (VP)		
Average Age	Open ended	50			61			53		
Gone clinic before?	Yes / No	5% Yes	95% No		100% Yes	0% No		78% Yes	22% No	
Reason not to go to clinic previously?	Open ended	No money	No clinic	Fear	No money	No clinic	No accom-pany	No money	No clinic	Not leave home/work
How know about Service?	Open ended	Radio	Meeting	Saw	Family	Referral	Friend	Referral	Saw	Family
Know woman low vision?	Yes / No	28% Yes	72% No		100% Yes	0% No		73% Yes	27% No	
Cost to come?	GQT (Guatemala a currency)	0.2			41			21		
Need replacement?	Yes / No	72% Yes	28% No		71% Yes	29% No		30% Yes	70% No	
Subjective ranking of eye condition?	1-Little Bad 2-Bad 3-Very Bad 4-Severe	1.9			3.75			2.7		
Accompanied?	Yes/ No	N/A			70% Yes			75% Yes		

## Bibliography

- Abou-Gareeb I, Lewellen S, Bassett K, Courtright P. 2001. Gender and Blindness: A meta-analysis of population- based, prevalence surveys. *Ophthalmic Epidemiology*. 8: 39-56.
- Barrett, B. 1996. Integrated Local Health Systems in Central America. *Social Science and Medicine*. 43, (1): 71-82.
- Bassett, K. 2009. Key Informant Interview. University of British Columbia Epidemiological and International Ophthalmology.
- Beltranena, F., Casasola, K., Silva, J. and Limburg, H. Cataract Blindness in 4 Regions of Guatemalan: Results of a population-based survey. *Ophthalmology*. 114, (8): 1558-1563.
- Brilliant, G., Lepkowski, J., Zurita., B. and Thulasiraj, R. 1991. Social Determinants of Cataract Surgery Utilization in South India: the operations research group. *Arch Ophthalmology*. 109: 584-589.
- Browne, A., Smyle, V. and Varcoe, C. 2005. "The Relevance of Post-colonial Theoretical Perspectives to Research in Aboriginal Health". *Canadian Journal of Nursing Research*. 37, (4): 16-37.
- Carter, M. 2002. Husbands and maternal health matters in rural Guatemala: wives' reports on their spouses' involvement in pregnancy and birth. *Social Science and Medicine*. 55, (3): 437-450.
- Centro para la Acción Legal en Derechos Humanos. 2006. *Asesinatos de Mujeres: Expresión del Femicidio en Guatemala*. Guatemala City: Centro para la Acción Legal en Derechos Humanos.
- Central Intelligence Agency World Factbook. 2009. <https://www.cia.gov/library/publications/the-world-factbook/geos/gt.html>
- Cosminsky, S. 1987. Women and Health Care on a Guatemalan Plantation. *Social Science Medicine*. 25, (10): 1163-1173.
- Courtright, P and Lewallen, S. 2007a. Improving Gender Equity in Eye Care Advocating for the needs of Women. Kilimanjaro Centre for Community Ophthalmology. 20, (64).
- Courtright, P and Lewallen, S. 2007b. Gender and Blindness, Eye Disease and Use of Eye Care Services. British Columbia Centre fro Epidemiologic & International Ophthalmology.



- Crenshaw, K. 1991. Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color *Stanford Law Review*. 43: 1241-1299.
- Creswell, J. 2009. *Research Design: qualitative, quantitative and mixed methods approaches*. 3<sup>rd</sup> ed. Sage Publications. Thousand Oaks.
- Doiron, F. 2007. Indigenous Achí Widows' Experience of Armed Conflict in Rabinal, Guatemala: Implications for Peace and Development in the Aftermath of *La Violencia*. Saint Mary's University. Halifax.
- Gilbert, S. 2009. Key Informant Interview. Seva Foundation, Director of Centre for Innovation in Eye Care,
- Glassman, A., Levine, R., Schneidman, M., 2001. *La Salud de la Mujer en America Latina y el Caribe*. Banco Interamericano de Desarrollo. WA, DC.
- Goldman, N. and Heuveline, P. 1995. *Health-seeking behaviours for child illness in Guatemala*. Tropical Medicine and international Health. Office of Population Research, Princeton University.
- Guatemala. 2005. Human Development, Women and Health. National Human Development Report.
- Green, David MPH. 2009. Key Information Interview. Winner of the MacArthur Foundation Award.
- Grier, S and Bryant, A. 2005. Social Marketing in Public Health. *Annual Review of Public Health* 26: 319-39.
- Guatemala. Women and Health 2002. National Human Development Report.
- International Development Research Centre (IDRC). 2010. [http://www.idrc.ca/en/ev-87956-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-87956-201-1-DO_TOPIC.html)
- Janzen, R. 2008. From Less War to More Peace: Guatemala's Journey Since 1996. *Peace Research*. 40, (1).
- Kilimanjaro Centre for Community Ophthalmology. 2009. [www.kcco.net](http://www.kcco.net). Moshi, Tanzania
- Layland, B., Holden, B. and Bailey, S. 2004. Aboriginal Eye and Visioncare Program . International Centre for Eyecare Education, Australia. *Rural and Remote Health*. 247
- Levine, R., Schneidman, M. and Glassman, A. 2001. The Health of Wome in Latin America and the Caribbean. The International Bank for Reconstruction and Development. World Bank. Washington, D.C.
- Lewallen S & Courtright P. 2002. Gender and use of cataract surgical services in developing countries. *Bulletin of the World Health Organization*. 80: 300-303.
- Lewallen, S., Mousa, A., Bassett, K and Courtright, P. 2008 Cataract Surgical Remains Lower in Women. *British Journal of Ophthalmology*. 10: 1136.

- Limburg, H., Barria von-Bischoffshausen, F., Gomez, P., Silva, C. and Foster, A. 2008. Review of recent surveys on blindness and visual impairment in Latin America. *British Journal of Ophthalmology*. 92: 315-319.
- McCarty, C., Nanjan M. and Taylor, H. 2001. Vision impairment predicts five-year mortality. *British Journal of Ophthalmology*. 85: 322-326.
- Michel, J., Mahady, G., Veliz, M., Soejarto, D. and Caceres, A. 2006. Symptoms, Attitudes and Treatment choices surrounding menopause among Q'eqchi Maya of Livingston, Guatemala. *Social Science and Medicine*.
- Nirmalan, P., Padmavathi, A. and Thulasiraj, R. 2003. Sex Inequities in Cataract Blindness burden and Surgical Services in Southern India. *British Journal of Ophthalmology*. 87: 847-849.
- Munoz, B. and West, S. 2002. Blindness and Visual Impairment in the Americas and the Caribbean. *British Journal of Ophthalmology*. 86, (5): 498- 504
- O'Neil, J. et al. 1999. "Community healing and Aboriginal self-government" in *Aboriginal Self-Government in Canada* (2<sup>nd</sup> ed.). Saskatoon Purich Publishing.
- Pan American Health Organization. 2009. <http://new.paho.org/gut>
- Prensa Libre. Guatemalan National Newspaper. August 13<sup>th</sup>, 2009.
- Ramos, A. 2003. La Situacion de la mujer Guatemalteca. Women's International League for Peace and Freedom. Foro de la Mujer, 7/8 de noviembre <http://www.peacewomen.org/resources/Guatemala/GarciaRamosFORO.pdf>
- Rinard, Julie. 2009. Key Informant Interview.
- Seva Canada. Gender and Blindness: Initiatives to address inequity. 2008.
- Seva Canada. Annual Reports. 2009. <http://www.seva.ca/annualreport.htm>
- Scrimshaw, N. and Tejada, C. 1970. In *Handbook of Middle American Indians*. Vol. 9. Austin: University of Texas Press.
- Stewart, D. 2003. Menopause on Highland Guatemalan Mayan Women. *Maturitas*. 44, (4): 293.
- Taylor, H. 2003. Eye Care for the Future. *Investigative Ophthalmology and Visual Science*.
- Visualiza. 2009. [www.visualiza.org.gt](http://www.visualiza.org.gt)
- Vlassoff, C. 2008. Gender-related differences in the impact of tropical diseases on women: what do we know? *Journal of Biosocial Sciences*. 26: 37.
- Wearne, M. 2007. Remote Indigenous Australians with Cataracts: they are blind and still can't see. *Medical Journal of Australia*.

- Weller, S. 1984. Cross-Cultural Concepts of Illness: Variation and Validation. *American Anthropologist*. 86, (2).
- West, S. and Valmadrid, C. 1995. Epidemiology of risk factors for age-related cataract. *Survey of Ophthalmology*. 9: 323-334.
- Wildsoet, C and Wood, J. 1996. Primary eye care needs and services to Aboriginal and Torres Strait Islander populations across Queensland: a 'users' perspective. 79, (2): 188-201.
- World Health Organization. 1998. Global initiative for the elimination of avoidable blindness (WHO/PBL/97.61) Geneva.
- Wright, E. 2009. Gender Disparity in Nepalese Cataract Blindness. San Diego State University. MPH thesis.
- Yoli, Estrella. 2009. Informant Interview. Vincent Pescatore Clinic.