

# The Impact of an Accessible Ophthalmology for All

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## Context:

- Ensuring healthy lives and promoting well-being for all people is the goal of Sustainable Development Goal 3 (SDG 3). **Teleophthalmology provides an opportunity to access specialized visual health services** in areas where they are not available in person. At the Mexican Institute of Ophthalmology, IAP, a model of ophthalmologic care is implemented for patients from remote locations.
- Despite the significance of achieving improvements in the **quality of life** through teleophthalmology, **initiatives to enhance medical care, particularly teleophthalmology, are often not sustained or expanded because their impact on society, healthcare, patients, and their environment is not quantified.** This is due to **limited experience with sustainability and profitability models, making them difficult to replicate.** Therefore, the objective of this work is to evaluate and quantify the economic and social impact of implementing remote ophthalmologic care.

## Method:



### How do we establish the "Theory of Change" in the SROI methodology for teleophthalmology?

Stakeholders	Activities	Short-term changes	Long-term changes
Patients	Attendance the Vision Center	Possibility of visiting the ophthalmologist	Improvement in quality of life due to access to visual health care.
		Access to ophthalmological studies at an affordable cost	Gain in quality-adjusted life years (QALYs) due to the timely detection of disabling diseases.
		Savings on visual and diagnostic exams in a single consultation	Visual health care, savings.
		Immediate attention	Maintain productivity
		Avoiding productivity losses	Safety
		Reduction in travel expenses	Savings (well-being)
Companion	Take care/ Accompany	Avoiding dependency on others	Emotional well-being
		Reduction in travel expenses.	Savings (well-being)
		Avoiding productivity losses.	Safety
		Greater Independence	Emotional well-being

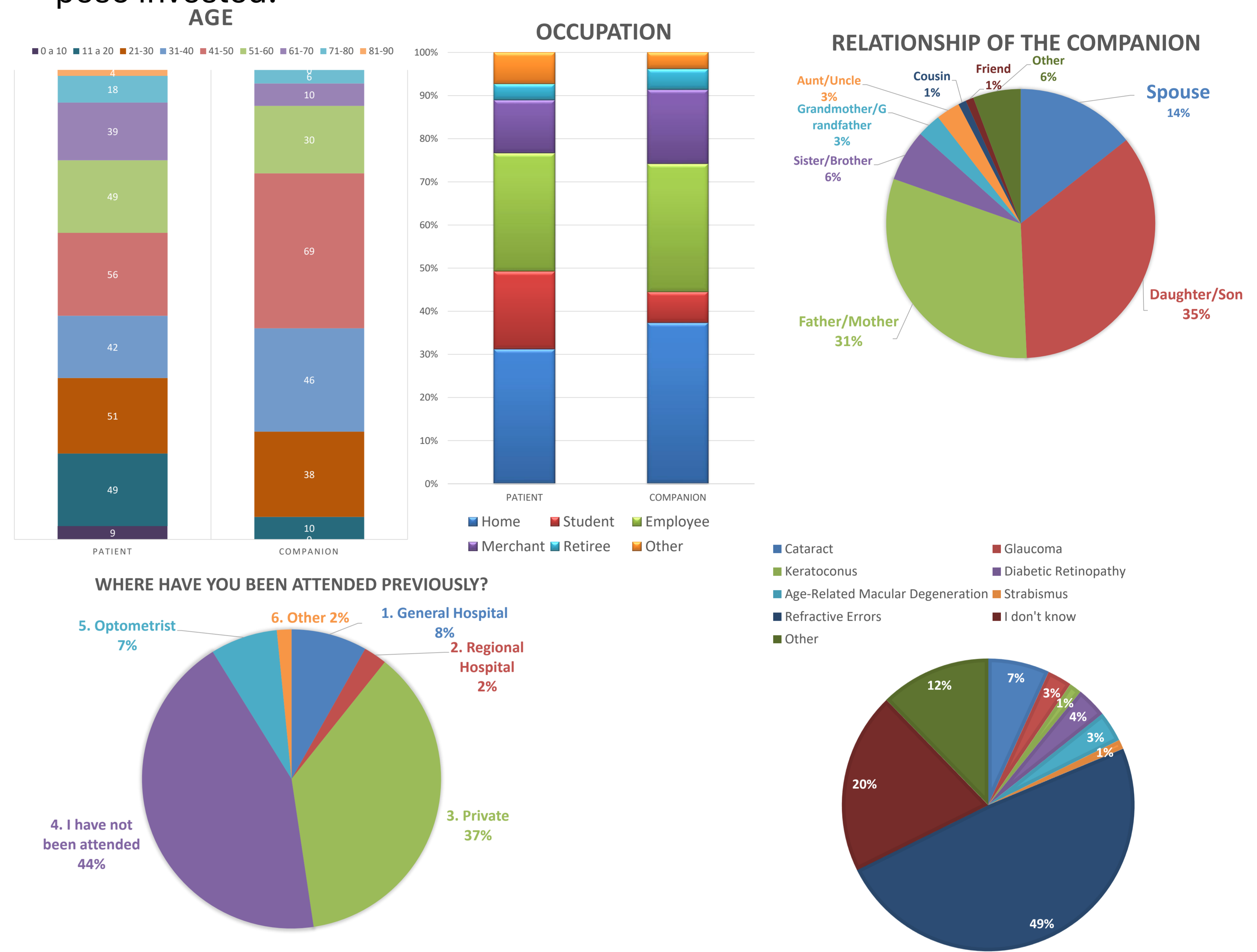
### How do we design and recollect the data?

- In-person **surveys** were conducted of **patients** who **attended** the Mexican Institute of Ophthalmology, **Vision Centers** in **Cadereyta, Santa Rosa Jáuregui, San Juan del Río and Jalpan**, Querétaro, during **November 2023-May 2024, accompanied by a caregiver**
- This data was used to develop information on the social value of teleophthalmology, addressing the question: **How does access to specialized visual health care generate changes for stakeholders?**

INDICATOR	QUESTIONS FOR PATIENT	QUESTIONS FOR COMPANION
<b>Comparison of in-person consultation vs teleconsultation</b>	a) How many times have you visited the Vision Center? b) Have you previously attended an in-person ophthalmology consultation? c) Where have you previously attended an in-person consultation?	a) What is your relationship to the person you are accompanying to the consultation? b) Does your patient have a vision impairment?
<b>Visual Problem</b>	a) I have one of the following vision problems b) Where do you perceive limitations due to this condition?	a) Where do you perceive limitations due to this condition?
<b>Improvement in activities, time, savings</b>	a) Do you consider it more economical to attend a remote consultation than an in-person consultation? b) Why? c) How much are your savings? d) Where do you perceive the benefit?	
<b>Improvement in quality of life</b>	a) Does having access to the Vision Center (CV) improve your quality of life? b) Why?	

## Outcomes:

- For patients (n=317), and their caregivers (n=209). Our baseline scenario provided an average individual SROI ratio estimate of 11:1. The profitability of teleophthalmology for each patient-companion pair was \$11.12 for every peso invested.



## Key insights:

- Economic Impact:**
  - 84% of respondents **agreed that having access to teleophthalmology** in their place of origin **improves their quality of life, due to saving money (24%), allowing time for other activities (20%), and avoiding work absences (10%).**
- Time Impact:**
  - Companions expressed mainly work-related limitations (42%)** while accompanying their patients during their visits to urban centers.
- Health Impact:**
  - The total benefit per person from attending a teleophthalmology consultation is equal to the present value of all future outcomes.
  - According to existing literature, the social benefit and economic efficiency of the intervention were identified by quantifying the **"years of vision saved"** through the detection of the most prevalent vision-threatening diseases: cataract (4.7 years), diabetic retinopathy (9.0 years), diabetic macular edema (5.9 years), and glaucoma (0.9 years), expressed in quality-adjusted life years (QALYs) gained through early detection.

## Conclusions:

This study demonstrates the **positive effect of teleophthalmology on quality of life, economic costs, years of vision saved, prevention,** and hence the well-being of **patients and their companions** and society. **Remote ophthalmology consultations** present a **low cost for stakeholders,** at a level that would otherwise not be **viable** for a segment of the **low-income population** or those who have to travel **long distances.** Therefore, it is crucial to evaluate the impact of such interventions that help vulnerable populations. Additionally, **measuring its social profitability** can be **beneficial** for ongoing efforts to **gain support** and reduce the prevalence of visual problems in the population **by demonstrating the significant value of its impact for individuals, institutions, and governmental entities.** This study measures and presents the benefits of investing in visual health, **hoping that our results will drive the expansion and relevance of visual health** in policy formulation and the **expansion of teleophthalmology.**

*Disclosure: The authors declare that they have no funding, financial, non-financial or personal relationships with other people or organizations that could inappropriately influence this work. They also declare that they have no conflict of interest regarding the findings and conclusions of this study. This study was approved by the participating institutions, in accordance with their national regulations and the Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects.*