Rethinking Referral Systems in Rural Chiapas, a Mixed-Methods Study

Valeria Ma. Macias Fernandez

A Thesis Submitted to the Faculty of
The Harvard Medical School
in Partial Fulfillment of the Requirements
for the Degree of Master of Medical Sciences in Global Health Delivery
in the Department of Global Health and Social Medicine
Harvard University
Boston, Massachusetts.
May, 2017
Rethinking Referral Systems in Rural Chiapas, a Mixed-Methods Study

Abstract

We conducted a mixed methods research study to understand complexities patients covered under Seguro Popular insurance face when referred for surgery in Chiapas, Mexico. We reviewed medical records to understand how many of the referred patients completed procedures. We also conducted interviews with patients and health care providers to explore the challenges and facilitators faced by individuals who must navigate this bureaucratic system to seek or provide health care.

Quantitative findings indicate that if patients require a surgery, their odds of receiving it are greater if they go to Hospital Revolución, if they are males, and if they require an emergency surgery. The worst case scenario for patients is requiring an elective gynecological surgery.

Qualitative findings suggest that barriers for patients to receive surgery dwell in the dimensions of conflict, while key facilitators rely on capital. Without economic or social capital patients are not able to receive a surgery.
Table of Contents

ACKNOWLEDGEMENTS ................................................................. viii
Preface ...................................................................................... 1
Introduction ................................................................................ 5
  History of Medicine in Mexico .................................................... 7
  Universal Health Care ............................................................... 11
  Mexican Health Care System ..................................................... 12
  Seguro Popular ......................................................................... 14
  Global Surgery .......................................................................... 16
RIGHT TO HEALTH CARE .......................................................... 18
METHODS ................................................................................. 19
  OVERALL APPROACH: MIXED METHODS ................................. 19
    Setting and study population ................................................... 19
    Quantitative methods ............................................................ 22
      Chart abstraction ................................................................ 22
    Qualitative methods ............................................................. 24
      Patient Interviews ............................................................... 24
      Staff Interviews ................................................................ 25
DATA ANALYSIS ......................................................................... 27
  Quantitative analysis ............................................................... 27
  Qualitative analysis ............................................................... 27
  Mixed-method analysis .......................................................... 28
RESULTS .................................................................................. 29
  Quantitative findings ............................................................ 29
QUALITATIVE FINDINGS ............................................................ 49
  The economic fragility of farmers ............................................. 50
  Accessing care requires constant access to economic resources .... 52
  Pain leads people to seek care ............................................... 54
  Futility in the System ............................................................. 56
  De-humanization leads to loss of follow up ............................... 57
  Re-humanizing Physicians ...................................................... 60
  Animosity in the System .......................................................... 63
  Violence in the system reflects violence in the patient ............... 65
  Team Work ............................................................................. 68
  Resource Coordination .......................................................... 69
  Knowing someone makes a difference ..................................... 73
  Avoiding the System .............................................................. 78
Accompaniment ....................................................................... 80
ETHNOGRAPHIC CASES ........................................................... 84
  Isabel ..................................................................................... 84
  Life in rural Chiapas .............................................................. 85
    Coffee .................................................................................. 85
    Pain .................................................................................... 86
Getting a Referral ................................................................. 87
Diagnosis .................................................................................. 88

Conflict ..................................................................................... 89
Complications of disease .......................................................... 90
Scarce Resources ........................................................................ 91
Communication breakdown ....................................................... 91
Persistence .................................................................................. 92
Surgery day .................................................................................. 93
Still waiting .................................................................................. 94

Dra. Lorena .................................................................................. 96

Motivation .................................................................................... 96
Loss of Interest .............................................................................. 96
Local moral world ......................................................................... 98
Scarce Resources ........................................................................ 102
Violence ....................................................................................... 103
Generating Social Conflict ......................................................... 105
Conflict Amongst Hospitals ....................................................... 106
Learning about Team Work ....................................................... 107
Use of Resources ......................................................................... 108

DISCUSSION ................................................................................. 110

Barriers ...................................................................................... 111

Economy of Farmers ................................................................. 111
Chronic Pain ............................................................................... 114
Institution’s Scarce Resources .................................................. 116
Conflict ....................................................................................... 117
Health care provider-Patient Communication .......................... 118
Violence in the health care system ............................................ 119

Putting the Puzzle together ....................................................... 124
Facilitators .................................................................................. 125

Jumping the System .................................................................. 126
Accompaniment ......................................................................... 127
Avoiding the System ................................................................... 128

Limitations ................................................................................... 129

Conclusions .................................................................................. 130
References .................................................................................... 133
Appendices ................................................................................... 139

Appendix 1. List of diagnosis included in Study ......................... 139
Appendix 2. Quantitative chart abstraction form .......................... 140
Appendix 3. Patients Interview Guide ........................................ 141
Appendix 4. Health Care Providers Interview Guide .................. 144

Figures
Figure 1: Diagram of Mexican Health Care System .................. 13
Figure 2: Study diagram for Rethinking Referral Systems in Rural Chiapas, a Mixed Methods 23 ......... 20
Figure 3: Image of Mexico .......................................................... 20
Figure 4: The Fraylesca region, in Chiapas. ................................................................................. 22
Figure 5: Number and origin of surgeries per hospital, % = Percentage of referrals originating from the emergency room. .................................................................................................................. 31
Figure 6: Cycle of Pain .................................................................................................................. 88
Figure 7: Cycle of Futility ............................................................................................................. 95
Figure 8: Referral System in Theory .......................................................................................... 124
Figure 9: Referral System in Practice ......................................................................................... 125

Tables
Table 1: Inclusion and Exclusion Criteria .................................................................................. 23
Table 2 ......................................................................................................................................... 24
Table 3: Health care providers interviewed .............................................................................. 25
Table 4: Hospital characteristics ................................................................................................. 29
Table 5: Descriptive Statistics by Hospital ............................................................................... 34
Table 6: Diagnosis by Specialty and Sex .................................................................................... 41
Table 7: Univariate Logistic Regression ....................................................................................... 43
Table 8: Stepped Full Model ....................................................................................................... 46
Table 9: Logistic regression by subgroup .................................................................................... 48
Figures

Figure 1: Diagram of the Mexican Health Care System.................................................. 13
Figure 2: Diagram of study.................................................................................................. 21
Figure 3: Image of Mexico.................................................................................................... 21
Figure 4: Image of the Fraylesca Region ............................................................................. 23
Figure 5: Number and Origin of surgeries per hospital....................................................... 30
Figure 6: Cycle of Pain......................................................................................................... 83
Figure 7: Cycle of Futility.................................................................................................... 90
Figure 8: Referral System in Theory.................................................................................. 120
Figure 9: Referral System in Practice.................................................................................. 120
Tables

Table 1: Quantitative Inclusion and Exclusion Criteria……………………………………………….. 24
Table 2: Qualitative. Patients interviewed……………………………………………………………… 25
Table 3: Qualitative. Health Care providers interviewed…………………………………………… 26
Table 4: Hospital Characteristics………………………………………………………………………… 30
Table 5: Descriptive Statistics by Hospital……………………………………………………………… 34
Table 6: Diagnosis by Specialty and Sex……………………………………………………………… 39
Table 7: Univariate Logistic Regression………………………………………………………………… 40
Table 8: Stepped Full Model……………………………………………………………………………. 42
Table 9: Logistic regression by subgroup……………………………………………………………… 44
ACKNOWLEDGEMENTS

This work was conducted with support from the Master of Medical Sciences in Global Health Delivery program of Harvard Medical School Department of Global Health and Social Medicine and financial contributions from Harvard University and the Abundance Fund. The content is solely the responsibility of the authors and does not necessarily represent the official views of Harvard University and its affiliated academic health care centers.

I would first like to thank my thesis advisor Professor Mary-Jo DelVecchio Good of the Harvard Medical School, Professor of Global Health and Social Medicine at Harvard University. The door to Prof. Good’s office was always open whenever I ran into a trouble spot, or had a question about my research or writing. She consistently allowed this paper to be my own work, but steered me in the right direction whenever she thought I needed it. Her incredible knowledge and work were an inspiration when writing my thesis.

I would also like to thank the members of my thesis committee Arlene Katz, EdD for her constant advice and exchange of ideas in anthropology and accompaniment; and Ryan McBain, ScD MPH, for his skilled advice and input in quantitative methods. Without their passionate participation and knowledge the data collection could not have been successfully conducted.

I would also like to acknowledge every professor that has accompanied me through this path by sharing their expertise Hannah Gilbert, PhD, Lecturer on Global Health and Social Medicine; Christina Lively, Education Coordinator, DGHSM Medical Education Programs; Joia Stapleton Mukherjee, M.D., Associate Professor of Global Health and Social Medicine; Paul Edward Farmer, MD, PhD, Kolokotrones University Professor of Global Health and Social Medicine; Jason Bryan Silverstein, PhD, Lecturer on Global Health and Social Medicine; Sid Atwood, Biostatistician; Karen Kwass, Research Assistant; Daniel Palazuelos, M.D., Instructor
in Medicine and Department of Global Health and Social Medicine Affiliate; Andrea Chiovenda, Research Assistant II.

I would also like to acknowledge the valuable time and effort of Zulema García, M.D.; Zachary Fowler, M.D.; Nick Seymour and Glenna Knape. I will also like to thank Compañeros en Salud Mexico, for their support. Without their collaboration data collection would not have been possible.

I want to thank the Ministry of Health from Chiapas, especially jurisdiction No. IV and every health care worker and administrator working in the hospitals of Angel Albino Corzo, Revolución and Bicentenario. Their collaboration was absolutely necessary for the completion of this research, and a humbling experience to learn from them. Also, I want to thank every patient that has crossed my path for guiding me forward in teaching me what the needs are, and were to focus my attention.

I would also like to thank Harvard Divinity School and the Religions and Practice of Peace Initiative for teaching me about peace practice, conflict resolution and negotiation.

I appreciate all the support received by CONACYT, Fundación Mexico en Harvard, the David Rockefeller Center for Latin American Studies and the Abundance Foundation for believing in me and my work. Without them I would not be here today.

I would also like to acknowledge Hugo Flores, M.D., Associate Physician in the Division of Global Health Equity at Brigham and Women’s Hospital, Instructor in Medicine at Harvard Medical School, and Co-Founder and CEO of Compañeros en Salud, the Mexican branch of Partners In Health, as the second reader of this thesis, and I am gratefully indebted for his very valuable comments on this thesis.
Finally, I must express my very profound gratitude to my parents and friends for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing my thesis. This accomplishment would not have been possible without them. Thank you.

Valeria Ma. Macías Fernández
Preface

It was Friday afternoon. I was tired, hungry and frustrated. I was sitting in the “pharmacy” of the clinic, in one of the four rooms that comprise the clinic, where I kept all the medication. I was taking a break before continuing with my outpatient clinic. I had no nurse, secretary or pharmacist. I looked outside for a minute and counted the number of patients that were waiting for their turn: at least 15. The visiting resident was in a hurry to leave when finally Don Beto arrived.

Don Beto was one of my first patients in the rural health center called “Casa de Salud Honduras.” It is situated in the middle of the Sierra Madre region of Chiapas. I had recently started my social service year. Don Beto came to see me because he felt a mass on his stomach. As a general practitioner, I knew he needed a specialist. As a foreigner to Chiapas and the health care system, I did not know what steps to take to be able to do that. I felt relieved when I received a notice from Compañeros en Salud (CES), the non-governmental organization I was working with, that an internal medicine physician would be visiting my clinic. I asked Don Beto to come by so that we could go over his health.

By the time Don Beto arrived to the clinic, we had already seen another group of people with tumors. I will never forget Doña Juana, a lady with a huge mass covering all of her neck. She would go to the doctor every so often to relieve the pain, which the doctor did so by sticking a needle in the tumor and extracting the liquid inside. Doña Sandra and Don Luis both had spleens so large I could feel them all over their stomach. They all needed urgent care.

There was not much the visiting resident could do. These patients like Don Beto needed a specialist—care that I, as a general practitioner, could not provide in a remote understaffed and under-resourced facility. Don Beto, like many others, needed a referral to a facility of higher level of care—especially when talking about surgical problems.
I started exploring the referral system of the ministry of health. I learned that as a physician, I had two choices: First, I could collect the required paperwork, take it to Motozintla (where the social worker in charge of referrals is) and start a referral process. Or, I could give the paperwork to the person and let them go directly to the recommended hospital to do the process themselves. Once the paperwork was delivered, we just had to wait to hear back from the social worker with the date of the appointment. From there on, it seemed very straight forward: The person could go to their appointment and receive the care they needed. Financially, there was no problem because everyone had Seguro Popular, the Universal health coverage Mexico had recently implemented. People could go to the hospital and receive care free of charge.

I decided to give it a try. I would start sending referrals through the ministry of health. I thought to myself, “The system is there, the hospitals are there, Seguro Popular is there. It has to work!” The first problem I encountered was geography. The health care center was more than five hours away, and I only visited Motozintla once a month. I started sending the referral paperwork with the nurse. She lived in Motozintla, so she would travel every week to see her family for the weekend. On Mondays, she arrived to the ministry of health offices to deliver paperwork, collect medications or any other things that were missing at the clinic and would stop by with the social worker to see how the referrals were going.

We sent the paperwork of Don Beto along with others. Don Beto would come by almost every week asking if we had news. Another difficulty we encountered was communication. We had no phone, and the region had limited telecommunication with minimum phones or cellphone signal. The central office had no means of communicating directly with the clinic. After two months of waiting, we received news from the social worker that the appointment date was
two days ago. After two months of waiting, we had to send the paperwork again because we had missed the appointment.

During this time, I realized how complicated it could be just to get an appointment at the hospital. But once in a while, we managed to obtain a timely appointment. When we received the information on time, I would get very excited and run towards the person’s house to tell them the news. I would often hear back: “Thank you doctor, you are so kind, but I cannot do this. I have no money.” Everyone had Seguro Popular; nevertheless, it was not enough. People still needed money.

To go to a specialist appointment they would have to use public transportation to get to the city. If they were lucky, they would have to travel to Motozintla; if not, they would have to go further away. They would have to travel one day before the appointment, look for a place to spend the night, buy food for the day and, depending on how the appointment goes, spend a second night in the city to catch the first bus to start their journey back to their community.

Many of the physicians working in areas nearby were having the same concerns. How can we give our patients the specialist care they need? The team of CES started having conversations about providing solutions to the problem. How can we strengthen the health care system so that people can have access to specialist care? If we were being able to get appointments but people were not going because of lack of money then we could provide that. Our next step was to provide people transportation, a place to stay or money to be able to do this, so that they could reach their appointments.

We soon realized that this was not enough. Something was missing. After several appointments people would come to me and say, “Thank you for your help, but I am not going back to that hospital.” Navigating the health care system was more complicated than I expected.
This is why this research has been focused on understanding one of the questions that has accompanied me during my years living in Chiapas.

In the context of *Seguro Popular*, what are the barriers and facilitators that influence the process of seeking care, specifically surgical referrals in rural Chiapas?
Introduction

Doña Josefa, 30 years old wife and mother of three, is a shy young women. I met Doña Josefa when visiting the clinic of Matasanos, as the referral program manager of Compañeros en Salud (CES). When I first saw her, I was impressed by how small and fragile she looked. She came to see the doctor due to constant urine flow from her vagina. She had been living with this condition for more than six years. Her economic situation made it impossible to buy feminine products or diapers to diminish her suffering, therefore she wore rags. It is not that she was used to them, she did not have another choice. She had asked for medical help before, but until then there was still no solution. Her husband accompanied her wherever she went seeking medical care, this trip was not the exception. The doctor did a physical check-up and said she had a vesical-vaginal fistula (a passage between her bladder and her vagina). The doctor explained to them that Doña Josefa needed surgery.

In my research, I focus on the unbearable yet monumental difficulties of the referral system which remain hidden in policy: The challenges patients experience when seeking surgical care. Specifically surgical conditions that are considered non-life threatening and that could be performed in a second level of care facility or rural hospital. This means a small hospital or a larger health center with the required specialists.

Doña Josefa needed a specialist, a gynecologist that could help her, through surgery, and close the vesical-vaginal fistula. Without a specialist, Doña Josefa would have remained with this problem for the rest of her life. The only way to access a specialist in the ministry of health is through the referral system, the organizational structure for referring medical problems from generalists to specialists.¹ Now that Doña Josefa had Seguro Popular,² an insurance that entitles her to access effective health care as a universal right based citizenship, getting and appointment
and receiving surgery from the gynecologist should not have been a problem. Nevertheless, it took more than two years for Doña Josefa to receive surgery.

In my experience as a general practitioner in a health care center, and as a referral’s coordinator, I argue that navigating the complicated bureaucratic referrals system is challenging. Barriers arise in every step of the process, leading patients to fall in the cracks of the system. The hurdles become impossible to overcome, and patients are forced to look for alternative options or give up, leaving them to continue living with their suffering or end up in the emergency room because their disease became life-threatening. I argue that even though people like Doña Josefa could live for another decade with their condition, their quality of life is severely impaired because of the physical pain and emotional suffering their disease brings.

For a health care system to have universal coverage and effective access to health care, a functioning referral system is indispensable to prevent that patients fall through the multiple cracks in the care system. It is vital for people like Doña Josefa to be able to receive a surgery and end her daily suffering from a treatable disease. This is why I explore referral systems, its barriers and facilitators for patients in need and the health care professionals involved. I argue that universal health care is supposed to provide access; but, in reality, patients are not able to navigate a complex bureaucratic system, leading to failure of the system to provide care for patients, especially those who need it the most.

During my years visiting hospitals and learning about the referrals process, I have come to see how conflict is embedded in our daily lives. It manifests directly in the patient-doctor relationship; between doctors and other health care providers like nurses or social workers even ambulance drivers; between doctors themselves from one shift to another; and most importantly
between hospitals. If we are all health professionals aiming towards the same goal, why does it feel more like a competition?

On the other hand, we need to look for the facilitators that make an effective referral. Patients that have successfully received the required surgery. What factors influenced positively in their search for surgical care?

We will reach a deeper understanding of why the quality of referral systems is so important and needs closer attention to the referral of non-acute conditions, the forgotten surgical burden. People that carry their disease for years or even decades, but because their lives are not at risk at that moment, they are discarded to do whatever they can with the scarce resources that they have.

Therefore I ask, why in light of having Seguro Popular are people struggling to receive surgical care? Why are referral systems so complicated? Where and why do people give up? How does a post-colonial state manifest a history of conflict in the health care system? And how does this conflict manifests itself in the referral system? I want to start by going back in time and look into history.

History of Medicine in Mexico

According to Historia de la Medicina en Mexico (History of Medicine in Mexico) by Francisco de Asis Flores y Troncoso (1852), since before the Spaniards arrived to the coast of the Gulf of Mexico, indigenous population had a social structure that included health care providers. Medical professionals occupied buildings beside the temples. It was a hereditary skill, only when the parent died the children could take over the practice. Besides medicine, indigenous people also had surgeons, bleeders, apothecaries and midwives.\(^3\)
During the Conquista, some indigenous groups would help the Spaniards recover after a fight. Some of the health care providers even continued practicing during the first years of domination. As time wore on, these indigenous people began hiding their skills for fear of being accused as witches.\textsuperscript{3} Even by the 19\textsuperscript{th} century, traditional healers continued practicing, but they would only receive poor people from the villages; anyone with white skin that tried to receive a consultation was viewed with distrust. The historian and physician Flores y Troncoso describes how hatred remained in the hearts of the race, after the pain and misfortune wrought by the whites.\textsuperscript{3}

The Spaniards brought with them unknown diseases like mumps and syphilis, killing many of the indigenous.\textsuperscript{3-5} According to Ocaranza (1934), the first hospital was founded in 1524 by Hernan Cortes, to take care of the poor. Over the next 50 years, more than 30 hospitals were opened all over La Nueva España. A hospital regimen designed specifically for indigenous population was put in place. At first they were managed by a selected group of indigenous called \textit{principales} and \textit{mandones}. After this group abused their power and took advantage of the hospital administration for their own benefit, the indigenous population stopped going to these hospitals.\textsuperscript{5} After, management was by friars that, among other things, took the task of the care of the ill, especially the poor mestizos and indigenous. Home visits were used when health became a major concern like epidemics\textsuperscript{4}. It was evident that physicians were required in this new continent.

The 10\textsuperscript{th} of November of 1580, the first medical professorship was established in the \textit{Real y Pontificia Universidad de Mexico} (Royal and Pontific Mexican University).\textsuperscript{4} Since the beginning, medicine was hierarchical and reachable only to those that had economic resources and “clean blood”—they could not be children of slaves.\textsuperscript{4,5} It was so elitist that by 1630 the
university had only 14 students. You could aspire to be a bachelor, a graduate or a doctor, but you could start your private practice once obtained your bachelor degree. This was not an option for surgeons. In my experience, medicine is a career path mainly for the privileged.

It was not until 1680 that surgeons could form part of the teaching personnel at the university. Finally, in 1799, a college for surgeons was established in Mexico. Before that, being a surgeon was considered socially and scientifically of a lower level than other doctors. Being a colony of Spain it was mandatory that the college of surgeons would follow the same guidelines as the mother country. This was not well received by the Mexican physicians, they pleaded that this was just an excuse to send Spanish physicians to Mexico so they could enjoy sinecures and create disastrous competition with the already established physicians and surgeons. This was not the only clash in medicine against colonial rule.

Medical schools and hospitals under the colonial era had to follow very strict rules imposed by the church. Physicians had to even acclaim they will protect the virginity of Mary before graduating. The knowledge of Science was not moving forward, Mexican physicians felt their knowledge was impaired. A group of providers ignoring the prohibition to practice and study outside the Royal University started clandestine group of medical students, which would then go to hospitals and interact with the patients so to finish their clinical training. Another problem were specialty trainings.

It was the norm that general practitioners with will, research and by self-thought practices would then call themselves specialists. This is how specialties started in Mexico. The different medical professions multiplied and became diverse having Latin surgeons, Spanish surgeons, phlebotomists, dentists, hernistas, just to mention a few. They were not only diverse on their training but on their scientific and social perspectives as well.
Finally in 1821, Mexico celebrated its independence. With independence came freedom to train and practice the profession along with efforts to unify the different medical professions as Médico-cirujano (Physician-Surgeon) graduates. In 1861, with Benito Juarez as President of Mexico, the Beneficiencia Publica (Public beneficence institution) was created and the secularization of hospitals started. The Mexican government took the responsibility of taking care, managing and maintaining the hospitals ran by the church since the Conquista.

In 1985, to contribute to improve the efficiency and quality of the health care services a referral and counter-referral system was put in place. With the objective of consolidating the health care system by making a link between the first and second level of care, and improving the coordination amongst them. Nevertheless the referral system continued to encounter problems like inadequate coordination between the different levels of attention, referrals not well grounded, deficient orientation and communication to the patient, lack of knowledge of the facilitating mechanisms of the system at the operational, jurisdictional and state level; and poor follow up of the referred patients.

According to the referrals manual (2016) the objectives of the referral system, more specifically, should be: first, to facilitate the transportation of patients with an emergency with the available resources from the sending hospital; if they have no resources, the receiving hospital should provide the transportation; second, to promote the coordination amongst the operational and administrative levels of the system with the purpose of providing opportune, integral and resolute medical attention to the users; third, to follow patients over time and make sure they are receiving adequate treatment; and finally to provide preferential treatment to the referred patient. The referral system seems rather simple, but as exemplified above with the case of Doña Juana, there are multiple snags that lie in between these bigger steps.
An understanding of the referral patterns is vital for planning hospitals and other health care facilities. Moreover, an understanding of the hurdles patients and health care workers face through the referral process is key to identify the bureaucratic gaps that need attention to restructure the health system. Only when these hurdles are addressed and bureaucratic gaps closed, Mexico will be able to have an effective and universal access to health.

**Universal Health Care**

In 2001, the millennium developmental goals were formulated. A deadline of December 31, 2015 was set to improve society by addressing issues such as eradicating hunger, ensuring primary education, gender equality, preventing child mortality, improving maternal health, combating infectious disease, ensuring environmental stability and creating partnerships for improved development around the world. At the end of 2015 the sustainable development goals (SDGs), with 17 goals and 169 targets were established. Only one was health-specific (3): “Ensure healthy lives and promote well-being for all at all ages” and 27 health related targets. Target 3.8 is to “achieve universal health coverage”. To achieve this goal, we must ask “What is universal health care coverage?”

According to the World Bank, UHC means having effective access to health care and financial protection when receiving it. The World Health Organization (WHO) defines universal health care coverage as “to ensure that all people obtain the health services they need without suffering financial hardship when paying for them”. People are entitled to access to health care with efficiency, quality, and affordability; including transportation, education, urban planning, qualified and motivated health care workers, as well as access to technology. This means we must develop a health care system that is able to provide quality care that meets the needs of everyone in the population. On a bigger scale, anyone that gets sick should receive an accurate diagnosis
and treatment for his or her disease, without treatment being an economic burden. However, this is not the first time the world has attempted to achieve this goal.

In September 1978, representatives from many countries convened for the International Conference on Primary Health Care, Alma-Ata, where the needs and urgencies of health were discussed. The USSR introduced a health care system focused on primary health care that was universally accessible to all individuals.\textsuperscript{12} “Health as a human right” became the motto and the goal of eliminating inequality was put on the table. Paul Farmer, a Global health leader argues that the declaration was rapidly taken out of the agenda, vertical primary health care programs as GOBI-FFF were prioritized, Neoliberalism invaded the world and “health as a human right” became “health based on free markets.” Patients transformed into clients (as people are called in the business settings) and out-of-pocket expenditure became the new model to access health care.\textsuperscript{13} Now, 37 years later, with the SDGs the idea of universal health coverage rises again in the agenda of global health.

\textit{Mexican Health Care System}

Today 2017 Mexican health care system reflects this history with a fragmented system. It includes a public system, a social security system and private practice. Each insurance acts very independently from the others. Each offers different benefit packages, have different sources of funding, and their own provider networks. In Figure 1, we can appreciate the complexity of the system.
The public sector has a Social Security System, which provides health care to people in the formal economic sector, and a public social protection to care for those who do not have social security.

The first branch, social security, is destined for formal workers of the Mexican economy 23%. This branch includes: the Mexican Institute of Social Security (Instituto Mexicano del Seguro Social- IMSS), Institute of Social Services and Security of the State Workers (Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado - ISSSTE), Mexican Oil (Petroleos Mexicanos – PEMEX), Secretary of National Defense (Secretaria de la Defensa Nacional – SEDENA), Secretary of Marines (Secretaria de Marina- SEMAR), and others.
The second branch is the one designated to people without social security. This means everyone that does not belong to the formal job sector. In this branch we have the Popular Insurance (*Seguro Popular de Salud*-SPS), the ministry of health (Secretaria de Salud- SSa), The State Health Services (Servicios Estatales de Salud –SESA) and the program IMSS-Oportunidades (IMSS-O).\(^{15}\) IMSS-Oportunidades is called now IMSS-Propera.

The private sector is available for those who can afford it. In general, only 2% of the population. In 2007, 54.6% of the total expenditure in health was destined to the private sector.\(^{15}\) Financing of Social Security institutions comes from government, employer, and employee. SSA is financed by federal and state funds. Users pay a small fee for services if they do not have *Seguro Popular*.\(^{15}\) Despite that, federally and state run health facilities are heavily subsided. These fees are a high contribution to the out of pocket financing of health care.\(^{2}\) Mexico’s expenditure in health services accounts for the 5.9% of GDP. Even though it has gone up the past years, it is still below the Latin American average.\(^{15}\)

In 2003, with Vicente Fox as the president of Mexico and Julio Frenk as the ministry of health, Mexico launches a new health care reform.

*Seguro Popular*

In 2012 thanks to *Seguro Popular* Mexico declared that universal health coverage (UHC) had been achieved.\(^{16}\) Health is no longer a benefit for only those who were employed but is instead a human right available to all and guaranteed by the constitution. *The Lancet* congratulated Julio Frenk and President Vicente Fox for leading the world in providing coverage to all its citizens, and indicated that this new coverage would improve Mexico’s economic development.\(^{17}\)
The health reform that started in 2003 consisted in changing the health care system from a social security system\(^1\), to a social protection system\(^2\). Introducing the System of Social Protection in Health (SSPH), with an insurance-based component called Seguro Popular, Mexicans are now entitled access to effective health care as a universal right based on citizenship\(^{18}\). The main innovation of this reform is the creation of Seguro Popular with its goal of eliminating health social inequalities through access of care for all, especially the poor. Before this, more than half of Mexican population was without any financial protection in health. Essentially the entire population had access to health services, but the number, quality, effectiveness and associated degree of financial protection of interventions was very diverse across the different socioeconomic status, population groups, or states.\(^2\)

Seguro Popular is an insurance-based program aiming to provide access to all those persons without a formal job. This includes around 50 million Mexicans that had not been able to participate in existing social insurance schemes.\(^2\)

The road to accomplish this was to increase the overall spending for health, lower the out of pocket spending and rebalance the inequitable distribution of public funds among population groups and among states.\(^2\) It is financed by fund from the federal government, from state and family fees, and buys services from SSA and in some rare occasions to private providers.\(^{15}\) Money distribution is made in the basis of a formula which is determined largely by the number of families

\(^1\) Social Security system was established in Europe during the XIX century. It is in relation with the laborer status of the citizens. People who have a salary. With this insurance scheme more than 53 million Mexicans were uninsured.

\(^2\) Social protection system was started by the United Kingdom during XX century. The state must guarantee its services thru public funding\(^{17}\)
affiliated to the insurance scheme and thus is driven by demand. Thus being an incentive for quality and efficiency. If the services provided are bad, families will not re-affiliate.2

_Seguro Popular_ ideally guarantees access to a package of health services with 260 essential interventions, including medications. It is legally mandated to include ambulatory care and hospitalization for the basic specialties (internal medicine, general surgery, obstetrics and gynecology, pediatrics, and geriatrics).2 It also has a high cost intervention package that includes 18 interventions like cervical cancer, HIV, and cataract surgery.15

When working as a general practitioner in rural Chiapas, all my patients had _Seguro Popular_, all their illnesses were covered by this insurance and a referral sheet was given every time it was required. Nevertheless, very few were actually able to complete the referral process to gain the specialist care they needed.

Though _Seguro Popular_ offers wide coverage in theory, in reality effective coverage requires a functional referral system. I want to know more about how patients’ access needed procedures. Specifically, what happens when a patient receives a referral and whether and how patients can access the needed procedure? I will use the lens of surgery to capture this experience.

**Global Surgery**

Surgery is the branch of medicine concerned with the treatment of disease, injury and deformity by operation or manipulation.19 Since 30 years ago, Dr. Mahler talked about the importance of surgery as not only a specialized component of health but also about its relevance in the primary health care setting. Today (2015), the need to access basic surgical care is still a concern. Surgery is still considered the neglected component of primary care.

Some people think surgery only addresses a small part of the global burden of disease, when in reality surgery can treat 11% of the global burden. It is among the top 15 causes of
disability and up to 15% of total disability adjusted life years (DALYs) all over the world, estimated to be 260 by the WHO in 2011.20

In Mexico the epidemiologic transition is well advanced, even though infectious disease are still not fully controlled, Non-communicable disease and injuries are the leading cause of death and disability.2 The total DALYS per 100,000 in 2012 was 26,673 of which injuries accounted for 3683 and NCDs for 19524. Mortality rate per 100,000 was 588.6 of which NCDs were 468.3 and injuries 63.2 (WHO). The quantity of deaths secondary to NCDs and injuries has increased from 44% to 73% in 50 years, and the view for 2025 is that percentage will keep rising to a whopping 78%.2 Surgery can help in the treatment of a wide variety of conditions like cancer, diabetes, labor complications, traffic injuries, disasters and emergencies, congenital abnormalities and even infectious disease, taking care of this high burden of disease.

I decided to look into surgery because it is a worldwide problem of inequality in health. Of the 234 million surgical operations that are performed every year, only 3.5% are executed in the poorest third of the population. There are approximately 2 billion people in the world without access to surgical care - including emergency care- especially in middle and low-income countries. Access to care is very limited or concentrated in urban centers, increasing the mortality or disability from minor surgical issues and treatable injuries.19

Misconceptions about how difficult it can be to install surgery as part of primary health care in an everyday basis as cost-effectiveness, lack of human capacity, and lack of health care systems need to be challenge. Studies done are portraying possible solutions, proving this idea is an error.21,22
RIGHT TO HEALTH CARE

“Health care is not a commodity or a privilege, but a social right.” -Julio Frenk

Compañeros en Salud (CES), PIH sister organization working in Mexico, started a Right to Health Care program in 2012. The aim is to strengthen the referrals in the health care system. The program receives referrals from the 10 communities where CES has clinics. The referrals coordinator has a wide knowledge of the secondary and tertiary health care system. With this knowledge, the program coordinator creates a strategy for the patient to be able to receive care. According to the disease, she selects and makes contact with the hospital that provides the required services and completes the patient file by adding laboratories and complementing studies. Once the appointment is scheduled, the patient receives help with transportation, housing and food as well as accompaniment to the appointment. Further, when the appointment is completed, the program makes sure the patient learns how to navigate the system to be able to follow up until treatment is completed. We send a summary to the primary care physician after each appointment so that he/she can continue community care and accompany the patient through their disease as well.

This integrated system has helped poor patients both navigate the system and receive the care they require for their pathologies. Patients from the sierra of Chiapas have access to secondary and tertiary care level. They are receiving cancer treatment, surgeries and HIV treatment, without spending all their income in this process.

The right to health care program is integrated by: one program coordinator, one social worker and two multipurpose workers. The number of CES clinics has increased from six to ten, with it the number of patients referred. Every day the number of patients in the program grows and if CES keeps expanding, the actual right to health care program will become challenging and will require more human resources. There is a need for this program to be evaluated and renovated for
it to be scalable. To be able to do this, first we need to understand how the referral system and the hospital system works. The health care system has many hurdles that may lead patients to despair and drop out of their treatment before time.

METHODS

This study was approved by Harvard IRB, the Instituto Tecnologico y Estudios Superiores de Monterrey (ITESM) ethics committee, and the States MOH ethics review board.

I conducted a convergent mixed-methods study with a social justice framework to address the barriers and facilitators for patients with Seguro Popular in the Fraylesca Region of Chiapas, Mexico. Specifically the barriers which do not permit successful referrals to higher levels of care for surgical procedures.

I used a mixed-methods approach to understand patient experiences of navigating the health care system and to measure the number of successful referrals. Figure 1 represents the study design.

OVERALL APPROACH: MIXED METHODS

Setting and study population

The Fraylesca region is full of Ejidos\(^3\) so disperse and far away from the cities that every new visitor is struck to see so many stars. Fifteen years ago, this remote had neither electricity nor toilets. Water is abundant in rivers; people used a hose system to channel it to their houses. There are no paved roads to reach most of the communities that exist in this regions. Transportation is hard to find. If you are lucky, you may find a seat on the back of a truck that

\(^3\) Communally held village lands that consist of cultivated land, pastureland, and the fundo legal (town site). It combines communal ownership with individual use, without a possibility of selling it.\(^48,49\)
serves as taxi. It leaves the community at 4AM and returns in the afternoon. During the rainy season, it is nearly impossible to travel, unless you are a skilled driver and own a 4x4 car.

Figure 2: Study diagram for Rethinking Referral Systems in Rural Chiapas, a Mixed Methods.

Health Care Inequality Lens

- Quantitative
  - Medical records (1207)
    - 3 facilities
    - Outcome: Received surgery?
- Qualitative
  - Semistructured interviews
    - Patients (19)
    - Health Care Providers (18)

What factors influence whether patients with Seguro Popular in the Sierra Madre of Chiapas progress successfully from referral to procedure?

Analyze Independently

Merge Results

Interpret Convergence or divergence?

Figure 3: Image of Mexico

© pickatrail.com
Communication is difficult; there is no phone signal or internet in most of the catchment area. People use radios to spread news whenever necessary.

The inhabitants of this region come from the Mam indigenous group. In the early twentieth century, the people from the Mam group underwent a process called mexicanization.24,25 The Departamento de Acción Social, Cultural y Protección Indígena (Social action, Cultural and Indigenous Protection Department) created in 1934 forced them, through beatings and discrimination, to leave their indigenous traditions and assimilate into Mexican culture.24 Ever since they can remember, coffee has been their means of survival.

Coffee grows once a year; if money runs out before the next year, there are no other means but to ask for loans. Since 2012 a plague call la roya (coffee rust), a fungus that kills the coffee plant, invaded this region.26 Farmers have suffered impoverishment due to this plague that has killed their main or only source of income, the coffee plant. Since then, an economic crisis has settled leaving farmers to use all their left income to reinvest in planting coffee again, with hopes of a better future.

The population from these communities lives in conditions of poverty or extreme poverty. High rates of marginalization and illiteracy have been reported for this region.27 Because of sociopolitical reasons, there is a local reluctance to sign forms for fear that they may lose their land or conditional cash transfer benefits.

In the study we focus on people who belong to the informal sector of the economy that have Seguro Popular. Seguro Popular is financed by federal funds, state resources, and a family fee. It buys health services from SSa, SESA, and IMSS-Prospora. In our study setting, Chiapas, there is no family fee.
This research was conducted in collaboration with a local organization, Compañeros en Salud Mexico (CES), and the Ministry of Health (MOH) from Chiapas. The Ministry of health in Chiapas is divided in 10 jurisdictions. This study focuses on one of those jurisdictions, IV.

The Fraylesca or Jurisdiction IV (Green, in figure 4) is formed by five municipalities: Villafloros, Villa Corzo, La Concordia, Angel Albino Corzo, and Montecristo de Guerrero. In total, the MOH has over 60 medical units, of which only three (Angel Albino Corzo-AAC, Revolución, and Villafloros) are considered first/second level hospitals. AAC and Revolución have one surgeon each and one surgical room. Villafloros, the biggest hospital in the region, has eight hired surgeons. I conducted the study in the three hospitals that have a hired surgeon. I chose this region because I have worked for the past four years in collaboration with this jurisdiction.

Quantitative methods

We recorded data of 1,207 patients who sought care in any of the three hospitals that belong to jurisdiction IV and offer surgical care.

Chart abstraction

In collaboration with the social workers in charge of referrals, we utilized the referral records they kept in notebooks from the year 2012 to 2014 to select medical files that were used to record data. We chose every medical file that fulfilled the inclusion criteria in Table 1.
Table 1: Inclusion and Exclusion Criteria

<table>
<thead>
<tr>
<th>Quantitative Component</th>
<th>Inclusion criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients over 18</strong></td>
<td></td>
<td>Patients under 18</td>
</tr>
<tr>
<td>**Basic surgeries performed in 1st and 2nd level hospital included in the CAUSES.**¹</td>
<td></td>
<td>Referrals before January 1, 2012 or after December 31, 2014. (not hysterectomies)</td>
</tr>
<tr>
<td>1. General surgery</td>
<td></td>
<td>Medical records requiring a surgery that is not included in the CAUSES.</td>
</tr>
<tr>
<td>2. Gynecology</td>
<td></td>
<td>Identified by the surgeon as non-surgical candidates.</td>
</tr>
<tr>
<td>3. Trauma surgery that</td>
<td>(We include the list of procedures in Appendix 1).</td>
<td>Referred to third level facility.</td>
</tr>
<tr>
<td><strong>Hysterectomies</strong></td>
<td></td>
<td>Identified as needing an obstetric surgery or pregnant.</td>
</tr>
</tbody>
</table>

I tracked each patient included to ensure quality of the data. Each name was given an identification number. I deleted the spreadsheet once the data collection was finished. Data was recorded using an electronic app created in Commcare®. The team trained to use the app and to follow IRB confidentiality procedures.

Data recorded included referral letters, number of consultations, lab work, surgeon’s absenteeism, patient’s no show, received surgical procedure, and number of times surgery was re-scheduled. See appendix 2.

⁴ Catalogo Universal de Servicios de Salud (Universal Catalogue of Health Services) that Seguro Popular provides⁵⁰.
**Qualitative methods**

We used semi-structured interviews to identify barriers and facilitators that patients with Seguro Popular insurance face in seeking surgical care with the Ministry of Health in Chiapas, Mexico. We interviewed patients, physicians, and social workers.

**Patient Interviews**

Table 2

<table>
<thead>
<tr>
<th>Patients</th>
<th>Male</th>
<th>Female</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients that did not receive surgery</td>
<td>1</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Patients that received surgery at MOH</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Patients that received surgery with private provider</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I used snowball sampling to recruit participants. I started by asking a person of trust (e.g., community health worker, nurse, general practitioner) in the community if they could direct us to someone in need of surgery or someone who had received surgery after Seguro Popular was installed. Once introduced to the participants I explained the study and made sure the potential participant fulfilled the inclusion criteria. No one refused to participate. I read and obtained verbal consent form before any interview was conducted. We provided a copy of the consent document to everyone. See table 2

After verbal consent, researchers conducted in-person semi-structured interviews. Once the interview was completed, we asked the participants if they knew someone else that had gone through the same or similar problem that would be willing to talk to us. In this region, it is
culturally acceptable to receive home visits and people are willing to talk about their surgical conditions, since they are not stigmatized.

The interviews included questions on obstacles and opportunities to access surgical treatment. See appendix 3 for Interview guide. Interviews were held in a private room at the participant’s home.

**Staff Interviews**

Based on my experience as a rural physician and a referrals coordinator, visiting a place of work is considered appropriate in this setting and is often seen as more forthcoming than a phone call; therefore, it was an acceptable practice during the recruitment. The research team offered to call back or wait away from the workplace while the participant considered their participation.

Health care providers were recruited at rural clinics and hospitals where I had become familiar with during my three years working with CES. I approached the providers and explained the research in person and asked for their collaboration. Only one person refused to participate. See Table 3.

<table>
<thead>
<tr>
<th>Health Care Providers</th>
<th>Male</th>
<th>Female</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Service Physicians</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>General Practitioners</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Specialist</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Social Worker</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Community Coordinator</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ambulance driver</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
I explained and obtained written consent from all participants before interviews were conducted. Interviews included questions on obstacles and opportunities accessing surgical treatment. See appendix 4 for Interview guide. Participants chose the place where they felt comfortable talking.

With permission of the participants, I audio recorded and took notes of all interviews. Only one participant refused to be recorded. Notes included main discussion points and observations of non-verbal data during each interview. Interviews took from one hour to two hours. No names or contact information was recorded.

The 37 Interviews were recorded and transcribed in Spanish and were then translated to English.

<table>
<thead>
<tr>
<th>Referrals acompañant</th>
<th>1</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DATA ANALYSIS

**Quantitative analysis**

I used STATA® software version 14.2 to do the analysis. Continuous variables were described using means and standard deviation. Categorical variables were analyzed as frequencies and percentages. Outcomes were reviewed as numbers and proportions with corresponding 95% confidence intervals.

Descriptive summaries of variables were presented in tables. Chi-squared tests and two-sample t-test were used to determine differences between the three hospitals. Levels of significance were set at 5%.

I assessed whether receiving surgery is associated with gender controlling for potential confounders, using logistic regression. The first step was to identify potential risk factors using invariable logistic regression models for each predictor. Variables that were significant at the $\alpha = 0.05$ significance level were subsequently considered for the multivariable logistic regression model developed using forward stepwise addition, stopping at the explanatory variables that showed significance at $\alpha = 0.05$.

The second step was by using the full model to do a subgroup analysis, using logistic regression, for sex, specialty, and elective surgery to answer more detailed questions.

**Qualitative analysis**

I conducted a thematic analysis. First, I read through the data and wrote memos. I used MAXQDA Analytics Pro 12 software to review interview transcripts, and code them. I then grouped codes into categories and finally generated mayor themes to answer the research question.\textsuperscript{23}
Mixed-method analysis

Once quantitative data and qualitative data were analyzed, I integrated the results to draw interpretations based on the combined strengths of both sets of data to answer the research question.  

23
RESULTS

Quantitative findings

The study was conducted in a total of three hospitals that belong to the Jurisdiction No. IV in the Fraylesca Region in Chiapas, Mexico. These hospitals were selected because they were the only ones in the study setting that have at least one hired surgeon. See table 4, for hospital characteristics.

Hospital Bicentenario in the municipality of Villaflores is the biggest hospital in the region with 17 Clinics, two of which are for general surgery, two for gynecology, and one for trauma. In total, the hospital has 104 beds, 89 physicians, and 138 nurses. This hospital has eight hired surgeons, nine gynecologists and three trauma surgeons. It is the only hospital with trauma surgeons. With regards to infrastructure, it has a functional blood bank, laboratory, ultrasound equipment, and a CT scanner.

Hospital Revolución is a basic community hospital, the same as Hospital Ángel Albino Corzo (AAC). Nevertheless, Hospital Revolución has three more clinics than AAC, 12 more beds and one more surgeon. They both have a functioning laboratory and EKG machine.

Graph 1 shows the number of surgeries in each hospital from 2012 to 2014 and the origin of the patients that required the surgical procedures.

<table>
<thead>
<tr>
<th>Table 4: Hospital characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2014)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total No. of clinical offices</td>
</tr>
<tr>
<td>Surgery</td>
</tr>
<tr>
<td>Department</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Gynecology</td>
</tr>
<tr>
<td>Internal Medicine</td>
</tr>
<tr>
<td>Trauma</td>
</tr>
<tr>
<td>Emergency</td>
</tr>
</tbody>
</table>

| Total No. of Hospital Beds | 61 | 27 | 23 |
| Total No. of non-hospitalization beds | 43 | 9 | 25 |
| General beds | 0 | 12 | 20 |
| Surgery | 7 | 6 | 0 |
| Gynecology | 33 | 6 | 0 |
| I. Medicine | 13 | 0 | 0 |
| Trauma | 0 | 0 | 0 |
| Emergency | 13 | 5 | 3 |
| Total No. of Physicians | 89 | 18 | 22 |

| General Practitioners | 41 | 12 | 9 |
| Gynecologist | 9 | 1 | 0 |
| Surgeons | 8 | 1 | 2 |
| I. Medicine | 5 | 1 | 2 |
| Trauma | 3 | 0 | 0 |
| Anesthesiologist | 9 | 0 | 2 |

<table>
<thead>
<tr>
<th>Other workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurses</td>
</tr>
<tr>
<td>Chemist</td>
</tr>
<tr>
<td>Position</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Social Worker</td>
</tr>
<tr>
<td>Laboratory tec.</td>
</tr>
<tr>
<td>Tec. in radiology</td>
</tr>
<tr>
<td>Medical files admin</td>
</tr>
<tr>
<td>Cleaning</td>
</tr>
</tbody>
</table>

**Infrastructure**

<table>
<thead>
<tr>
<th>Position</th>
<th>1</th>
<th>0</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Bank</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Laboratory</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ultrasound equipment</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Radiology equipment</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EKG</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>CT Scan</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 5: Number and origin of surgeries per hospital, % = Percentage of referrals originating from the emergency room.
Hospital Bicentenario from 2012 to 2014 performed an average of 2,943 surgeries/year with a minimum of 2,780 and a maximum of 3,053. Each year the percentage of surgeries originating from the emergency room increased, reaching over 99% in 2014. During this year only 6 surgeries performed originated from outpatient clinic.28

In the hospital of Angel Albino Corzo from 2012 to 2014, an average of 79 surgeries/year were performed, with a minimum of 14 and a maximum of 133. During these three years, 24.06% of surgeries originated from outside the emergency room.28

Hospital Revolución performed an average of 433 surgeries/year, with a minimum of 322 and a maximum of 499. This hospital differentiates from the others in that, as seen on the graph, it had a more equivalent distribution in the percentage of surgeries that originated from the emergency room versus those originating from outpatient clinic.28

In general, we observe that very few of the surgeries done came referred from another facility. In 2012, Hospital Revolución performed surgery in eight patients referred from another facility, and Hospital Bicentenario performed 11. In 2013, only Hospital Bicentenario performed surgeries on referred patients (n=36). In 2014, Hospital Revolución did only one and Hospital Bicentenario two surgeries referred from other hospitals.28

The purpose of this study was to determine the percentage of people that receive surgery after getting a surgical referral and determine what factors may be associated with higher percentages of receiving a surgery or not, and observe if there is variation by hospital.

We collected information from 1,184 medical charts. The majority of the charts were recorded from Hospital Bicentenario 678 (57%). This hospital had the most complete data in the medical files. In AAC, our sample size was 301 (25%), but medical files had missing data.
Finally, in Hospital Revolución we collected 205 (17%) of the data. In this hospital surgical consultations were absent on the medical files, therefore they were not recorded.

This analysis involved 13 variables. The continuous predictor variables included: age, socioeconomic status, medical absenteeism, number of patient no shows to clinic, total number of pre-surgical evaluations, total number of times surgery was scheduled, total number of diagnostic test visits, and total number of outpatient consultation. We used student t-tests to look for differences in this variables, among the three hospitals.

Categorical variables included: sex, specialty: surgery, gynecology or trauma; education: illiterate, preschool, elementary school, middle school, high school, and college or higher education. We used Pearson $\chi^2$ to observe association.

Finally, we also have dichotomous categorical variables with a yes (coded as 1) and no (coded as 0) value. The variables include: If it was an emergency, if it was an elective surgery, and if participants were single. The outcome variable is received surgery, which is a categorical variable with the values yes and no. We used Pearson $\chi^2$ to observe association. Table 2 describes the results.

Among the sample of 1,184 patients, in table 5 we can observe the distribution of the variables by hospital.

The average age was 41.75, with a standard deviation of 16.19, and with a minimum of 18 and a maximum of 95. The age 18 was the minimum that could be obtained according to our inclusion criteria. A histogram of this variable showed a unimodal distribution with a right skew, probably because of a floor effect, given that patients can only get a minimum of 18 years old. An independent-samples t-test was conducted to compare age of patients in the three hospitals. There was no significant difference.
The socioeconomic status (SES) was only captured in 40% of a sample, and mostly from the Hospital Bicentenario. Of the data recorded, we observe a normal distribution without any outliers, in where the average was 3 with a standard deviation of .82. The minimum was 0 (the poorest) and the maximum was 6 (the richest), the highest possible value. An independent-samples t-test was conducted to compare SES by hospital. There was a significant difference in the scores of SES for H. AAC (M=1.57, SD=.79) and H. Revolución (M=3.13, SD=0.26); t(21)= -3.56, p< .005. There was also a significant difference in the scores of SES for H. Bicentenario (M=3.03, SD=.04) and H. AAC (M=1.57, SD=.30); t(457)= 4.8, p< .005. There was no significant difference in the scores of SES for H. Revolución and H. Bicentenario. These results suggest that SES may have an effect by hospital.

We recorded medical absenteeism and patient no shows only in those patients that were considered elective surgery. Among the sample of 509 on average, physicians do not show to clinic 30% of the time, with a minimum of 0 absenteeism and a maximum of 6 times not.

Table 5: Descriptive Statistics by Hospital

<table>
<thead>
<tr>
<th></th>
<th>H. Gral.</th>
<th>H.B.C.</th>
<th>H.B.C.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regional</td>
<td>Ángel</td>
<td>Albino</td>
<td>Revolución</td>
</tr>
<tr>
<td></td>
<td>Bicentenario</td>
<td>Corzo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Size (%)</td>
<td>678</td>
<td>301</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td>n = 1,184</td>
<td>(57.26)</td>
<td>(25.42)</td>
<td>(17.31)</td>
<td></td>
</tr>
<tr>
<td>Age (mean)</td>
<td>41.24</td>
<td>41.75</td>
<td>43.438</td>
<td>(41.75)</td>
</tr>
<tr>
<td>n = 1,184</td>
<td>std. dev</td>
<td></td>
<td></td>
<td>16.19</td>
</tr>
<tr>
<td>(min, max)</td>
<td>(18,95)</td>
<td></td>
<td></td>
<td>t(881) = -1.74, p &gt; .05</td>
</tr>
</tbody>
</table>
### Sex (%)

<table>
<thead>
<tr>
<th>Gender</th>
<th>n = 1,184</th>
<th>Female</th>
<th>489 (72.12)</th>
<th>180 (59.8)</th>
<th>156 (76.10)</th>
<th>825 (69.68)</th>
</tr>
</thead>
</table>

### Specialty (%)

<table>
<thead>
<tr>
<th>Specialty</th>
<th>n=1,184</th>
<th>Surgery</th>
<th>389 (57.37)</th>
<th>186 (61.79)</th>
<th>159 (77.56)</th>
<th>734 (61.99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gyn</td>
<td>217 (32.01)</td>
<td>56 (18.60)</td>
<td>46 (22.44)</td>
<td>319 (26.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>72 (10.62)</td>
<td>59 (19.60)</td>
<td>0 (11.06)</td>
<td>131</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Emergency (%)

<table>
<thead>
<tr>
<th>Emergency</th>
<th>n = 808</th>
<th>Yes</th>
<th>218 (37.91)</th>
<th>15 (20)</th>
<th>19 (12.03)</th>
<th>252 (31.19)</th>
</tr>
</thead>
</table>

### Elective (%)

<table>
<thead>
<tr>
<th>Elective</th>
<th>n = 808</th>
<th>Yes</th>
<th>403 (70.09)</th>
<th>61 (81.33)</th>
<th>143 (90.51)</th>
<th>607 (75.12)</th>
</tr>
</thead>
</table>

### Single

<table>
<thead>
<tr>
<th>Single</th>
<th>n = 964</th>
<th>Yes</th>
<th>152 (22.62)</th>
<th>20 (22.22)</th>
<th>40 (19.80)</th>
<th>212 (21.99)</th>
</tr>
</thead>
</table>

### SES

<table>
<thead>
<tr>
<th>SES</th>
<th>n = 475</th>
<th>Obs (mean)</th>
<th>452 (3.03)</th>
<th>7 (1.5)</th>
<th>16 (3.13)</th>
<th>475 (3.01)</th>
</tr>
</thead>
</table>

\[t(504) = -1.12, p > .05\]
\[[hosp1-hosp3]\]

\[t(475) = 4.8, p < .05\]
\[[hosp1-hosp2]\]
### Medical Absenteeism

<table>
<thead>
<tr>
<th>Obs</th>
<th>Std dev</th>
<th>(min, max)</th>
<th>(min, max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>403</td>
<td>.31</td>
<td>(.30)</td>
<td>(.68)</td>
</tr>
<tr>
<td>50</td>
<td>.31</td>
<td>(.17)</td>
<td>(.68)</td>
</tr>
<tr>
<td>56</td>
<td>.31</td>
<td>(.17)</td>
<td>(.68)</td>
</tr>
<tr>
<td>509</td>
<td>.31</td>
<td>(.30)</td>
<td>(.68)</td>
</tr>
</tbody>
</table>

$t(451) = .13, p > .05$

$t(104) = .13, p > .05$

### No show

<table>
<thead>
<tr>
<th>Obs</th>
<th>Std dev</th>
<th>(min, max)</th>
<th>(min, max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>403</td>
<td>.05</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>50</td>
<td>.05</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>56</td>
<td>.05</td>
<td>(0)</td>
<td>(0)</td>
</tr>
<tr>
<td>509</td>
<td>.05</td>
<td>(0)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

$t(451) = 1.61, p > .05$

$t(104) = -0.94, p > .05$

### Education

<table>
<thead>
<tr>
<th>N = 578</th>
<th>1 (Illiterate)</th>
<th>2 (Preschool)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Obs</td>
<td>Std dev</td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>101</td>
<td>66</td>
</tr>
</tbody>
</table>

$x^2 (10) = 22.56$

$p < .05$
<table>
<thead>
<tr>
<th>3 elementary</th>
<th>4 middle</th>
<th>5 high</th>
<th>6 college or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>114</td>
<td>63</td>
<td>43</td>
</tr>
<tr>
<td>(28.46)</td>
<td>(23.17)</td>
<td>(12.80)</td>
<td>(8.74)</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>(34.48)</td>
<td>(3.45)</td>
<td>(6.9)</td>
<td>(3.45)</td>
</tr>
<tr>
<td>18</td>
<td>5</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>(31.58)</td>
<td>(8.77)</td>
<td>(10.53)</td>
<td>(14.04)</td>
</tr>
<tr>
<td>168</td>
<td>120</td>
<td>71</td>
<td>52</td>
</tr>
<tr>
<td>(29.07)</td>
<td>(20.76)</td>
<td>(12.28)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

Total No of times

<table>
<thead>
<tr>
<th>Surgery was scheduled</th>
<th>Obs</th>
<th>(mean)</th>
<th>Std dev</th>
<th>t(447) = 2.69, p &lt; .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 613</td>
<td>380</td>
<td>(1.22)</td>
<td>.60</td>
<td>[hosp1-hosp2]</td>
</tr>
<tr>
<td></td>
<td>69</td>
<td>(1.03)</td>
<td>.17</td>
<td>[hosp1-hosp3]</td>
</tr>
<tr>
<td></td>
<td>164</td>
<td>(1.20)</td>
<td>.59</td>
<td>[hosp2-hosp3]</td>
</tr>
<tr>
<td></td>
<td>613</td>
<td>(1.20)</td>
<td>.57</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visits to laboratory</th>
<th>Obs</th>
<th>(mean)</th>
<th>Std dev</th>
<th>t(710) = -0.27, p &lt; .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 848</td>
<td>519</td>
<td>(2.55)</td>
<td>2.26</td>
<td>[hosp1-hosp2]</td>
</tr>
<tr>
<td></td>
<td>136</td>
<td>(1.66)</td>
<td>1.26</td>
<td>[hosp1-hosp3]</td>
</tr>
<tr>
<td></td>
<td>193</td>
<td>(2.6)</td>
<td>1.46</td>
<td>[hosp2-hosp3]</td>
</tr>
<tr>
<td></td>
<td>848</td>
<td>(2.42)</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>(min,max)</th>
<th>t(327) = -6.05, p &gt; .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 elementary</td>
<td>(1,19)</td>
<td></td>
</tr>
<tr>
<td>4 middle</td>
<td>(1,8)</td>
<td></td>
</tr>
<tr>
<td>5 high</td>
<td>(1,10)</td>
<td></td>
</tr>
<tr>
<td>6 college or higher</td>
<td>(1,19)</td>
<td></td>
</tr>
</tbody>
</table>
### Consultations for elective surgery

<table>
<thead>
<tr>
<th>Consultations for elective surgery</th>
<th>Obs</th>
<th>403</th>
<th>61</th>
<th>143</th>
<th>607</th>
<th>t(462) = 5.39, p&lt; .05</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mean)</td>
<td>(2.48)</td>
<td>(1.18)</td>
<td>(1.47)</td>
<td>(2.11)</td>
<td>[hospi1-hospi2]</td>
<td></td>
</tr>
<tr>
<td>Std dev</td>
<td>1.87</td>
<td>.47</td>
<td>1.05</td>
<td>1.7</td>
<td>t(544) = 6.09, p &lt; .05</td>
<td></td>
</tr>
<tr>
<td>51.27%</td>
<td>(1.17)</td>
<td>(1.3)</td>
<td>(1.7)</td>
<td>(1.17)</td>
<td>[hospi1-hospi3]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>t(202) = -2.1, p &lt; .05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[hosp2-hosp3]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SURGERY</strong></td>
<td>Yes</td>
<td>340</td>
<td>64</td>
<td>157</td>
<td>561</td>
<td>$\chi^2 (2) = 154.57$</td>
</tr>
<tr>
<td><strong>n = 1,184</strong></td>
<td>(50.15)</td>
<td>(21.26)</td>
<td>(76.59)</td>
<td>(47.38)</td>
<td>p &lt; .05</td>
<td></td>
</tr>
</tbody>
</table>

showing to clinic per patient, standard deviation of .64. Histogram is unimodal distribution with a left skew, probably because of a floor effect. An independent-samples t-test was conducted to compare physician’s absenteeism by hospitals. There was no significant difference.

Patients on average do not show UP to clinic 4% of the times, standard deviation of .20; with a minimum of 0 and a maximum of 1. There was no significant difference when doing an independent t-test analysis.

The next set of variables were coded so that if the patient did not receive any it would be considered missing. Patients after having a consultation and diagnostic tests done they are scheduled for surgery. Only 52% of patients were scheduled for surgery. The scheduled surgery can be cancelled for different reasons, sometimes they are re-schedules. In the variable total number of times a surgery was scheduled we are counting how many times the surgery was cancelled and had to be re-scheduled. The average number of times a surgery was scheduled was
1.20 with a minimum of 1 and a maximum of 6 times, and a standard deviation of .57. Histogram is unimodal distribution with a left skew, because of a floor effect; 0 is the minimum possible. An independent-samples t-test was conducted to compare the total number of times a surgery was scheduled by hospital. There was a significant difference in the numbers for H. Bicentenario (M=1.22, SD=.60) and H. AAC (M=1.02, SD=.17); t(447)= 2.69, p= < .05. There was also a significant difference in the total number of times surgery was scheduled for H. AAC (M=1.03, SD=.17) and H. Revolución (M=1.20, SD=.51); t(231)= -2.28, p= < .05. There was no significant difference in the total number of times a surgery was scheduled for H. AAC and H. Bicentenario. These results suggest that total number of times a surgery is scheduled varies by hospital.

71.62% of the patients had diagnostic test in their medical files. The average number of times patients had to go to an appointment to do diagnostic tests was 2.42, with a minimum of 1 and a maximum of 19 times, standard deviation of 1.20. Histogram is unimodal, skewed to the left. An independent-samples t-test was conducted to compare total number of trips a patient had to do to get diagnostic tests by hospital. There was a significant difference in the scores of total number of trips for H. AAC (M=1.66, SD=2.12) and H. Bicentenario (M=2.55, SD=2.26); t(652)= 4.4, p= < .001. There was also a significant difference in the total number of trips for H. AAC (M=1.66, SD=1.26) and H. Revolución (M=2.60, SD=1.47); t(327)= -6.05, p= < .001. There was no significant difference in the total number of trips for H. Revolución and H. Bicentenario. These results suggest that the total number of trips a patient has to do for diagnostics tests varies by hospital.

The average number of outpatient consultations that patients for elective surgery had was 2.11, with a minimum of 1 and a maximum of 17, and a standard deviation of 1.70. Of the 808
patients with an elective surgery 607 had a consultation marked on their medical file. This histogram as well is unimodal, skewed to the left, with a floor effect due to 0 being the lowest possible number. An independent-samples t-test was conducted to compare SES by hospital. There was a significant difference in the total number of outpatient consultations for H. Bicentenario (M=2.48, SD=1.87) and H. AAC (M=1.18, SD=.47); t(462)= 5.39, p= < .001. There was also a significant difference in the number of consultations for H. Bicentenario (M=2.48, SD=1.87) and H. Revolución (M=1.48, SD=1.05); t(544)= 6.08, p= < .001. A significant different was also found for H. AAC (M= 1.18, SD=.47) and H. Revolución (M= 1.48, SD=1.05); t(202)= -2.10, p= < .05.

For our categorical variable, the majority of our sample a 70% of 1,184, are females. Almost 1/4 of our population. Of the referred patients 62% (734) of our sample were referred to the surgery department. General surgery referrals predominated in the three hospitals. 26% of the sample were sent to gynecology and only 11% were referred with a trauma surgeon. Of 808 medical files 75% of referrals were considered elective surgeries and 31% emergency. The rest of the files had no information on what happened to the patient. Regarding education, we observe that 30% of the population finished elementary school; 11% finished preschool and 20% remain illiterate. Only 9% of the population finished college or higher education. Finally, for our outcome variable, we observe that 47.31% of patients that required a surgery, received a surgery. There is variability between each hospital. We observe that in Revolución 77% of the patients were able to receive surgery, in Hospital Bicentenario a 50% of patients received surgery and in Hospital AAC only 21% of the patients received surgery.

I also wanted to look into the types of surgery the patients received. In table 6 we observe the type of surgery per sex and hospital.
In this table, we observe that the most common diagnosis in every hospital and in all the observed specialties is CCL, followed by hernias and leiomyomas. The most common diagnosis by gender is also CCL, followed by leiomyomas for women and for men is hernias, followed by fractures.

Once I completed the descriptive statistics I started with the inferential statistics. I ran a logistic regression to observe what generally predicts having a surgery.

In table 7, there is a summary of the predictors that were statistically significant. In this table, we observe that your best odds of receiving surgery is by going to Hospital Revolución.

Table 6: Diagnosis by Specialty and Sex

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>H.B.C ÁNGEL</th>
<th>HOSPITAL GRAL.</th>
<th>H.B.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>ALBINO CORZO</td>
<td>REGIONAL</td>
<td>REVOLUCIÓN</td>
</tr>
<tr>
<td>SPECIALTY</td>
<td>BICENTENARIO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>F</th>
<th>Total</th>
<th>M</th>
<th>F</th>
<th>Total</th>
<th>M</th>
<th>F</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURGERY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCL</td>
<td>7</td>
<td>40</td>
<td>47</td>
<td>27</td>
<td>156</td>
<td>183</td>
<td>3</td>
<td>82</td>
<td>85</td>
<td>26.63%</td>
</tr>
<tr>
<td>HERNIA</td>
<td>19</td>
<td>12</td>
<td>31</td>
<td>52</td>
<td>24</td>
<td>76</td>
<td>36</td>
<td>14</td>
<td>50</td>
<td>13.27%</td>
</tr>
<tr>
<td>BENIGN TUMOR</td>
<td>11</td>
<td>14</td>
<td>25</td>
<td>26</td>
<td>44</td>
<td>70</td>
<td>6</td>
<td>11</td>
<td>17</td>
<td>9.47%</td>
</tr>
<tr>
<td>ACUTE ABDOMEN</td>
<td>12</td>
<td>9</td>
<td>21</td>
<td>20</td>
<td>10</td>
<td>30</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>4.31%</td>
</tr>
<tr>
<td>Condition</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WOUND</td>
<td>14</td>
<td>1</td>
<td>15</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>3.13%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4.98)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>abscess</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.01%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intestinal Obstruction</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.51%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1.66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hydrocele</td>
<td>N/A</td>
<td>2</td>
<td>2</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.34%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gynecology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leiomyoma</td>
<td>N/A</td>
<td>14</td>
<td>(4.65)</td>
<td>N/A</td>
<td>115</td>
<td>(16.99)</td>
<td>13.19%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterilization</td>
<td>N/A</td>
<td>24</td>
<td>(7.97)</td>
<td>N/A</td>
<td>23</td>
<td>(3.40)</td>
<td>4.40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelvic Prolapse</td>
<td>N/A</td>
<td>14</td>
<td>(4.65)</td>
<td>N/A</td>
<td>25</td>
<td>(3.84)</td>
<td>3.97%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benign Breast Tumor</td>
<td>N/A</td>
<td>8</td>
<td>(2.66)</td>
<td>N/A</td>
<td>28</td>
<td>(4.14)</td>
<td>3.47%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variables</td>
<td>Hospital</td>
<td>CI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------</td>
<td>---------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. AAC</td>
<td>.27***</td>
<td>(.20, .37)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Revolución</td>
<td>3.25***</td>
<td>(2.28, 4.64)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_cons (H. Bicentenario)</td>
<td>1.00</td>
<td>(.87, 1.17)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>1,184</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.06</td>
<td>(.83, 1.36)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>_cons (Female)</td>
<td>.88***</td>
<td>(.77, 1.01)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Univariate Logistic Regression
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynecology</td>
<td>.45***</td>
<td>(.34, .60)</td>
</tr>
<tr>
<td>Trauma</td>
<td>.46***</td>
<td>(.32, .68)</td>
</tr>
<tr>
<td>_cons (General Surgery)</td>
<td>1.20**</td>
<td>(1.04, 1.39)</td>
</tr>
<tr>
<td>N</td>
<td>1,184</td>
<td></td>
</tr>
</tbody>
</table>

| Elective             |       |       |
| Yes                  | .64** | (.45, .89) |
| _cons (No)           | 1.91***| (1.43, 2.56) |
| N                    | 808   |       |

| Times surgery was re-scheduled |       |       |
| _cons                           | 24.04***| (13.08, 41.85) |
| N                               | 613   |       |

| No. of trips to do diagnostic tests |       |       |
| _cons                              | 1.39**| (1.11, 1.74) |
| N                                  |       | 613   |
The odds of receiving surgery in Hospital AAC are smaller (OR=.27) than the odd of receiving surgery in Hospital Bicentenario; but they are larger (OR=3.25) in Hospital Revolución, and it is statistically significant (p= < .05).

We observe that the odds of receiving surgery are smaller if you have a gynecological or trauma condition. The odds of receiving surgery if you need to see the gynecologist are .55 smaller (OR=.45) than if you need a general surgeon; and .54 smaller (OR=.46) if you need to see a trauma surgeon, and they are statistically significant (p= < .05).

We observe that the odds of receiving surgery are .36 smaller (OR=.64) than if it is an emergency. For every time a surgery is re-scheduled there is a 46% decrease in the odds of receiving surgery. For every trip made to receive a diagnostic test, there is a 9% increase in the odds of receiving surgery.

If we analyze each predictor independently we can conclude that the odds of receiving surgery are larger if you have a general surgery condition, if you go to Hospital Revolución and if patients have an emergency surgery.

For the next description, please go to table 8 to visualize the models constructed. When doing a logistic regression of surgery as our main outcome with demographics that include sex and age (Model 1), we found that each year increase in age is associated with a 1% decrease in the odds of receiving surgery. This was statistically significant (OR = .99, 95%CI(.98, 1.00), p =
When adding to the model the predictor hospital (Model 2), we observe that males have 47% more odds of receiving surgery (OR 1.47, 95%CI(1.12,1.94), p= < .05). If patients go to Table 8: Stepped Full Model

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Demographics (Model 1)</th>
<th>Hospital (Model 2)</th>
<th>Elective (Model 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome: surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.99**</td>
<td>.98***</td>
<td>.99**</td>
</tr>
<tr>
<td></td>
<td>(.98, 1.00)</td>
<td>(.98, .99)</td>
<td>(.98,1.00)</td>
</tr>
<tr>
<td>Male</td>
<td>1.12</td>
<td>1.47**</td>
<td>2.18***</td>
</tr>
<tr>
<td></td>
<td>(.87,1.44)</td>
<td>(1.12, 1.94)</td>
<td>(1.5, 3.11)</td>
</tr>
<tr>
<td>H. AAC</td>
<td></td>
<td>.25***</td>
<td>.33***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.18, .35)</td>
<td>(.19, .57)</td>
</tr>
<tr>
<td>H. Revolución</td>
<td></td>
<td>3.46***</td>
<td>2.97***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.42,4.97)</td>
<td>(1.97, 4.50)</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td></td>
<td>.64*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(.45, .91)</td>
</tr>
<tr>
<td></td>
<td>1.36</td>
<td>1.69**</td>
<td>2.58***</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>N</td>
<td>1,184</td>
<td>1,184</td>
<td>808</td>
</tr>
</tbody>
</table>

Confidence interval parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Hospital Revolución they have more than three times the odds of receiving surgery (OR 3.46, 95% CI (2.42, 4.97), p = < .05).

When adding elective surgery to the model (Model 3), we observe that the odds of receiving surgery if you are a male double (OR 2.18, 95% CI (1.5, 3.11), p = < .05); the odds remain three times higher if you go to H. Revolución (OR 2.97, 95% CI (1.97, 4.50), p = < .05); and the odds of receiving surgery are 46% smaller if it is considered an elective surgery (OR .64, 95% CI (.45, .91), p = < .05).

The previous findings left me with curiosity to try to understand better what predicts receiving a surgery or not, by subgroups. Please see table 9 to visualize the models constructed.

When doing a logistic regression by sex, if you are a female the odds of receiving surgery are three times larger when going to H. Revolución (OR 2.99, 95% CI (1.87, 4.79), p = < .05). The odds of receiving surgery are 39% smaller if it is an elective surgery (OR .61, 95% CI (.39, .96), p = < .05), and the odds are 54% smaller if the patient requires a gynecological surgery (OR .46, 95% CI (.32, .66), p = < .001).

When doing logistic regression by specialty, we observe that when patients require a gynecological surgery their odds of receiving surgery are 88% smaller when it is elective (OR
When patients require a general surgery specialist the odds of receiving surgery are 72% larger if the patient is a male (OR 1.72, 95%CI(1.13, 2.60), p= < .05), and almost four times more if the patient goes to H. Revolución (OR 3.78, 95%CI(2.18, 6.53), p= < .05).

When doing a logistic regression paying particular attention to elective surgery. We observe that being a male increases the odds of receiving surgery by 72% (OR 1.72, 95%CI(1.06, 2.77), p= < .05), going to H. Revolución continues to give patients three times more odds of receiving surgery (OR 3.19, 95%CI(2.02, 5.04), p= <.001), but requiring an elective surgery is associated with 67% smaller odds of receiving surgery (OR .33, 95%CI(.22, .50), p= < .05).

Table 9: Logistic regression by subgroup

<table>
<thead>
<tr>
<th>By Sex</th>
<th>By Specialty</th>
<th>By Specialty</th>
<th>By type of surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>General Surgery</td>
<td>Gynecology</td>
<td>elective</td>
</tr>
<tr>
<td>Male</td>
<td>1.72*</td>
<td>1.72*</td>
<td>1.72*</td>
</tr>
<tr>
<td></td>
<td>(1.13, 2.60)</td>
<td>(1.06, 2.77)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.99</td>
<td>.99</td>
<td>.98</td>
</tr>
<tr>
<td></td>
<td>(.98, 1.00)</td>
<td>(.98, 1.00)</td>
<td>(.96, 1.00)</td>
</tr>
<tr>
<td>H. AAC</td>
<td>.22***</td>
<td>.61</td>
<td>.49*</td>
</tr>
<tr>
<td></td>
<td>(.11, .44)</td>
<td>(.32, 1.13)</td>
<td>(.27, .89)</td>
</tr>
</tbody>
</table>
In conclusion we observe that if patients require a surgery, their odds of receiving it are greater if they go to H. Revolución, if they are males, and if they require an emergency surgery.

The worst case scenario for patients is requiring an elective gynecological surgery, for example a hysterectomy.

**QUALITATIVE FINDINGS**
The economic fragility of farmers

Participants describe a work that is relentlessness. Their daily routine is work-centered, without the right to feel fatigue. Farmers and housewives wake up at four in the morning to start their day cook, do the dishes, wash the clothes, or go to the field to work under the sun. One of them describes: “When one is poor, you do not feel the fatigue.” Work never ends and they can never get ahead.

In this region, beans, corn, and coffee are the basic products grown by farmers. Those who own land, even in the absence of cash, are able to sustain their families by eating what they grow. One farmer explains, “At least when you have your own corn and beans you can consume them and survive.” Farmers that do not produce or do not have land are among the most economically vulnerable. They have to work as laborers. For laborers work is very difficult to get and when hired, only get paid 70 pesos/day (3.50 US), barely enough to cover food.

Growing coffee is a seasonal process. Participants work all year, but there is only one harvest per year. To be able to grow economically, to buy land, to build a house, farmers need to migrate either to other cities in Mexico, or to the United States. A participant describes “It is very hard over here, you do not see the money. Only when one goes out to work you can earn some money, it is very hard to live here. It is not like in the city, over there, there is always money.”

Farming requires investing. Any money that farmers obtain from crop sales needs to be re-invested in the land to be able to continue producing. There is no possibility of saving money. People struggle to buy food and soap as their daily necessities, so anything outside of that requires an extra effort. A participant that managed to send his children to school describes “It was an effort, it is not because I had the money, and it is not because the job gave me money.
No, it is an effort. One stops eating bread for a whole week or even a month so that this character has its own economic means where he is sitting, where he is studying, where he is working.”

Participants live in a situation where from one moment to the next they can lose everything they have. Their economy is very fragile. They cannot think about the future or goals. Their economy is tied to weather, nature, environmental and socio-economic problems that they are not in control of. For example coffee, their main economic resource, was invaded by la roya (coffee rust), a fungus that kills the coffee plants. Everyone in the region has been affected. Over the last three years the coffee production has decreased. Participants describe how they need to start planting new coffee plants because of this plague. Other uncontrolled accidents like mudslides or sociopolitical movements like the Zapatistas have stripped participants out of their belongings, leaving them with nothing, but to start again.

“It has affected us a lot because here there is not much where to work. Sometimes, very rare times my husband finds a job, for example as a construction helper or helping other farmers that pay him to go and spray or plant corn or beans, or to clean also. But they pay them seventy or eighty pesos a day. When we had coffee in addition we could afford to buy coffee, sugar, and salt, our clothes or we had an extra to go and buy some other things that we wanted. For example to go to Jaltenango and buy something good to eat because over here the only thing that you can find is chicken and once in a while fish, almost the same thing always (…) So, we have felt it a lot because we had or we saw a future and we said when we have more coffee we will buy a refrigerator, we will buy furniture for the living room, but…. it’s over (she starts crying).”
Accessing care requires constant access to economic resources

Lack of economic resources becomes a delay in accessing care when participants are sick. This delay is present at different points in the process, when requiring a surgery. The first delay that participants mention is a lack of “emergency funds” to access care whenever needed. Farmers do not have a big sum of cash to look for a doctor. They have to save money for long periods of time to afford a visit to the doctor. Getting sick is seen as a luxury farmers cannot afford. Having money to go to a doctor is a big stressor. Patients delay care to avoid economic burdens and their first option becomes home remedies. People endure pain for long periods of time until they cannot stand it anymore or are able to collect money to do a visit to the hospital.

“My husband was very worried. He said, ‘What do you have? Why are you like that?’ The pain suddenly started. … We left the fields [where we were working] to come back home as soon as the sun came up. When we were [home] they gave me home remedies, I did not go to the doctor because we had no money to go to Jaltenango.”

To access health care farmers need to travel long distances to reach the nearest hospital. Going to the hospital often requires being away from home for several days. A multiday trip entails more expenses and also several days of missed work. Transportation is limited and unreliable. A trip to the hospital is considered a special trip because it does not follow standard transportation routes, leading to very expensive prices. One farmer explains how he has to pay an inflated price in order to take a taxi directly to the hospital: “The taxi charged me 1,000 pesos to go and 1,000 to get back.” Participants also need to pay for food, and lodging for themselves and any member of the family accompanying them. A general practitioner explains:

“The state of the road and the fact that Monterrey is one of the few communities that does not have a fixed ruta (taxi). I mean you cannot assure that there will be transportation.
Many times you have to be looking for a car or they prefer to go down one or two days before the date of the appointment and that also implies big expenditure for the family.”

Once they reach the hospital, patients describe that they need to carry cash because they never know how much money they will need. Even though they have Seguro Popular, most of the time they have to pay for everything in the hospital from the IV line to medication, studies, surgical material and anything else that is required. Going to the hospital implies expenditure. Participants have to figure out how to access money to be able to pay for these expenses and continue their process of seeking care. Patients that own a coffee plantation, borrow money from coffee cooperatives if they belong to one. Patients ask for loans risking high rates of interest. Another form in which patients access money is by borrowing from other family members, sometimes creating family disputes. A participant describes how, without money, accessing care would had been impossible: “If I had not looked in another place… because if they had sent us to do tests, be it whichever clinic or be it whatever laboratory… maybe if they had not lent me money or borrowed it, we would not have done [the surgery].”

There are different patterns of requiring money. If a patient is hospitalized, expenses are made on a daily basis. A participant describes how her family had to look for money every day so that they could do the required tests at the hospital:

“They made the tests for amylase and lipase and it was expensive because it was every day that they would do that. The bilirubin, the amylase and lipase, and since they did not have them in the hospital, they were from a private provider: 400 pesos every day, and he had to look for a way to pay for it. My father in law mobilized to look for borrowed money so that he could send it to us.”
Participants that are going through a process of elective surgery need to access money every time they have an appointment. With every trip the process becomes more burdensome. Because it is uncertain how much they will need, participants need to be ready with a lump of cash. A participant describes: “Well, we asked for money every time; we had no money. My husband goes out to look where to borrow money; he would borrow every time we had to go down.”

Participants delay their process of seeking care because they have no money to go back or until they cannot handle the debt anymore. They fear doctors may think they do not want to go back, but it is not that they do not want to, they just cannot afford it. Only when they pay their debts and look for a new place to borrow money or have money through other means do they continue or re-start their process again. Meanwhile they just “entertain” the pain with pain killers and wait. Patients feel they are being played.

“With pills the pain rests a bit, but it doesn’t want to go away. But I have not gone to do the tests because it requires money. Either way, what can I do? I do not have money right now; even if I want to receive treatment I do not have money. I think that those tests that I will take… they told me are very expensive. That is why I endure the pain.”

**Pain leads people to seek care**

Patients describe how the pain is the worst thing they have to deal with when being sick. When pain becomes unbearable they have no choice but to look for a specialist. Pain creates a sense of emergency that makes patients look for money desperately to the point of selling their land if necessary so that they can go to the nearest hospital. A patient describes how when she got ill, because her pain her family was ready to do anything to get money to take her to the hospital. “My dad and my brother saw I was very bad. They went to sell land; they went to look
for money and borrowed some. Around November they were able to get some money and they took me to Villaflores as an emergency.”

Once they reach the hospital patients perceive that health care practitioners do not see their condition as a surgical emergency. They are kept in the emergency room and treated with painkillers. Once the pain subsides, they are sent back home. A participant describes her experience in a constant cycle of pain, receiving painkillers and being sent back home:

“I got pain, the discomfort was stronger and I vomited. I went to the hospital; they gave me medications when I had a lot of pain. They would put an IV line, butilhioscina, omeprazole and paracetamol and the pain would go away. They told me to not eat fat. I was like that for four months. In June I started with pain again but it was stronger, stronger and with vomiting. Hospitalizations were more frequent. I would spend more than one to two or even three hours in the hospital. In July at the beginning, the same; that’s when I started with lots of diarrhea. I had diarrhea every day. Every day I would eat and go to the bathroom and I started losing weight. Around the 15 of July I started with vomit and I would go to the hospital.”

Participants describe how they get tired of the pain-hospital-painkiller cycle. Going to the hospital is futile. Nevertheless pain and fear of death leads patients to an understanding that their condition is an emergency “When you are in pain, the only thing that you want is for the doctor to see you as soon as possible.” Pain eliminates the barriers of fear of surgery and lack of economic funds. Participants make the effort to get the money, no matter what it costs to save the lives of their loved ones. A participant describes how their family members took her to a private provider so that she could receive care faster.
“Yes, they did some blood studies at the [MOH hospital]. They were going to operate on me there, on behalf of the doctor. But it was going to be in February, and in November the pain got stronger, that is why they took me to a private physician and I did not wait until February for the surgery. Because the pain was stronger. My stomach was swollen, I felt much punished. I could not eat, I could not sleep, I could not walk, nothing. My body was so punished; they rather take me with a private physician so that it would be faster.

**Futility in the System**

The process of seeking care can be very complex and bureaucratic. Participants describe how to receive a surgery they have to be “vuelteando” (running around to different places in multiple occasions). This run around starts when the patient detects a health problem and looks for a provider to solve this problem. Participants go to wherever they think they can find a solution; they jump from the provider of the rural clinic, to midwives, to private providers, to hospital providers and specialists. They even jump around different hospitals trying to find who will solve their surgical problem. A patient describes “But I jumped around much. I spent lots of money and the money that my children were earning was used all for medication. At the end I did not need medication, I needed surgery.”

The run around is present during the whole process of referral. From getting a referral document, getting an appointment at the hospital, trying to get laboratories, going to appointments, getting blood donors, getting all the necessary requirements to get a surgery scheduled, and even getting the surgery since it is often cancelled once the patients arrive to the hospital.

In addition, participants describe how there are scarce resources at all levels of the system. In the rural clinics there is no medication, there are no health care providers, and the
clinic closes at six p.m. When there is no care at their communities they have to go to the nearest hospital. Once participants reach there, waiting times to see a doctor are long. An appointment to see a surgeon can take over two months. To attend a consultation it takes a whole day, if the doctor actually showed up; and in the end hospitals have no medication, no ambulance driver, no laboratories, no machines, no material for x-rays, and no ultrasound. A participant describes, “I went to my appointment at the clinic and I told the nurse: I have a terrible headache, can you give me some medication? No, there is no medicine here, no medicine. (…) that’s why for the surgery I did not look for support there.”

Sometimes patients are stopped at the gate and are rejected from the hospital. For many patients, this means that they need to look for a private provider. A participant describes his experience, “If you go to Jaltenango from here it is 40 pesos in total, plus the medication. Sometimes in the hospital they do not receive you, they find excuses saying we do not have this, go to consultation.”

The run around and scarce resources in the health care system is expensive and futile. Participants describe they feel frustrated, angry and tired. Patients are then lost to follow up until their non-life threatening condition becomes an emergency. A patient describes his experience: “During the time of my disease I fell ill six times. I would not make the effort to go to the doctor because I knew it was pointless.” Another patient describes “I do not even want to get surgery anymore, I rather stay with the pain. This is taking too long. I have been jumping around for one year.”

De-humanization leads to loss of follow up

Patients have predominantly negative perceptions of received care at the ministry of health. Patients feel cheated, ignored, neglected and rejected by the health care providers.
Patients feel they are being played. Doctors are only “entertaining” their pain by giving medication to subside the pain but not really making an effort to solve their medical problems. A couple of patients describe how they feel ignored by health care providers:

“Ah! They ignore us! They ignore us! I had never been in a hospital. I had never needed to go to a hospital. They ignore us! (…) they did not receive us. They do not see us! Others pass by and they do not even look at us. We are all there waiting, until they feel like seeing us, they receive us.”

“Yes in the hospitals (…) they have treated my sister-in-law very poorly. Doctors are there, only looking at their phones. The poor patients may be screaming and they do not pay attention to them. I do not know if they play deaf or what, but they are not looking. I lived this with her.”

Patients describe there are gatekeepers in every step of the system, delaying them from accessing the care they need. The guards at the door that do not let you enter the hospital when in pain; the social workers denying a direct request to be sent to a specific hospital because they think participants are only looking for convenience; or even the surgeons that reject doing the surgery just because they do not feel like it. A participant describes how the social worker rejected making a referral because she did not want to make the process more convenient for them.

“My husband was asking for a referral to Tuxtla, because we have someone we know over there that was already waiting for me. Arriving at the hospital they would see me, they were going to help me with the gallbladder surgery, so that I would not continue suffering, but the social worker said no, she did not want to do it. She said we were looking for convenience. My husband said no, we have family in Tuxtla, so that we could
take the baby and my husband would have a place to take a shower, to eat or anything
(…) but the social worker did not want to do it.”

Participants feel health care providers see them as ignorant and treat them very poorly.
The attitude of the doctor towards the patient on occasion can be of anger, making the patient
feel afraid. Participants tell stories of how doctors will reject seeing them until they bring studies,
and when they come with the studies, they will barely see them anyway; or they get angry
towards them when their surgery is cancelled, and sometimes they tell them that they do not
want to perform the surgery. Patients refer to surgeons as bravos (when an animal loses control
and becomes angry and aggressive). A participant describes her encounter with the surgeon, after
someone with more hierarchy told him that he had to do the surgery.

“I saw it when the doctor arrived and started to do all the paperwork and started to ask
some questions, but he was very upset (…) I did not dare, I would not even speak to him
(…) I could see he was very upset, I did not say anything to him. At the end he performed
the surgery but when I was out he said: you were lucky nothing happened to you.”

The attitude of physicians towards patients can be de-humanizing. Participants feel angry
and frustrated that there is not much they can do about this. Patients describe how doctors have
full authority in the system to the point that if they want to release a sick patient from the
hospital, there is no one to stop them. Patients say they have to comply with whatever the doctor
says. They feel their only option is to be patient.

People are unhappy with the services provided by the MOH; sometimes they regret it was
their first option to take their family members. They have lost trust in the system. Participants
say that it is time for these hospitals to have competent physicians. They reflect that they need
more active doctors in the hospitals, doctors that have their hearts with the poor people. They
consider a doctor is good when they show interest in their health, receive them when they go to clinic, or give them a referral document or when they provide emotional support. Having a good relationship with the health care providers helps patients feel safe and better. There is a sense of wellbeing like a placebo effect.

“I lost trust in the hospitals, because when my children have gotten sick I take them here [CES clinic]. If there is no one here, I take them to a private doctor, even if I am left without any money, because if I take them to the hospital, they either give them something fast just to help with the pain or tell me to send them to another place.”

Health care providers describe how an attitude of non-interest and doing nothing persists in many of their colleagues. This attitude makes people run out of patience and drop the system, therefore surgical referrals are never completed. A physician describes how, if the attitude of health care providers were changed, maybe the system would work better.

“I believe that being in Chiapas and in the political situation that we live, I believe that maybe we cannot change everything but if we as physicians change our attitude we can change much, the stress that all this referrals generate. I am telling you if you receive a person with human quality and interest even though they have to pay for it, even though it will take them time to get the surgery, believe me you will not generate problems and you will have a happy ending. The problem is that we have an attitude of not doing and of not being interested, that makes people despair, and the referrals and elective surgeries are never completed.”

**Re-humanizing Physicians**

Health care providers mention how in Mexico physician´s professional dynamics are very de-humanizing. At the end of medical training there is very low interest in the patient, but more
passion for the procedure. Physicians describe how they see the patient as a number, a pathology disconnected from any feelings. A physician describes, “The saddest part of the situation is the inhumane treatment. It is like we see the patients like numbers, as if their pathology was disconnected from their feelings.”

Nevertheless, health care providers say that the more they relate with a patient, touch them, appreciate them, see them and become close to them, the better clinicians they become. There are some patients with whom health care providers generate a special empathy. When this happens, health care providers make an extra effort to solve any social barriers the patients may face to get surgery. A surgeon describes a case where he became very attached to the patient and he asked social work to look for free diagnostic tests so the patient could continue his treatment.

“The extra role I played was to look for a way that a private laboratory would do the tests [to the patient] for free… We got the blood tests for free so that the patients did not have to return home. That same day we hospitalized him, did the tests, [the surgery] and next week, he was going home [cured].”

The problem with making emotional connections with patients is that it can be very tiring. A general practitioner describes how trying to solve the biosocial problems of patients can be very frustrating: “They come with complicated family problems, health problems, social problems, and it becomes frustrating to not be able to solve them.” A referral coordinator also describes:

“It is a lot of frustration that we live with, and lots of sadness too. Maybe in one community you will see a difficult case once a month or twice a month. For us (referral worker) we see 100 serious cases every month. You see things that you can solve and things that you cannot solve and very difficult family situations. So when you bond with
a patient (…) it is impossible not to make an emotional connection. It is tiring and a heavy load.”

There is such a heavy load of patients that health care providers wonder if you can help everyone. There is an internal moral debate about helping. Why help? Who to help? There is so much need in the area that it is hard to make a decision. Adding to this, once they decide to help a particular patient, the rest of the population is not happy with it, or patients may start taking advantage. A health care provider describes:

“To be honest what is hardest for me is understanding myself. Because sometimes (…) what it is hard is to understand myself, how can I help? And why to help? Because I know what it implies. If I help, by logic, it will have consequences. If I do not [help] it will have consequences as well. So that is what I do not understand of myself. It is the hardest thing for me to understand should I help or should I not help?

Compañeros en Salud physicians describe how the social service year has helped them to re-humanize their profession. They learned the importance of putting names, faces and dreams to the usual numbers (patients); how to be considerate about the social problems surrounding the patients and, most of all, understanding that the person with more skills is the physician. Therefore, it becomes about listening and making it the physician’s job to understand the patient and not the other way around. A physician describes how health care providers should be aware of their privilege and skills and use that in the physician-patient relationship “Having the patience to stop and think that you are the one responsible for understanding the patient, not the other way around. At the end, the one that has more skills is you.”

“What this year of social service has thought me is that numbers have names, faces, families, dreams and I believe that is what we should never loose of sight when you are
designing and administering a health care system. Health is not a porcelain vase standing at home, health is your life. I believe all lives have the same value. Health is not a negotiable good ever, under any circumstance.”

Animosity in the System

Participants talk about the different conflicts they face in the health care system and how this influences relationships and the referral system.

The attitude towards patients is usually poor. Patients have to pay for everything plus they are faced with negative and angry health care providers that scold them. This creates conflict with the patient, with the system, and among health care providers themselves. A physician describes the importance of attitude towards the patients to alleviate the tension that exists due to scarce resources.

“Look, if the person comes and you tell them -I will happily see you but I [do not have the medical supplies]-, but you say it with the best face and the biggest interest; people will be happy even though they need to go and buy the material. But when they see an attitude of anger and negativity, the patients will get very upset and that is the main problem(…) attitude, which generates problems not only between the patient and us, but between the patient and the system and between us colleagues. It is like if we were giving weapons to society to put them against us.”

Relationships between the personnel from each hospital are also crucial. Participants describe how the relationship between the personnel of different hospitals are at conflict. Health care personnel (HCP) describe how when they try to refer to a bigger clinic or hospital their patients are rejected, always with different excuses. Health care providers get frustrated because they feel a lack of trust in their competency. If they are referring the patient is for a reason. HCP
feel that the receiving hospital sees this referral not as a preventive action but as a purposeful action to bother them. A physician uses military metaphor to describe “there is no companionship. It is as if each of us belongs to different headquarters and we are seeing who can be tougher, like if we were not a team, like if we were using referrals to bother.”

The animosity is not only present between the personnel of different facilities. Health care providers describe how there is conflict in between different shifts, generating lack of companionship. The lack of companionship is reflected when the hospital leaders never answer their phone calls or messages, when health care workers forget their motivation, or there is a lack of recognition of their human value, and sometimes when there is even discrimination for those who have a different profession, like a nurse or administrator. A physician describes: “Everyone takes something for themselves and forgets about others.”

There is no teamwork between hospitals and inside hospitals. All this running around and “hospitals” blaming each other generates social conflict and breaks the relationship between patients and health care providers. A health care provider describes how rejecting a patient generates social conflict:

“You have already made [the patient] aware that she needs to be referred because she is at risk. The women goes [to the referral] with fear, and she gets rejected and sent back. Her fear and anger increases … stress is generated in the family members and it generates problems with the hospital. This type of attitudes generates social conflict. At any moment we are receiving threats that [patients] are going to take the hospital or that they are going to burn it down, or close it or do things to it… this is a [consequence] of the information given from the referred hospital because they tell the patients your doctors
are lazy; your doctor does not know how to do things. [Patients] return defensive and think we are lying to them.”

Health care providers refer to the ways that they have tried to solve this by talking with their superiors, with the jurisdictional officer or anyone with some power, but it has taken years of struggle and nothing has changed. They always say yes, we will talk about it, but things do not change. They suggest that maybe referrals would be more functional if hospitals started cooperating among each other, instead of blaming or fighting one another. A health care provider describes:

“That there should be someone interested in getting the directors together, the people in charge of the receiving and sending services and to do a project with everyone and for us to see each other as partners. (...) If there was more communication. If we did not saw each other as enemies, that there could be better relationships in between colleagues. That we can see each other as a team. When that happens, everything will work better.”

**Violence in the system reflects violence in the patient**

Surgeons describe how violence starts during their residency training. They describe how they are formed to be blunt and aggressive, because that is what the specialty demands. This violence is then increased when they start working for the health care system. A physician describes “The environment makes you change completely.” Health care providers are overwhelmed, always taking on more work that they should until they become machines, robots, only working to get things done. A physician describes, “As a doctor you become a machine, a robot, only work, just get it done and lose sensibility. Wherever you are, you try to do the least possible to win more, but with less work, and you do not get involved with the patient.”
Physicians describe a toxic environment at their workplace. Colleagues that treat everyone like scum and do not work are the ones getting all the benefits. When physicians that do not show up at work, get all the permissions and economic incentives for “perfect assistance”, other health care providers feel they are not appreciated and lose the purpose of their work, thus generating an attitude of “the minimum effort.” A physician describes how this becomes a cycle in which everyone is constantly looking at their colleagues, and making sure they are not working more than the other:

“What I have noticed is that everyone looks at the other one and does not stop to think what do I do myself? For example, I do not work because the other person does not work, if he does not do it, I do not do it. If he is late, I am late too, If he doesn’t show up for work, I will not either. It is about doing the least you can and always looking at your neighbor. I think that makes you lose your essence as a doctor. You stop being you and forget who you are and why you are that person and to concentrate in yourself to see if life is worth it, your life as a human being and looking always to the others. They ramble so much on that. As friend would say. I made an effort but the other person does not even come, well I will not come either, I am not stupid. If he does not do anything I will not either. It becomes a competition in where you keep going in a downward spiral, that’s what the system does.”

Violence in the system is also inflicted by unfair bureaucratic laws that directly impact in the referral process. For example, health care providers describe how when they make a referral they are asked to accompany the patient. A doctor has to go with the patient in the ambulance to take him to the next hospital; nevertheless, they are the only doctors at the hospital so they cannot accompany the patient and still take care of the hospital. Another example is that if
anything happens during the ambulance ride health care providers require a legal document “hoja de comisión” from the hospital to prove you were sent on that trip. During the weekend shifts there is no one that can give you this letter. So health care workers wonder how can they get this letter and accompany patients in the ambulance if there is no one to give it to them.

Health care providers reflect that the year 2016 has been particularly critical. The scarcity of resources is so predominant that not even those who “know” someone in the system, like hospital colleagues, are being able to receive surgery. At the time of the interview they said that it had been two months since they last did a surgery, unless the patients pay for absolutely all the materials. They told us the story of the biggest hospital in the whole state, where they have stopped doing surgeries completely as a form of strike.

Physicians describe how they feel “violentados” (a visceral reaction when one feels violence inflicted upon them) by the system, and are tired of the scarce resources. Health care providers do not want to work in this high tension, resource scarce environment, which makes them lose interest in the patients. As one physician describes “Most people do not want to work here anymore. [They will ask their patients] why did you come? From the ER they send [patients] to an outpatient clinic, and from the outpatient clinic to the ER. They throw the ball to each other - it is not my turn to do it! There is a lack of passion, lack of values, and mostly a lack of humanity, because you lose it... Disinterest”. A health care provider describes how this violence makes it impossible for the system to work “It is really hard for the system to work and for there to be no violence in the system, if the people that are running it are being “violentadas” [receiving violence themselves].”

The violence in the system, inflicted on the health care providers, is then reflected on to the patients, leading to bad health care. A physician describes, “The system is violent to [health
care providers] and inside of that system if [health care providers] are being “violentados” there is nothing strange in that this violence will then be reflected on the patient.”

**Team Work**

Participants describe the importance of teamwork to make a successful referral. A surgeon explains “you cannot be independent, you always have to work as a team. You need to do many things but you do not have the tools.” They describe how good team work is reflected when everyone in the shift (specialists, general practitioners, nurses and other health care workers) are attentive to the patients. If there is an emergency, they support each other and take care of it together. Teamwork is also reflected when they can discuss a referral case with more experienced physicians, when they have the infrastructure support to carry on with the referral, and when they “put on the shirt” and fight for the same cause, the patients’ health, in a multidisciplinary manner. A surgeon describes how all the team gets together when they have an emergency “When serious patients come to the emergency area (…) at the end we are a health team. In some way we try to coordinate together with the anesthesiologist the activities that each person should do (…) working as a multidisciplinary team.”

Health care providers describe how a good leader is important for the team to work towards the same goal and for the hospital to thrive. Participants describe an example from the best years of a hospital in which the hospital director achieved an environment of mutual respect and service to the patients.

“[The hospital director] had a devotion, and people respected him. Nobody could take advantage. When people saw him they would start shaking. In that time there were health care workers that were drunks and dumbasses but they had so much respect for him that they would do things right and the hospital progressed.”
When health care providers work as a team they can identify problems in the system, look for solutions and solve them together. For example, generating a WhatsApp® group to improve communication in the referral team. WhatsApp® is a popular messaging mobile app that offers the ability to chat, send and receive photos, documents and notes and create and manage groups. Another example described how consultation of internal medicine and surgery should be coordinated to make the referrals more efficient. As the surgeon describes:

“The internal medicine physician opened a space, so we will start working every Monday to do pre-surgical evaluations with him. By doing that, we will be able to give more fluidity to surgeries. We had detected that little detail before, but now, with willpower, you can do things, and fortunately my colleague responded very well to my call, so that we can help society in that way.”

Health care providers describe how communication is essential for teamwork to function. An administrator describes how the referral system is like a game of Jenga®, in which if one of the pieces is not placed correctly, the tower falls. There are so many individuals that take part in the chain of referrals that the flow of information has to be perfect, from the clinician at the health care center all the way to the surgeon at the second level hospital. Sometimes HCP have to make an extra effort for that communication to happen, but it is essential for a successful referral. The health care provider describes: “It is like different stopovers that have to be very good and work hand in hand so that the patients can receive the attention that they really deserve.”

**Resource Coordination**

Scarce resources have direct impact on the referrals because they delay the process of care. Adding on to this, the scarce resources available are not working in coordination. Health
care providers describe how all health care workers should know where these resources are, so that they can use them effectively. A surgeon describes, “You need to know where the resources are.” They describe how knowing where there is a surgeon, with an anesthesiologist and with working equipment, is vital to send the patient to that specific hospital, instead of sending him to another hospital that has no resources and then having the patient jumping around. A health care provider describes:

“One always needs to see his limitations, do not do things just like that. For example why will you send a patient to the hospital to get surgery if you know there is no anesthesiologist? If the patient has [a low blood count] you need to refer him, but if there is no blood bank where you are sending him, what is the point? It is pointless. You have to be practical. That is what you learn over time. See where the resources are, optimize resources. You need to make things practical.”

Participants describe how appointments at the hospital are not coordinated. For a patient to receive a surgery, they need to see other specialists besides the surgeon. The schedules of the other specialists do not match the schedule of the surgeon. For example, a physician describes how for a patient to receive surgery he needed an appointment with the dentist, but the next appointment available was not until the next year: “They ask for so many requirements, for example he needs a dentist appointment, a dental cleaning. But the appointments with the dentist in this hospital are not available until next year, and this child needs surgery this year!” So participants cannot continue their process of seeking care because they are waiting for an appointment. If the time between appointments is very prolonged, the paperwork (diagnostic tests, pre-surgical evaluation) that the patients already have becomes outdated and they need to do it again.
Participants describe how getting surgery in the system is hard, because it requires the coordination of a whole system. It does not depend only on the will of the doctor but on coordinating all the equipment, nurses and the team in a hospital. A HCP tells us “I believe surgery is the hardest thing in the health care system, because it doesn’t only depend on the surgeon (...) It is more the lack of beds, of hospital disposition, that leads the patients to be in a [disadvantaged position].” A lack of coordination is reflected by hospitals not having available beds for programed surgeries, or not having the required material for the surgery, or having to obtain lab results from different places because physicians do not find them reliable. This lack of coordination becomes a barrier for the patient, because they end up re-scheduling the surgical-date, delaying the surgery, and often with a gap time so prolonged that their diagnostic tests and pre-surgical evaluations become old, needing to re-start their surgical process. A health care provider describes:

“A clear example, if a patient does not have the resources for a CT Scan, if the radiology area does not have a film to print the image and the patient does not have the resources [to buy it] (...) or the simple fact that the hospital did not pay for the power receipt, or has no gauzes, or that they do not have surgical mesh for hernias, or that the lab results that you bring are not considered reliable for the surgeon and they send you to bring new ones from a reliable place. These are resources that are limiting for the patient, but it is also worrisome for the hospital. Administratively speaking, the fact that the hospital does not have a good schedule for example for the surgical patients, and that in their inventory they do not plan for the amount of surgeries they will have that month, they forgot to order a mesh for a patient, that surgery is lost. (...) Then you need more time for re-scheduling and getting new labs and new pre-surgical evaluation and all that.”
Participants also describe a communication breakdown inside the hospitals. For example, people in charge of ordering surgical material may not understand the doctor’s prescription; or it can be manifested with problems between the different services like laboratories and outpatient consultations. A doctor describes how communication is not present between the hospital staff. “It is very sad, even though we have more people working now in the hospital, everything is harder. No one knows anything anymore. Communication is lost between all of us now a day.” Communication breakdowns also happen between shifts; doctors from the day shift with the ones of the night shift and the weekend shift are not on the same page. There is no internal follow-up of what is happening with the patients. Patients describe how it seems they are doing the same thing twice because there is no follow up on their hospital visits. “I arrived on a Saturday, I had a lot of pain. But on Saturdays there is only one doctor. On Mondays this doctor doesn’t show up, only on Saturdays. On Monday I had to go to consultation again.” The communication breakdown inside the hospital is such that instructions from one shift are not followed through when the next shift arrives, leading to patients not completing their treatments. A patient describes her experience right after having pancreatitis and not being able to receive her surgery because a doctor released her.

“On Saturday a doctor arrived and he told us, you know what we are going to release you. I told him no! I do not want you to release me I am not well. I have not received my surgery yet I do not want to get complicated again, I am worried, I do not want to die. He said, we have to release you. You are using a bed that other people need and your condition is not serious, you are better now, you are out of what you had [pancreatitis secondary to a stone in the gallbladder] and there are other people that are worse (...) the
nurse came and told me how is it that they are releasing you? I had instructions to leave you fasting to do more lab work.”

Communication breakdowns happen not only inside the hospital, they also happen with the information in between hospitals, especially if we are talking about referrals. During an emergency, health care workers have to accompany patients in the ambulance. The information they receive from the social worker according to what will happen when they arrive to the referring hospital usually does not match reality. When they arrive to the referring hospital it seems that no one knows about the referral, as a health care provider describes:

“They (receiving hospital) tell something to social work and when you arrive, it does not exist. They are not waiting for you, sometimes they did not even make room for the patient. I do not know if they are lies or if it is truth. They tell you that [the physician you were referred to] does not exist. Even if you have the message recorded in your phone. They tell you we will not receive your patient, you did not call.”

Physicians describe how this communication breakdown and lack of coordination in the hospitals and between the hospitals puts the patients at risk of complications and even losing their lives. A physician describes, “There was a patient that came with a hypovolemic shock, because of the lack of communication (…) we were not ready to receive a patient like that. She was an obstetric patient. The patient died because we did not have enough to receive her. That lack of communication many times leads to a bad ending.”

Knowing someone makes a difference

Patients describe how family members or community members advocate for them by talking to different people in the referral system to move forward in the referral process. Advocating is present in the interviews when patients are looking for a referral document; in
telling them what hospital to go to and making sure they are sent there; in talking with the surgeon or social worker whenever a complication arises; in looking for a “recomendación” (a recommendation from someone with political power); in helping to look for transportation; by helping to solve any economic difficulties they encounter, and even in persuading the surgeon to do the surgery. A patient describes how her sisters talked with the surgeon so that he could receive surgery.

“They had told us already that they were sending us to Tuxtla. She said no! Wait a moment. The two sisters went inside and begged the doctor to operate on him. Around 20 minutes later the doctor came out he said, yes we will do surgery here; hold on 30 minutes so that we can perform the surgery.”

Participants describe that when advocating, it is important to know where to go and who to talk to. A person that has knowledge of the system knows what hospital, in their experience, works best, so they can make sure the patient is referred to that hospital. If anything goes wrong, for example, a doctor not wanting to perform the surgery, knowing who to talk to will make the difference for the patient to receive the surgery or not. In this case the doctor refused to do the surgery, so the father in law knowing the system went with social work and kept going up in the chain of political power until he found the right person to talk to, who could fix the problem.

“My father in law asked the doctor, you will not do the surgery? No. Really doctor? And he said no, I am telling you I will not do it. My father in law went to talk to the social worker (…) He went to talk to a diputado (government representative) … the [representative] gave him a paper that said to please perform surgery on me, that we had already received a document that said that we were poor and due to reasons beyond our control, they could not operate on me the last time… to please receive me. But they
(social worker and doctor) did not care for the document. Then, my father in law asked the social worker to dial a phone number. She said yes, dialed the number and my father in law started talking with the major. He told the major that they did not want to do surgery on my daughter in law because of this and that reason. The major replied put the social worker on the line. He told the social worker, look, I sent you a document where it said that I was recommending her a lot. They are people of scarce resources from my municipality. They have been running around much, and they have nothing left. (…) Why don´t you want to take care of them? I do not know what else he told the social worker. The social worker replied, do not worry, I will take care of your countrymen, I will talk with the doctor right now. She called the doctor and told him “do the favor and do the surgery on this lady, they recommended her to me a lot. She is my patient please do the surgery’.”

Health care providers become advocates when they help patients look for solutions that arise during the referral process. For example, they will look were to get the surgical material if it is not available in the hospital, or where to get the diagnostic tests, or look for a place that will collaborate to do the surgery. A patient describes that a nurse told them “if we cannot get the surgery in this hospital, we will try [other hospital].” Health care providers also become advocates by telling patients their rights and encouraging them to defend them. As a patient describes, “Many nurses would tell me, you know what, they have to operate on you: do not move from here if they do not do the surgery. They have to operate on you! You came here very ill and you cannot just like that, you have already spent so much. “

Health care providers describe that advocating for the patient is even more powerful when you are a doctor. If the accompanying person is not a doctor, they need to know how to
argue and stand for the patient. A doctor describes, “If it is a doctor it’s easier, but when we send a nurse, we send someone that can fight.”

Patients tell us that another way to move forward in the referral process is by getting a “recomendación” (recommendation). Sometimes it is in a form of a letter, sometimes as a phone call, sometimes by doctors accompanying the patient, and talking directly with someone. A recomendación is to tell the health care providers to please put special attention to that particular person, because it is important to the recomendado (person who is recommending them). A patient tells us that this recommendation is very important to have if you want to receive care “If you arrive just like that, saying I am ill and I want you to see me; you do not get surgery. You have to bring recommendations of people that have power. So that the [health care providers] will act.”

Health care providers describe how recomendados are usually people that know someone inside the health care system. Influential people, like the family member of someone important or someone with money. Physicians describe how when the patient is a recomendado, there is always a solution for any problem. Barriers are eliminated. A physician describes how recommendations work:

“The patients are recommended by someone: [John Doe] is the family member of X or Z. They are cared for very well in the hospital. When that happens the surgery room always works, everyone is paying attention. As we can see, it has to do a lot with the patient. You know… if the person is recommended, things are different.”

Participants tell us to get a surgery you need to know someone. To have a friend inside the system. It is very hard to navigate the health care system or achieve anything if you do not have contacts inside. A doctor describes: “What I am trying to really say is that what you need
are contacts so that the problem can be solved. Without contacts… no. Following the traditional bureaucratic system is [almost impossible].” A physician describes in more detail how knowing someone helps you jump the system.

“If you know the doctor, to begin with they will not give an appointment so far away. He will make your file and your diagnostic studies that same day and maybe he will program the surgery in one or two weeks. He would not make you run around and he would treat you well. It is easier when they know you.”

Health care providers describe how jumping the system is the only way of receiving a surgery. For a health care provider jumping the system is eliminating the intermediaries of the system. For example having the phone number of jurisdictional officials to call them directly, or having colleagues working in the hospital the patient was sent to and calling them to tell them the patient’s situation or by looking for the person highest in the chain of command in the hospital to be able to move forward in the referral process. Participants describe that the process is tiring, and it many cases it is the only way. A physician working with referrals describes two stories in which for both it was the third time that they had cancelled their surgeries with the argument that there were no beds available. She describes how she had to look for a person with power inside the area to solve the problem:

“There was a patient that needed a hysterectomy and she was rejected three times because there were no beds in the hospital. It was horrible because even the blood became expired and at the end the only way to access the hospital was because we were friends of a doctor who is in charge of dysplasia at the hospital. The doctor literally took me and the patient by the hand, and arrived at the gynecology floor. I think he is much respected there. He asked the gynecologists, ‘who is good to do surgery here? Anyone?’ The
residents were there, he told them ‘you are going to operate on this patient, she needs a
hysterectomy’, and that’s how the patient got hospitalized.”

“I am tired! I turned around and looked at the patient and told him, wait for me here. I am
going to look for the chief of surgery. They will get us in, because they will get us in.
They have rejected us twice already; I was very pissed. So I went up with the chief of
surgery and I told him, doctor, he was very nice by the way, and I tell him everything and
that they have rejected us twice. Our blood donations will expire and it has not been our
fault, this cannot be happening! If the problem is that there are no beds then do not
hospitalize him. The doctor said, ‘yes do not worry (…).’ He gave me a document, he
signed it and told me, ‘with this paper they will hospitalize your patient’.”

Avoiding the System

Patients tell us that for you to receive care, like a surgery, in the health care system, you
have to be in terrible conditions. They tell us that hospitals only operate on urgent cases. A
patient describes, “In the hospital they would not operate on a person that could walk; on the
contrary they would do surgery if they saw that he had all his guts out or bleeding.” Patients
describe how doctors tell them that they only operate on those who are dying. If patients are not
dying and try following the MOH referral process, patients end up doing the run around, until
their condition becomes and emergency and then they will get surgery, or they will end up with a
private provider.

Participants describe that to avoid complications it is important to receive surgery in a
timely manner. To receive surgery in a timely manner, they need to avoid the system by going
with private providers. Patients go with private providers when they feel that their condition is
too serious to wait for the surgical appointments at the MOH, to avoid complications of their
disease, or if they feel that they are wasting their resources at the MOH. A patient tells us, “If you are someone that has economic resources, you should do surgery immediately. It is very hard to have that hernia. At any moment you can scare your family. [The hernia] may explode when you are at work, or I do not know.”

Patients talk about going with private providers in almost every interview. They reflect how they are treated better because there is money involved. Nevertheless, those who can get the money to choose a private provider, do it. Patients prefer to go with private providers because they solve their surgical problem in a fast and timely manner, many times in the same day. They describe that going to the MOH and doing the run around ends up being more expensive, and there is no assurance you will get the needed surgery. With a private provider they only need to do studies once, and family members can be with them during the surgical process. A patient that has gone through the MOH referral system recommends, “If you have the money, try to see the way to do surgery with a private practitioner, because in the hospital you know it is very hard. If your gallbladder illness is advanced, you should treat it as soon as possible.”

Health care providers tell us that if patients do not have economic resources the only thing they have left is to be patient. A referral process is never straightforward line, there is always a complication. A physician describes:

“I believe that all [referral patients] except for the children, have always been a problem. What I am trying to say is that none of them has been in a straight line from their consultation, then their pre-surgical evaluation, their blood donations, and finally their surgery, not one patient. There is always something. Either there is no material, or there is no surgery ward, or there is no bed, or there are no blood donations or… there is always something.”


Accompaniment

Participants describe how not knowing the health care system can be scary. It is like a big monster that you have to face when you get a surgical referral. Health care providers tell us that navigating the system can be very difficult. They refer that no one knows the system. Specially, they describe how social workers, the ones in charge of managing the referral system, do not know the system. A doctor describes:

“I can assure you that the social workers have no idea of the referral system. I am telling you this because the hospital director sends me the referrals, or the social workers send me the referrals and ask me where can I send this patient? It is their job to know! That is when I realize that they do not know. None of us know the system.”

Patients and physicians describe how when patients need to go to the hospital either for an emergency or for elective surgery, if the doctor or a nurse accompanies them they are treated better and have better outcomes. As a patient describes, “The doctor took him to the hospital because it was a hernia, that’s how he could get the surgery.” Patients describe how when they go by themselves they are ignored and no one receives them. There is an immediate change in how they are treated when a health care provider is present. A patient describes, “They did not want to receive us [in the hospital]. But, the doctor [accompanying us] arrived and they received us. Thank god the doctor arrived, but until she arrived that’s when, because if we were going by ourselves they would have not received us.”

Health care providers also describe this phenomenon. They describe how if they do not accompany the patient to the hospital the probability of rejection is very high. A doctor describes “I know that the probability of [hospital workers] receiving the patient if I do not go with them, even though their lives are at risk, is very low.” They also describe that the reason may be that when they go to the hospital and talk directly with the receiving health care provider they
eliminate a communication barrier, they become a bridge between surgeons and patients. They can describe what surgery they think the patients need and why do they think they need it. When accompanying a patient physicians can also explain the patient’s living conditions and their social situation. A physician describes her experience when taking a patient she considered severely ill:

“I am sure that she is a patient that if she had arrived by her own means to the hospital, they would have not received her. Actually, they did not even want to hospitalize her that night even though she was pregnant and she was bleeding! So I believe that’s why we go, to facilitate and become the necessary bridges.”

Compañeros en Salud (CES) has a Right to Health Care program based on the acompañamiento model. Health care providers from this program describe why they believe that acompañamiento makes a difference. They describe how being with the patient is crucial for a referral to be successful. They describe how acompañamiento implies many things, specially being side by side with the patient to help them and teach them how to navigate the system so that the right to health care is not lost. Sometimes acompañamiento means advocating, or becoming the liaison between the physician and the patient. When you bridge the communication gap patients and physicians feel supported. A right to health care staff describes,

“Accompaniment means many things…It is to go with a patient to the outpatient clinic to engage in a dialogue with physicians and reaching an understanding of what would be the easiest way to solve the patient’s medical problem. Making sure the physician does not feel threaten or invaded, they see you as support.”

Compañeros en Salud staff describe how when patients are accompanied they feel supported and motivated becoming a facilitator to have successful referrals. CES staff describes
how in addition to all the social factors that the patient is already carrying like poverty, violence, and social stigma; the referral process can be very emotionally and physically burdensome. They describe how with accommodation they help patients carry their frustrations, and patients do not feel alone.

Participants describe the importance of accommodation. Patients describe that to win the system you need to know it and have the strength to face it. If not, you will not receive your surgery. Patients will go back home and die because there was no one there to accompany them. A patient describes how she feels sad and frustrated that only because of the accommodation received by her father in law she was able to receive surgery:

“My father in law, he knew how to move around, he knew those people (influential people). But there are people that do not have [someone], or at least I am one of those that I do not dare to even speak. I feel very self-conscious at those moments, or any word they tell me [it brings my mood down] and I cannot do it. There are many people like me. We are not good with words or do not have the courage to go and ask for help. So they tell you we will not do surgery on you because of any reason, and they go to die in their houses. It has happened like this before. That’s why I felt sad, why do they (health care providers) have to wait for someone with power to talk to them so that they do something, if they can do it?”
ETHNOGRAPHIC CASES

In this chapter I want to tell the story of Isabel and Dra. Lorena. Two exemplar cases that embody the struggle represented in the results section. Isabel’s story exemplifies the struggles patients face when in need of surgical care. The story of Dra. Lorena, on the other hand, represents the daily conflicts lived by health care providers that leads them to lose professional ethics. With this two cases I want to give a narrative to the results. By sharing this stories I want to bring forward the personal experiences; the lives of the people that face the referral system as part of their lives.

Isabel

Isabel is a 22 year old mom and wife with Seguro Popular living in the municipality of Angel Albino Corzo. She is a patient suffering from pain caused by stones in her gallbladder, known as colecistolithiasis (CCL). She required what is considered an elective surgery. This means she can be treated as an outpatient, and schedule her surgery without a rush, since her condition is painful and uncomfortable but not life-threatening.

I met Isabel when doing a home visit to a former patient, Isabel’s father in law. After sharing about my research Isabel was willing to share her story with me. I thought that the injustices lived by patients seeking care in the health care system could not impress me anymore, but Isabel’s story left me devastated. Every time I listen or read Isabel’s story, it reminds me how important it is to call the attention to the matter of referrals. Her story became personal. Access to health care cannot be a matter of chance or privilege.

By following her story I map the delays that patients that require an elective surgery experience when they need secondary or tertiary care.
**Life in rural Chiapas**

Isabel was born in the *Ejido* of Nueva Colombia, in the municipality of Angel Albino Cozo. According to INEGI⁵ (2000), it is a small community with 1,568 inhabitants distributed in 359 households. It is a valley located 1,380 meters over the sea level. 65 of the households in Nueva Colombia do not have electric light, and only 186 have a cement floor²⁹. Only 12 houses have a washing machine and none of them have a computer³⁰. Isabel was abandoned by her parents when she was only 6, left to be raised by her grandparents. Isabel does not recall a happy childhood. As many of the people we interviewed she is used to suffering. “I never knew what a home was, I never had a doll or a toy to play with, I was working, selling all the time. If I came back home without earnings, I would get hit. I suffered much since I was a child.” She was lucky enough to go to school. Around 15% of the population does not know how to read or write³⁰. The average number of years people remain in school is 4.9²⁹. In 2012 the residents of Nueva Colombia due to a government project to bring down the dispersion, marginalization and extreme poverty; and a natural disaster were displaced to a new place called “rural city,” located in Jaltenango de la Paz³¹.

**Coffee**

Isabel’s grandparents, as most of the participants we interviewed, have a coffee plantation. Coffee is the main cash crop. During January, coffee season, if you arrive to Nueva Colombia, you will see little bright red round seeds covering all the streets, and Guatemalan immigrants walking all over the *ejido*. This is the busiest time of the year.

---

⁵ Instituto Nacional de Estadística y Geografía (INEGI) – National Institute of Statistics and Geography.
Farmers will work during the whole year, invest in their plantations and hope weather will not affect their harvest. It is a big investment to plant coffee, because it takes around two to three years to produce fruit. With the hope of a better harvest next year farmers use their money to pay debts and re-invest. When harvest money runs out, people ask for loans for many different matters, from buying food to sustain their family, to take care of health problems. This becomes a cycle of paying debts and hoping for a better future, but it does not take into consideration what happens when the next year is worse than the one before, or when a plague like la roya kills all the coffee plants. Anything affecting the coffee plant, destroys all the years of investment, producing an economic crisis and leaving the farmers with the only option to re-invest in planting again and waiting for another couple of years to have new product and access money.

People cannot plan or save money, because their economic resource is very unpredictable. It is very hard for farmers to access a big amount of money whenever they want it, or need it.

“Economically speaking, sometimes there is money, sometimes there is not. Sometimes we have enough for a good meal, and sometimes we do not, but we make sure there is always food in the table. The problem is when we get sick, it is messed up because we do not have enough money, like surgery. If we had money we would not be here waiting for the hospital to solve the surgery, we would had gone to a private physician. But, unfortunately, we do not have that money. “

**Pain**

Isabel’s pain became a constant trigger to seek care. It impacted directly on her life quality and daily activities. Her pain was subjective. In the hospitals her pain was not what mattered, but the fact that as she had a common condition, it was not considered an emergency.
“A great pain attacked me, I felt like my gallbladder was going to explode. The pain went from my back all the way to my kidneys. The pain started at night. The pain was terrible. My husband started rubbing my back, we did not know what it was… The next day we went to the doctor. I had an ultrasound and explained my pain to the doctor. Doctor said I had a stone in my gallbladder and it would disappear… I trusted his words and continued life, like nothing happened. The second time I felt the pain… Since I already knew what it was I did nothing, I just endured the pain… Pain came back, this time stronger and with vomit. I went to the hospital. ”

“I received medications when I had lots of pain, they would put an IV line, they would give me butilhioscina, omeprazole and paracetamol and the pain would go away. They told me not to eat fat. I was like that for around four months. The pain came back around June this time even stronger and accompanied by vomit. I would continuously get hospitalized for two or three hours. In July diarrhea was added to my daily suffering. I would eat and go straight to the toilet, I lost a lot of weight. I would go to the hospital and when I reached there the guards would say wait! The gallbladder can wait. You stay there and wait, there are more complicated patients. So I would stay at the gate with the pain and the vomit. When they saw I had to much vomit then they would let me in and revise me and the same thing again: the IV line, the same medications… it was always like that.”

**Getting a Referral**

Isabel went to the health center and asked for her referral document. The physician gave it to her. When she arrived to the hospital the nurse told her that she had the wrong referral. She needed to go back and ask for a new one. She went back to the health center, got a new referral and goes back to the hospital. This time the nurse tells her that there were many patients already,
they were not giving appointments any more. Isabel tells us that she went several times, and there was always something. Either the doctor was on vacation, or hit someone in the road so they kicked him out of the hospital. She was never able to get the right document.

**Diagnosis**

Isabel’s pain became stronger. Her lack of financial and social resources and the lack of resources at the hospital delayed her diagnosis. She could not move forward without a diagnostic test, but she had no money to do it. In addition, the small amount of money she had was spent in the constant visits to the emergency room, to relieve her symptoms. This cycle of pain and hospitalizations, without any solution to her medical problem and a lack of referral became a delay in her care. Isabel endured the pain, until her disease became life-threatening.

*Figure 6: Cycle of Pain*

“By the end of July [doctors] asked for an ultrasound and some blood tests, but I had no money. Every time I went to the hospital I had to buy the syringes and all that so I had no money. I stayed in my house, but I had too much pain. [Doctors] would say go to do the ultrasound and once you have the results you come back so we can revise it. I would say ok, but we really had no money. We had nothing, not even to buy one more syringe, so I
just endured the pain. I saw how my eyes started to turn yellow and the pain became even stronger, and stronger. Family from my husband’s side gave twenty pesos to my mother in law and she bought a syringe and we went to the hospital again.”

“I stayed as an inpatient, because the pain would not go away. When I arrived the doctor said ‘the only thing I can offer is a nasal catheter, if not your gallbladder will explode’; unless you want to die then I will not put it in. I had the catheter on for four days. They sent me to get an ultrasound. They found that the stone was trapped in the conduct that goes to the pancreas. I needed to be sent to another hospital.”

“The ambulance for the transfer was 700 pesos for the gas. My mother in law went to the city hall to ask for money, maybe some kind of voucher to help with the expenses or something because we had no money and I was very sick. She got a 500 voucher and family helped collect another 200. This is how I was able to use the ambulance for a transfer to Villaflor.”

**Conflict**

Isabel’s experience in the health care system was filled with conflict. Conflict becomes a source of frustration for her. Her description of the relationship with health care providers reflects her experience of being blocked from having a voice in the decisions concerning her and her health.

“My husband was asking for a transfer to Tuxtla, because knew someone that would be waiting for me at the hospital. As soon as I arrived they would see me and help me get my gallbladder removed, and stop my suffering. But the social worker said no, she refused to give us the transfer to Tuxtla, she said we were only looking for comfort. My husband argued that we had family in Tuxtla, so that they could help us take care of the
baby, take a shower once in a while, have something to eat. We could take turns to take care of Isabel in the hospital! But still the social worker refused and I was transferred to Villaflor.

**Complications of disease**

Isabel’s non-life threatening condition was not treated on time. Her disease became complicated and life-threatening. Instead of a surgery to remove the gallbladder, now she required a more sophisticated treatment. This treatment is covered by *Seguro Popular*, but it is not available through the ministry of health in any hospital of the state. Her only option was to get it done with a private surgeon.

“I arrived to Villaflor… I had pancreatitis. My liver, pancreas and gallbladder were swollen. Doctors said I had to do a study called ERCP, with a cost of 18,000 to 20,000 pesos. This study would help to take the stone out of the conduct. If not done there was a risk of the stone going to my pancreas. That would complicate things even more. That would be dangerous, many people cannot survive that.”

“We started to see how we could collect the money, for us this is a lot of money… we set an appointment for the study. On Sunday we only had 13,000 we were still missing 5,000 for the study and another 2,000 for the ambulance trip. My appointment was on Monday at 6:00am… We had to cancel the appointment for the study. We had no money for the ERCP (Endoscopic retrograde cholangiopancreatography).”

“They would do studies of amylase and lipase every day, it was expensive 400 pesos every day. We had to pay for them because they were not available in the public hospital. My father in law was in Jaltenango looking where to borrow money from. He would sent us the money every day so that they could do the tests.”
“The doctor said let’s wait, maybe a couple of days, your lab results are getting better…

The doctor said ERCP would not be necessary anymore. I was so excited, I thought now they only need to remove the gallbladder and I will be fine!”

**Scarce Resources**

Isabel was lucky. Her medical condition did not take her life. Her critical condition improved allowing her to be a candidate to receive surgery at the ministry of health.

Nevertheless, the lack of surgical material became another delay.

“The day of the surgery arrived… The surgery got cancelled. There was no anesthesia, they did not do the surgery. They were going to release me from the hospital but my husband went to talk to the director’s secretary. They said we could stay over the weekend and wait until Monday. They told him to not worry, they would do everything they could to solve the lack of anesthesia. If there is nothing on Monday, we can re-schedule the surgery... We thought we were going to stay.”

**Communication breakdown**

There are different shifts in the hospital. Isabel had to stay over the weekend hoping that the anesthesia would arrive on Monday to receive surgery. There were instructions left to take blood samples. The weekend shift doctor decided that Isabel should not be hospitalized.

Disregarding all the information of the previous shift. Isabel did not want to leave the hospital, she feared for her life, but she feelings that there is nothing she could do.

Isabel’s husband accompanied her throughout these difficulties. He did not want to leave empty handed. He advocated to at least receive a referral letter to try surgery in another hospital. They were not ready to give up, but after the weekend event, they did not want to go back to this hospital.
“On Saturday another doctor arrived and he said… we are going to release you. I told him I did not wanted to be released. I am not doing well. I still do not have surgery, and I do not want to have pancreatitis again. I do not want to die. He replied we have to release you because you are using a bed that other person may need, you are not delicate of your health, you are ok now, you are out of the pancreatitis, and other people are worst and need the bed, so we are taking all the medication away. If you do not want to leave is your problem. Stay, but we will not take care of you or see you as a patient. So I told my husband, what are we going to do here if they will not see me or give me any medication? They started to take my IV line and everything. I was even going to take a shower, they had given me a towel and robe but they went and took it back because I was released already. They did not give me lunch either because of the same reason.”

“They gave me a referral letter from the hospital of Villafloros to go to Tuxtla. My husband went with the social worker and said ‘if you do not give my wife a referral letter she will not leave this hospital. She cannot go empty handed as if nothing had happened to her’. My husband said they did not wanted to give us anything, but he insisted that we would not leave until we had a document, so they did… We stayed in Jaltenango for a day and then on Monday went to Tuxtla to see if in the hospital Gomez Maza I could get the surgery.”

**Persistence**

Isabel and her husband started the process of referral again. They went to a new hospital, hoping to be successful this time. They repeat diagnostic tests, and get new blood packages.
“I arrived to Tuxtla and started my paperwork. I had a couple of appointments with a surgeon, and gave me a surgical date. He gave me an order to do more studies. Since they were not available in the hospital I did them with a private facility 1300pesos in total.”

Isabel continued the run around, trying to complete all the requirement for the surgery. She wanted to make sure everything is right, to get her surgery.

“Before the surgery… In the hospital they told me: you need to come tomorrow to see if the blood is ready. I swear I felt so tired, I just came back home. I had a terrible back and waist pain, I could not be like that anymore, I was crying all the time, I felt so tired I felt that I could pass out at any moment. I was afraid something would happen to my daughter. I brought her back home.”

“I went back to Tuxtla to check on the blood. I arrive to the hospital and they told me you need to come back in a couple of hours and ask if we already have your blood. I went back on Saturday, I was going to be hospitalized on Sunday for my surgery. So on Saturday they tell me: [blood bank] still does not bring your blood, come back at 7pm. You need to be sure that your blood is here, if not they will cancel the surgery. I was very ready for surgery so I stayed around the hospital until that time. I went back at 7 and they tell me the ambulance with the blood had not arrived, to please come back at 9. I was very tired, so I did not go back I wanted to get some rest before the surgery. I felt so tired of running around for so many days.

**Surgery day**

“I wake up take a shower, I go to the hospital at 6am. I go to admissions to get my paperwork ready and that’s when they give me the news: your surgery is cancelled…”
there is no medications… Come in the afternoon so they can reschedule your surgery…

So, now what?”

“I started crying, what are we going to do? I do not want to be like this anymore. I feel very bad, I do not want the same thing to happen to me again, I already had pancreatitis once, what if I get it again? What if I do not make it this time? Because I am very weak now. He [my husband] said ‘do not worry’, if they do not perform surgery here, we will find the place, and we will find the way.”

“We went back to the hospital in the afternoon to reschedule the surgery day… [a nurse told me] they are not re-scheduling anything, because they do not know when there will be any medication. I got angry, why are people just entertaining me? I have no money to be running around and wasting my time. I have a child at home and she has fever. I only wanted to be with my daughter and I was wasting my time in the hospital. Why don’t they speak clearly? They say one thing and then another thing, good thing I asked.”

Still waiting

“My husband started wondering, only God knows why this things happen. Maybe it is not convenient for you to have a surgery or I do not know. But until now… I am still waiting to get a surgery, but the lack of money. Since I was sick, we had to borrow money and now we have to pay it back. We just started paying back, and after finish paying we will ask for more money to try again and get surgery, but I do not know when that will happen.”

Isabel lives a cycle of futility when trying to receive care. This cycle exposes the most barbaric aspects of the health care system. A broken system that instead of serving those who needed the most, ends up impoverishing those who are already poor.
The lack of responsiveness is a reflection of the failure of the system to live up to health care’s professional ethics of “do no harm”. There is a complete disregard to the dignity of the patient. How did we Mexican health care professionals end up like this?
Dra. Lorena

I met Dra. Lorena in a gynecological campaign while I was working as a rural physician in Chiapas. We became good friends and have collaborated many times since then. I was humbled to interview her and learn from her many years of experience. She has been working for the ministry of health for more than 16 years (since 2000), and in one of the research hospitals since 2002. I chose to share her story because her reflections are powerful, and her articulate critique to the system exposes directly all the flaws that make it so dysfunctional.

Motivation

Dra. Lorena is a unionized practitioner that has decided to work in this underserved area. She describes that she decided to stay because of family. She works for the ministry of health and has a private practice as well.

“I am a general practitioner. I work with the MOH since January 2000… I chose to study medicine because my family lives in a very poor community… My intention was to one day be able to help the people from my community. There was a lot of need in my community, many health problems. I had the intention of supporting them. I love alleviating people’s suffering, to intervene, and to be able to change people’s lives… I enjoy my work. [When patients appreciate your work] you feel good.”

Loss of Interest

Dra. Lorena describes how in her experience the institution changes the motivation of health care providers; with time, health care providers lose their purpose and become mechanized. She reflects on the existence of a hidden competition, in were those who work the most are the losers.
“What I hate most about my work is the system. It is tired, corrupted, untruthful, and political. The system was originally made to help and provide, but it has prostituted itself so much that now everyone is only thinking about their own convenience and benefits. [Health care providers] have stopped thinking about service and the [institution’s] main objective. From the highest position to the lowest workers, they have forgotten their motivations. We have stopped being a team because of this. Everyone takes something for themselves and forgets about others. There is a lack of companionship. The saddest part of the situation is that we have de-humanized ourselves. You start seeing the patient as a number, as if disease was disconnected from the patient’s feelings.”

“Everyone is working with lots of stress. Like they do not want to be here anymore… lack of passion, lack of values, mostly of humanity, because it gets lost. There is no interest. As a physician you get mechanized, you become a robot. You only concentrate in getting the work done and you lose sensibility. Wherever you are, you do whatever it takes to earn more with the least possible work. You do not get involved much with the patient. Why do we lose our humanity?”

“I have realized that everybody sees what the other one is doing and never stops to think, what am I doing? For example -I do not work because [my colleagues] are not working either. If “he” arrives late then I will arrive late too. If “he” does not show to work, I will not do it either; I am not stupid-. I think this makes you lose your essence as a physician. You stop being yourself. You forget who you are and why you are… It becomes a competition of who can do the least. It is a competition in which we are always going downward, because that is what the system does to you.
**Local moral world**

Dra. Lupita describes how in her experience the toxic environment lived in the hospital is due to public-private practice from the surgeons, the power dynamics between surgeons and other health care providers, and the corrupted economic reward system. It is easy to be immersed in the intoxicating environment and fall into a vicious cycle of constant interpersonal conflict with colleagues. To avoid conflict, Dra. Lupita, as many others, decide to separate themselves from the “team” and mind their own business. Focusing on work and following the job description becomes the mean of survival.

“Fifteen years ago a surgeon and an anesthesiologist reached this hospital. I guess that at the beginning they would perform surgeries once in a while; but later they established their own private clinic and they would try to refer all the patients to their private clinic. They would only show up to the hospital to clear their attendance. They would barely perform any surgeries. If they had to perform on emergency surgery they would get angry. It was really stressful to talk to them. They were always looking for excuses to not perform surgery. They became experts at this –there is something wrong with the lamp, there is something wrong with the anesthesiology machine, there is something wrong with the medication, there is something wrong with the wall, there is a cockroach-. They never did surgeries. Everyone was sent to their private practice.”

“They later removed the anesthesiologist from this hospital, because of a social conflict. The administrators had a fight with two different groups in the hospital. They had to change some of the people that formed part of this groups. Then, we had another anesthesiologist. He also had a social problem and had to leave. Like three years ago
another gynecologist with an anesthesiologist arrived to the hospital. They had the will to work, and worked a lot. They did many surgeries.”

“They started fighting amongst themselves. The anesthesiologist was pulled into the private practice, and made an alliance with the surgeon. Whenever there was a surgery on the hospital he got into conflict with the gynecologist. The excuses started again – the machine does not work, the lamp has problems- The gynecologist had so much will to work that he would buy the missing material from the hospital, like the lights of the lamp. He was always very ingenious trying to get the surgeries going, but there was a lot of conflict with his colleagues [the surgeon and anesthesiologist]. Then there was another social problem, and the anesthesiologist was changed to another hospital. The gynecologist left as well and we stayed with the team that never does any surgeries. We have a gynecologist on the weekends, and a surgeon without an anesthesiologist, therefore we never have surgeries here. We only do surgeries when there are campaigns organized by foreigners. When someone does not want to work, they always find an excuse.”

“It was very sad, when there was an emergency and you called the surgical team, they had to leave their private practice. They were always [at their private practice]. They would come to the hospital very angry, screaming, scolding and cursing at everyone. We were all afraid of them. Whenever an emergency reached the hospital, you prayed for the patient to leave the hospital. You did not want to call the surgical team. [The surgical team] would never appreciate your work. They would call you incompetent and scream at you. Adding to this, at the end of the year [the surgical team] were the ones receiving all the economic stimuli for productivity! For perfect attendance! It is so ironic. They were
the ones getting all the benefits. Everyone else in the hospital would actually come to work, the surgical team never came to work, and when they came they were always in a bad mood, and did nothing and they are getting all the money! Everyone started saying – well, I will not work either, and see if I get the economic stimuli too. A vicious cycle started growing inside the hospital after this. That is why many colleagues fall into this vicious cycle of doing nothing. “

“Inside the hospital the social aspect matters. Health staff do their little social groups and create disaster. If you do not belong to this social group you get punished. You see more patients, you do not get permission for anything, all because you did not organize any parties. You get very angry. There would be the doctor that was always late, that never saw any patients, and did nothing but organized all the parties… I would have to do the work for her… and if I urgently needed the day off, I would never get it… there was a moment where I was so stressed that I just wanted to run away from the hospital. I got treated very poorly. They would blame me for anything. They would aggravate me on purpose because I did not belong to their social group. There was a moment in which you wanted revenge, break someone’s face.”

“There comes a time in which if you do not stop to think about all this… I was getting so stressed out I had to say stop! Nobody will determine who I am… I had to stop and remember why am I a doctor? And what were my goals and re-take my life as I wanted it and try to leave all my emotions a side, all my feelings. I started concentrating on myself, I changed shifts at the hospital so I would not see all the filth. I felt better, I changed my focus. But I witnessed many colleagues that did not take the time to do this. They continued going with the flow and re-acting to everyone else’s feelings and they ended up
very badly. They were very good and kind doctors and suddenly they changed. They do not work anymore, they became grumpier. If you do not put a limit to the attitude you have towards the problem, the problem absorbs you. I believe many health care providers did not intend to be such assholes, but they were absorbed and ended up being like that. “I cried every day because I was treated so poorly. It helped me a lot to learn I needed to change the focus of my life… at the beginning I wanted to change and tell everyone that they are not right, but that generates enemies. I understood that it was not my problem. I stepped aside, and that has worked for me.”

Referrals Communication Breakdown

The referral systems is complex, involving multiple players. For referrals to be successful there needs to be great communication and synchrony amongst all the players. In Dra. Lorena’s experience communication is a challenge, leading to constant misunderstandings.

“Social Work has a directory of the physicians that work at each hospital… [When you have a referral] first you need to tell social work what type of patient you have. They make the liaison with the social workers of the hospital we are referring to. They check if the specialty is available. If the hospital has the specialty, or the resources to see your patient, they open a space in the hospital to see them. We have to send the copy of the referral document. Many times there is no phone signal, and the internet does not work very well. It takes them forever to get back to you. You have to wait for the social worker to tell you -you can send the patient-. They tell you what doctor will receive your patient and where the patient should go. That’s the general idea.”

“My experience with this [system] is very poor. They tell social work something and whenever you arrive to the hospital, they are not waiting for you, there is no space in the
hospital, the physician they told you would receive the patient does not exist, and the patient gets rejected from the hospital. Even if you have a copy of the message saved in your phone, they do not receive your patient. It feels as if referring a patient was an offense to the hospital, as if you were bothering them.”

**Scarce Resources**

Dra. Lorena describes how scarce resources are a problem; but in her experience, it is hard to differentiate between scarcity and corruption. Nevertheless, in her experience attitude becomes more important than resources. A negative attitude towards the patient is what makes them angry and generates conflict.

“They tell you [government officials] one million pesos were invested in the construction of a hospital… I think that is unbelievable. We do not have a nebulizer, a blood pressure cuff, no Tylenol, not even IV solutions. How is it possible that they tell you that in the cervical cancer program they spend x millions of pesos, and you never get the results of a pap smear back? How is it possible if there is no paper to print results? How much does that cost? But they [bureaucrats] say they are spending millions… the worst is that government officials have reimbursements for their travelling expenses. All [MOH officials] have trucks, a driver, they take the luxury of going to restaurants and everything they eat gets reimbursed. But when we ask for something [hospital material], there is no material, there is no medication. If you make a balance sheet… how is it possible that there is no money to buy basic material? They do not really care what resources really reach the patient, what [government officials] care for is how awesome they are.”

“Having resources starts with having a phone line that works, an ambulance that works, fuel for the ambulance, and that the patient is received adequately at arrival. The worst
problem of an emergency referral is the attitude of the personnel that receives the patient. Independently of the resources, the attitude they have, the rejection, the negativity, that is the worst… when patients arrive to the hospital if you receive them with a good attitude, and tell them you have scarce resources, but that you will do what you can, patients will be happy; even if they need to buy all the material. But when they see your attitude of negativity and anger, patients get angry and that is the main problem. If you send a patient that needs to pay for transportation, they do it because they care for their family members. If they are scolded when they reach the hospital–you are idiots! Why do you allow them to do this to you? You need to sue them because they are lazy- that is the worst, the attitude. It generates problems not only between the patients and us, but problems between the patient and the system, and problems between us and our colleagues. It is as if we were giving weapons to society to put them against us.”

**Violence**

Dra. Lorena describes how structural violence is inflicted in health care workers by the institution in different ways. One clear example in the referral system is the ambulance ride. A question of recue or death? This basic step in the chain of referrals implies a moral dilemma, putting your life at risk and no acknowledgement or appreciation, on the contrary being treated as “the worst human being”.

“During the referral, the ambulance gasoline has to be given by the municipality. But it is a problem. If this does not happen the patient has to pay for it. Patients do not have money to do this. Many times we have to economically collaborate to pay for the gas, especially if it is an emergency. Usually the ambulance is not in good condition and they do not receive adequate maintenance and there is always something wrong. You go into
the ambulance knowing that your life is at risk. You have the idea that they are going to be upset at the other hospital. [The higher level hospital] almost never receives the patient with a good attitude. If we have to send a nurse, we send someone that can fight, with strong character that will argue and threaten the hospital by accusing them with human rights or by bringing a reporter or something! Only by doing this they will receive the patient. But if we send someone that is very humble, they get scolded and treated as the worst human being. It is like if we were sending someone to war. So we need someone that can be intimidating. That is why it is not very nice to send a referral.”

“What does not work is that they send you a document saying that every referred patient needs to be sent with a physician. If there is only one physician working in the hospital, you cannot leave. But if you do not go with the patient they get angry and fight with the patient. Another thing that does not work is that every time you get in the ambulance you have to ask the driver -what does not work in the ambulance?- There is always something that does not work the tires, the brakes... It has stopped working in the middle of the way many times. You get in the ambulance with the fear that something will happen to you, it is very dangerous. Also, as a health care worker when you leave the hospital in a working schedule you need to have a commission document so that if anything happens in the road, it will be recognized as a [work accident]. We do not get that document, you join the ambulance with nothing. Many colleagues do not want to go to a referral because they are afraid something will happen to them in the road, like dying or any accident, and no one will acknowledge it was a work accident.”

Cultural violence is inflicted by the constant questioning of competency amongst different hospitals that belong to the same institution. According to Dra. Lorena, all this violence
creates a referral dilemma, which makes physicians question themselves every time they should send a referral.

“I do not believe it is very healthy for someone to question your decisions as a physician. I believe they can help you, suggest solutions, but not question you. Your work should not be questioned amongst colleagues. If you were wrong, ‘how can I help you? Let’s solve the problem in this way, or it works better this way’ that is excellent and constructive, but when they tell you ‘why are you sending this patient? Why don’t you do it?’ Obviously if you are sending the patient is for a reason.”

*Generating Social Conflict*

The anger, frustration and fear accumulated in the health care providers due to the violence lived, is then inflicted to the patients. Patients become part of the emotional contagion, and as a consequence we have a community full of anger, frustration, and fear. This emotions are the ones that become the drivers of social interaction. I perceive the feeling of being at war when Dra. Lorena describes this phenomenon with military terminology.

“When you already made the patient aware that they need a referral because they are at risk, the patient is already scared. If the hospital rejects the patient, their fear increases and anger is added, because they are thinking ‘if I am really ill, why are they rejecting me?’ The stress that this generates in the family generates conflict with the referring hospital. This type of attitudes generate social conflict. We get threats from patients all the time. We are going to close the hospital! We are going to burn the hospital! We are going to take the hospital! This happens because when patients are referred they are told –your doctors are lazy, your doctors do not know how to do things. So patients return to the hospital with a very defensive attitude, they think we are lying to them.”
“I get very angry because I have talked with the jurisdictional officer, with the people in charge of reproductive health and they always say – We will talk about it- and there have been many jurisdictional officers, and it is always the same. There is no companionship among hospitals. It is like we are different headquarters and we are competing amongst each other, to see who is tougher. We are not a team. Like if we were using referrals to bother one another.”

**Conflict Amongst Hospitals**

Dra. Lorena reflects on how the conflict amongst hospital may be a reflection of the fractured health care system. If effort was put into bridging the communication gap, maybe patient’s access to health care could be improved.

“The inter-hospital relationships are the worst. I think it is one of the most delicate things, the most sensitive, that I think could get fixed with the least money. It seems as if it was something so easy to fix but that we have not been able to do for years.”

“There have been big problems because of this. Recently the gynecologist sent a pregnant patient, they rejected the patient from the hospital and sent her back. The gynecologist want to refer her again but the patient did not wanted to. But her baby was suffering so she needed to be referred. But when she got back to the hospital they told her -they know nothing at your hospital, they are sending you here because they are lazy-. So patients come back very angry, defensive and create social problems.”

“Most times they [the higher level hospital] tries to contradict everything that we say. Sometimes they are right, one can make mistakes in the diagnosis, but that is not true in the majority of the cases. Since they already have the idea that our diagnosis is wrong, they tell that to the patient and send them back even though our diagnosis was actually
correct… They already have a formed idea that if you refer a patient is to bother them or because we are ignorant. It is true, sometimes we do not make the best diagnosis, but if we are sending the patient, it is because we believe there is a high probability of complications, and we do not have the capacity in this hospital to solve them. For us it is convenient to refer the patient because if something goes wrong we would be blamed. We are preventing a complication, but they do not see it like that. They think we are giving them more work.”

“We need someone that is interested in getting the directors together, and everyone involved in the referral system. They need to get together and talk, work together so that we can see each other as companions, ‘Look I am sending this patient because of this. I am rejecting the patient because of this. How can we do this? I am sending the patient not to bother you, but because we do not have the resources.’ Maybe the other hospitals can come to see the conditions of this hospital so that they understand why we are sending the patients. In that way we can also understand why are they rejecting our patients, because maybe they have their own reasons for rejecting patients? If there was more communication... We cannot see each other as enemies. If there were better relationships amongst colleagues, so that we can see each other as a team. When that happens everything will work better.”

**Learning about Team Work**

Dra. Lorena reflects her experience working with an organization outside of the MOH, and learning about the importance of teamwork.

“I learned a lot while working with other non-profit organizations. I was fascinated by the humanity with which they work. I learned about their service, humbleness, the emotion
they put in their service. What a difference! Seeing them taught me a lot and with that I re-claimed the idea I had at the beginning of my career. I think I was becoming a witch already.”

“When I collaborated with the non-profit organization, there was a gynecologist in charge. She would come to campaigns, get to know us. Through this organization I would do referrals and the organization would take them. They would make the appointments. The patients would receive immediate and good quality of care. When patients needed a surgery, with only two visits to the surgeon they would get the surgery. They would give them a place to stay too. I would do the follow up of the patients so that they did not need to make another trip to the hospital. I realized everything moved so fast. In comparison in our hospital since 15 years ago, we have a hired surgeon that does not even do one surgery per month. I do not know how he does that.”

**Use of Resources**

“The MOH puts the means. The fact that they are sending a surgeon, and anesthesiologist so that surgeries can exist, and for them to try to fix the surgery room is good support. The problem is the coordination amongst them afterwards. The surgeon and the anesthesiologist not being in the same shift, or that there is always an excuse and that the administrators believe them.”

The reflections Dra. Lorena shares about the failures of the institution, and how this failures inflict violence in the health care providers, that is later *contagiado* (transmitted) to the patients, and finally to the society as a whole are a powerful insight into the social dynamics of this region. I want to close this chapter with Dra. Lorena’s conclusion, drawn from her experience, of the referral systems and how they could be improved.
“I believe that being in Chiapas and in the political situation that we have, I believe that maybe we cannot change it all, but if we as physicians change our attitude, we can change much, at least all the stress that all this referral mess generates in us. Because I have been telling you if you care for a patient with human quality and with interest, even though it costs them money, even if it takes time, you will at least not generate more problems and you will both reach a happy ending. The problem is our attitude of not caring, of not acting, that makes patients get desperate, and referrals and the elective surgeries are not completed. I think it is the human value and the communication that we are missing amongst us health care workers. In a country as corrupted as ours, we could at least propose to have new ambulances, new medication, and new equipped surgery wards. Maybe that is a dream very difficult to come true. But if we can change ourselves, our attitudes, there are many things that we can change.”
DISCUSSION

Imagine having constant excruciating and incapacitating pain due to a stone trapped in your gallbladder, or pain due to a protruding mass every time you do physical effort, or your uterus protruding from the abdominal cavity for more than 10 years. Imagine going to the doctor knowing that your chances of getting surgery are only 47%, and that the odds of receiving it are smaller if you are a woman and even more if you need a gynecological surgery. This is the reality lived by farmers in the Fraylesca region of Chiapas.

I started this study after years of observing and trying to understand how to navigate the broken and intricate referrals system from the ministry of health. I did a convergent mixed-methods study to try to answer the question what factors influence whether patients with Seguro Popular in the Fraylesca region of Chiapas progress successfully from referral to surgical procedure. The quantitative component aimed to answer who, and what; identify the number of surgical candidates that successfully receive a surgery after being referred. It is important to keep in mind that this component includes data from existing medical files, therefore it does not include those patients who did not make it to the hospital. The qualitative component aimed to answer why.

Understanding the barriers and facilitators of the referral system is complex. The referral system intertwines economic, social, systemic and institutional dimensions from the patient and the provider’s perspective. The many different elements that conform the system need to be synchronized for a patient to complete a successful referral. The complexity of this synchronization is what makes it very difficult for patients to access care, despite having Seguro Popular.

I will try to simplify the different elements that involve the referral system according to the findings, by describing how the elements become barriers or facilitators for patients to receive a surgery.
**Barriers**

There are three main barriers that delay access to health care for patients: scarce resources, inefficient use of resources inside the system and the economic dynamics of farmers. There are three main facilitators that make it possible for patients to receive surgery: jumping the system, accompaniment and avoiding the system. I will start by describing the barriers and then continue with the facilitators.

The three barriers are interconnected. We cannot improve the referrals system by looking at them independently. We need to see them as a whole. For the system to work as it was planned all this three barriers need to be targeted and improved.

**Economy of Farmers**

Years of oppression and structural violence to the indigenous population in Mexico has put Chiapanecan farmers in a disadvantaged position. They own land in treacherous terrains, full of steep hillsides and slopes, and their economy relies mainly in coffee. Some of the reasons why they rely on coffee are that it is the crop they have learned how to grow since the 1800, as a crop related to colonial interest, and the distance from the nearest city without any reliable roads makes the cost of transportation of any other product too expensive to be worth investing on.

The problem with farming is that, since coffee is trade as a commodity, farmers have no control over the price of the product. Farming is also highly dependable on the weather. Farmers can invest, work every day and do whatever is on their hands to try to secure a good harvest, but
there are many environmental aspects that are out of their hands, making it very hard to plan for the future. This is particularly true with global warming.

Climate is changing in the Sierra and Fraylesca region of Chiapas. Over the last 2 decades there has been a 0.2 to 1°C increase in temperature and a 15% decrease in rainfall. Hotter climate and less rainfall, leads to an overall drier condition. In 2009 the journal mitigation and adaptation strategies for global change reported a strong decrease in land suitability for growing coffee in this region “the overall trend will be for reduced revenue from diminished coffee quantity and/or quality, higher risk from drought, fire and rainstorms, increased costs for growing, harvesting and processing the coffee.”

Today coffee crops are not producing the same quality and amount of coffee that is expected. Farmers have also been struggling with a plant-choking fungus that had never been present in this altitude before la roya or coffee rust, another consequence of climate change. As described in the result section.

Coffee harvesting in 2009 already represented 80% of production costs in Mexico. With the decrease quality, the rust and the devastating environmental storms that strip people away from everything they have, farmers are in a perpetual economic crisis. Everything they earn needs to be re-invested either to buy new coffee plants of a different variety, buy alternative crops, or use fertilizers. The future does not look very promising either. The profit arising from the coffee sales will not be viable by 2020.

If farmers want to continue growing coffee they will have to look for higher ground to be able to harvest. But of course, getting new land is not something that is easy to achieve. If living from coffee production is challenging with climate change, economic growth or even economic sustainability will be almost impossible for farmers in Chiapas.
Because of this economic crisis, and the fact that coffee revenue is only seen once a year families struggle economically to provide basic needs, anything outside food becomes an impoverishing expenditure, especially being sick.

One of the main issues that arose during the creation of the reform was how to translate an entitlement (universal coverage) into practice.\textsuperscript{17} Mexico has been able to demonstrate that out of pocket expenditure in health has reduced in Mexico from 50.9\% in 2000 to 44\% in 2013. Catastrophic expenditure was reduced from 3.6\% in 2004 to 2.1\% in 2012, with bigger achievements in rural areas.\textsuperscript{36} On average, people without Seguro Popular are spending around 130 dollars annually on health care whereas people with Seguro Popular are spending, on average 100 dollars.

Nevertheless, the minimum wage in Mexico is about 70.00 pesos a day, which is less than $5 dollars. So $100 for the poorest in Mexico may be more than their whole month of earnings. Even with Seguro Popular, many people cannot afford the care they need.

It is also important to take into account that out of pocket expenditure usually does not take into consideration all the external related expenses that are necessary to access health care like transportation, lodging, or food, especially when it involves the whole family. So if we add the out of pocket expenses people are doing plus the money that people need to spend every time they travel to see the doctor expenses, as Isabel tells us, it becomes unbearable. Especially because, as mentioned before, their main source of economic resources is unreliable and not-constant.

Because of the situation of poverty, distance, and economic seasonality and because the system does not take into account all the extra socioeconomic barriers that patients have to face when seeking care like food, transportation, and lodging; for people in the region I studied reaching a hospital to access health care is a challenge. Expenses are indeed a barrier for patients to receive
care. Therefore, if the system had resources, and worked perfectly as it was intended, without any conflict; for many of the poor farmers living in Chiapas, accessing the system would still be a huge economic burden. After describing the basic political economy, let’s take a look into the patient’s experience, as an individual.

**Chronic Pain**

“For the person who is sick, as for the clinician, the disease is experienced as present in the body. But for the sufferer, the body is not simply a physical object or physiological state but an essential part of the self.”

-Byron J. Good

Even though seeking for care is a challenge, because of economic fragility, patients’ scarce resources become a delay when seeking care, but not a reason to stop seeking care.

Farmers tell us the important role that pain plays in their disease. Byron Good describes how pain has agency and is subjective, therefore a unique experience unknown for everyone else (117)\(^3\). Patients describe how pain takes them to seek care no matter what. In their experience pain is a reflection of the seriousness of their disease. When pain comes, patients look for a solution to their medical condition, no matter the cost. They look for extra work, borrow money and sell land. The consequential impoverishment involves the patient, their families and many times their community.

In the narratives of the patients we interviewed, when facing an unbearable pain that forces them to seek care, only to be encountered by an unresponsive health care system, there is a sense of futility. This subjective experience of pain is what gives human suffering its potency.\(^3\) The patient sees his or her pain as an emergency, a matter of life or death. Nevertheless, because their pain comes from a non-life-threatening condition according to health care providers, patients reach the hospital to receive pain killers and are sent back home. Pain may decrease momentarily but the
overall suffering lived by the patient and the family increases. We can see this reflected in Isabel’s story.

Can you imagine knowing your diagnosis, knowing that you need a surgery, feeling that you are dying and that you need care as soon as possible? Can you imagine looking desperately for money because of this, and reaching the hospital only to be hospitalized for an hour to receive painkillers, painkillers that you could have bought at the pharmacy and that you know they will not resolve the underlying problem? Can you imagine doing this hospital trip not only once, but twice or three times or even more than 10 times?

In his book medicine, rationality and experience “Byron argues that chronic pain provokes a shift in the embodied experience of the lifeworld”. He makes this argument for chronic pain associated without a specific associated cause, unlike the patients we interviewed who have a clear diagnosis and treatment plan that could end their suffering. I argue that because their condition is not treated in a timely and humanizing manner, the patient’s pain and suffering becomes chronic becoming “world-destroying”(121). I will use Isabel as an example.

Isabel went to the hospital more than 10 times and received no solution to her problem. For eight months Isabel and her family members’ life revolved around her disease. All their work was to obtain money to cover the health care expenditures, all their time was spent looking for different sources of help, or accompanying her to the hospital. Everything else in their lives became of secondary importance, including their own health. All this, to reach the hospital and feel that their pain is not validated. Hospitals and institutions dedicated to health care should help patients remake their lifeworld, nevertheless in many cases as described by Byron Good the patients experience is completely the opposite. In the case of Isabel, the health care system, its
bureaucracy, the scarce resources, the de-humanized treatment, and the unresponsiveness received, deeply affected her dignity, to the point of not wanting to go back.

**Institution’s Scarce Resources**

In April 5 2017, nine nurses from the ministry of health started a hunger strike in the state of Chiapas as a non-violent resistance movement to denounce years of bad working conditions and chronic underfunding of health care.\(^{38-40}\) Health care providers are tired, angry and frustrated of the many years of constant conflict and scarce resources. The economic crisis in the health care sector in Chiapas has been especially critical this year. The hunger strike of the nurses has not been the only non-violent resistant moving emerging. Health care workers from the most important and biggest hospitals in the states capitals as Gomez Maza, and Hospital Regional Pascacio Gamboa have closed the doors and refused to continue working.

As the results show, surgeons have decided to not perform any more surgeries until the government gives them material to work with. Even if the patient is willing to pay for the material, they will not perform surgery as a way to call the attention of government officials.

Scarce resources have made it very difficult for health care providers to perform their jobs adequately. Even though this strike is a manifestation against the bad utilization of resources in the system, the ones who suffer the most are the patients. Patients that have no resources have no were else to go. Closing the hospitals implies no health care for patients.

There is a predominance of scarce resources. From the economic crisis that farmers are suffering from the coffee plague, to the economic crisis that the health care system is going through. It seems like the health care system is collapsing.

If patients had enough economic resources and the health care system received more resources, the system would still not work if this resources are not coordinated and used effectively
and efficiently. Patients would still not get their surgery because they would get tired of the run arounds and surgeries would continue getting canceled, generating a huge economic burden for patients and finally leading to loss of follow up.

Conflict

Taking into consideration the enormity of scarce resources, we have to ask ourselves, what can we do with the small resources that we have?

I believe that targeting health care scarce resources and the political economy of Chiapas is important and necessary to reach universal health coverage. Nevertheless, this is harder to fix.

The 2010 World Health Report, *Health system financing: the path to universal coverage*, argued for a fundamental reorientation of health systems. It argued that it is important for countries to start thinking about reducing inefficiency. The report estimated that from 20% to 40% of all health spending was currently wasted.\(^{41}\) Participants often talk about misuse of resources. In my years of experience navigating the system, this becomes very clear. Patients keep getting appointments and repeating their diagnostic tests because of a lack of coordination of resources. Just recently in one of the hospitals the surgeon and the internal medicine physician agreed on the importance of coordination and teamwork. They realized that all the effort they invest in the patient and all the effort the patient makes to advance in its referral process gets lost because the clinic schedule of their two specialties was not coordinated. They collaborated to change this, and started a surgical day, in which both specialists will see the patient.

Money is being spent in the doctor’s consultation, diagnostic tests and surgical material. The process is so prolonged that at the end patients need to start again. Therefore for one patient requiring surgery, the invested resources to get a surgery are those of two or even three patients.
I argue that we need to pay more attention to the third barrier observed in the study, the conflict that prevails amongst health care workers and between patients and providers. By doing this, the scarce resources that are available from the ministry of health and from the farmers can be used more efficiently and effectively.

**Health care provider-Patient Communication**

There is a communication gap between health care providers and patients. Patients feel undermined when they reach the hospital. They cannot express themselves and are constantly ignored by every health care worker. Patients have a story of structural violence and social injustice. They have been forced to live in the mountains, to do physical labor that is not well remunerated, they are told that they have a right to health care according to the constitution, nevertheless when they reach the hospital, they are ignored. They blame the health care workers and engage in social conflict. On the other hand, health care providers feel overloaded, living with constant violence, not listened to by their superiors, and without a fair remuneration and appreciation for their work.

Health care provider and patient relationship is complex. There is a language barrier between health care providers and patients. I am not talking about the language itself, since they all mostly speak Spanish, but a communication barrier. Patients do not understand the health care provider’s perspective, what they are going through at their work, the pressure, the stress, the constant conflict with their co-workers, their frustrations to not be able to perform as they were trained, and at the same time how their training affects directly their one on one interactions. On the other hand health care providers many times because of how they have been trained and their constrain from the system do not understand the biosocial difficulties that patients go through to be sitting there in front on them. Each side makes judgements and perceptions. Leading to a gap
in communicating effectively. Patients perceive health care providers see them as ignorant, and many times are afraid to speak to raise their voice and fight for their rights. They feel there is nothing they can do because there is a power imbalance. They feel that their only options left are to be patient, or to claim for their rights by

**Violence in the health care system**

“As the ability of physicians and physicians-in-training to respond to human suffering with medical interventions is compromised, so too is their emotional well-being.”

Giuseppe Raviola, Mary-Jo DelVecchio, et al.

In Chiapas physicians describe how identity formation during medical school and residency training changes them completely. They describe how they were built to be aggressive, because the specialty demands it. They see patients as numbers. This description of sense of violence and burn out with roots in how the health care system is established, is similar to what Mary-Jo Good, PhD in anthropology and Dr. Raviola, a psychiatrist, both from Harvard Medical School, described an east African teaching hospital and how institutional culture affects how physicians care for their patients, and teaching students. Raviola and Good call how inadequate hospital facilities and congested, crowded wards changes the motivations of medical trainees to practice medicine. They also describe how “lack of resources including drugs and equipment for working with an unmanageable patient load… have a significant effect on how residents perceive themselves”. These factors become a major source of frustration and stress leading to demoralization, depression and “burn out.”

Chiapas health care providers complain about the scarcity of resources and overwork they need to do, including taking responsibilities beyond their capacity. Adding on to the training, results describe a very tense environment inside the hospitals. The majority of health care providers work under stress. They do not want to be there anymore, compromising their
commitment to patients. Staff commitment to patients affects the ability to care for patients in a moderate or high degree, according to Raviola and Good. Especially when the lack of commitment comes from senior physicians and nurses. The findings of this study, reflect the universality of a system structure problem that has been described before by Good et al (1999). They describe how economic scarcity and disease entities have a direct impact on medical culture, training, and education, and in patient care.

Health care providers describe how they have lost their humanity. The tense environment in the hospitals is given not only by the medical training, but also because of internal dynamics of social norms. This local moral world contributes to the de-humanization and lose of commitment from health care providers. Even though local moral worlds vary across the globe, the findings that Health care providers when feeling overwhelmed and when working with very few resources encounter moral and ethical dilemmas, are universal as described by Good et al (1999) “…the very moral foundations of medicine as a scientific and caring profession are called into question.” In Chiapas, for example, as Dr. Lorena explains in her narrative in the hospital where she works making parties is very important to receive benefits or to be socially accepted in the hospital. Those who organize the parties have privileges, and there is peer pressure to be part of the party. If they do not participate, they will be the outcastes and will not be able to receive any hospital benefits. An example could be asking for a certain day off to attend personal matters. On the other hand, those who organized the parties, even if they do not show up to work, will receive all the hospital benefits. Health care providers that are aggressive towards others, do nothing in the hospital, and barely work are the ones receiving the economic incentives at the end of the year, generating anger from all those who feel that they are working. This creates stress in the work environment leading to what is known in Mexico as “La ley del mínimo
esfuerzo” (law of minimum effort). This means that health care providers observe how the ones that are not working are receiving the benefits, so as a consequence they feel that their work is not appreciated, and that there is no point doing the effort. Therefore, they do just what is required to keep their jobs. It becomes a negative emotional contagion amongst all the health care workers, generating a change of attitude that is reflected into a lack of team work and a mistreatment of patients.

Adding on to the stressful social environment that health care providers live every day, they also have to face the fact that they do not have the tools they need to work with. Physicians describe how they feel violentados (a visceral reaction when feeling violence being inflicted on them) when there is no tools, no medication, no time to be with each patient. They refer they have trained for years to come to the hospital and sit down, because there is nothing. The frustration accumulates and then it is reflected on the patients. Blaming them for everything that goes wrong. A physician describes in Good et all (1999), “The principle of [doctoring] is to save life”. Socialization of scarcity, normalizes for physicians that there is no resources for poor people going to the ministry of health, and they cannot feel bad about it. This socialization of scarcity can then transform into a socialization of death, as powerfully describe by a physician in Good et all (1999) “Before, you would get worried when one of your patients died, but now it seems to be a usual thing”. If we allowed the system to continue perpetuating the cycle of violence and the socialization of scarcity, de-humanization will continue to the point of reaching a socialization of death. How, then, will health care providers go back to their principle of doctoring?

According to Raviola and Good (2002) some of the factors that moderately or highly contribute in affecting residents motivations and aspirations to practice medicine are, in order of
importance: low pay, inadequate hospital facilities, congested wards, the quality of teaching, poverty of patients, levels of support by hospital and being ridiculed by senior physicians. Residents in the East Africa study describe how the way that they are treated by senior physicians and hospital administrators affects directly on how they treat patients, whether that be in the energy that they invest in patient care, quality of medical care, amount of time interacting with patients or behavior in interacting with patients.

In Chiapas, there are similarities described by Raviola and Good (2002) it is not only about the training of physicians, but every health care provider that manifest a change in motivation, and therefore a change in how they treat patients. As a consequence of this social interactions, there are frustrated health care providers and frustrated patients that do not have a way of communicating between each other. Patients ask for better doctors that will care for them and doctors feel that the only way of dealing with the scarce resources is not caring, not feeling bad for not doing things outside of their limited job description.

John Paul Lederach (2015) *The Little Book of Conflict Transformation*, theorizes how a disruption of the natural flow of relationships is considered conflict. Once a person enters a conflict situation, it becomes hard to hear what other persons are saying, especially if they have an opposing view. As conflict progresses it generates anxiety and frustration.

Health care providers describe how conflict is present in their daily lives not only with patients, but also with other health care providers. They describe work as a constant source of anxiety and violence. Can you imagine living in an environment in were nothing works? In a place where you do not have resources? In were you cannot feel accomplished in what you do? In a place where conflict is a part of your life?
As Dra. Lorena recounts, this is her constant situation at work. Between the scarce resources, constant conflict with other hospitals and amongst the colleagues in her hospital, her sense of purpose was almost lost. It was when she decided to avoid conflict and learned about teamwork with other organizations that she re-encountered the meaning of her work.

Conflict is normal in human relationships. It is inevitable according to Lederach. The question is how to use conflict to change human interactions to benefit communication and generate teamwork amongst health care providers. Using conflict to transform relationships is what Lederach calls conflict transformation.

When conflict is present, the tendency is to try to solve the immediate problem, without observing the bigger picture that lies underneath. Lederach (2015, Ch2) describes “we tend to view the conflict as a series of challenges and failures –peaks and valleys- without a real sense of the underlying causes and forces in the conflict.” Solving the pain and reducing anxiety becomes the main target many times with an inability to negotiate adequate solutions.

In the referral process our results demonstrate that when a conflict arises between patient and health care providers or amongst health care providers, there is a focus in trying to solve the pressing issue for the patient to be able to move forward. For example, in the case of Isabel, trying to constantly negotiate with social workers, surgeons and nurses to move into the next step. In the case of Doctor Lorena, she tells stories about how to be ready to face conflict with a counter-attack. There is a complete focus in the immediate situation. Sometimes it is solved and negotiated, but a majority of the time it is not.

To be able to improve the system we need to start seeing the deeper patterns of the relationships, the context in which this conflicts are being expressed. We need to learn the content,
the context and the structure of relationships “to create a constructive change processes” as described by Lederach.\textsuperscript{44} Taking advantage of the conflict and use it to grow and generate change.

Patients appreciate when doctors take the time to talk to them, to listen to them to show them that they care. Physicians describe how a doctor becomes good the more they relate with patients by touching them, appreciating them, and seeing them. Overall there is an agreement in many health care providers that attitude makes a difference. Therefore we need to start thinking in collaboration amongst health care providers, in leadership and team work.

Thinking about how to approach conflict and communication breakdown to transform it into teamwork may be a good place to start investing resources. In this way we can target the inefficiency of the use of resources and the futility of the system.

Conflict manifests with lack of communication and coordination, leading to de-humanization of physicians and inefficient use of resources. Nevertheless, we need to keep in mind that if conflict is resolved or transformed but the institutions scarce resources and the economic pattern of farmers persist, it will still be difficult for patients and health care workers to provide universal health coverage as it should.

\textit{Putting the Puzzle together}

The referral system can be described as a puzzle. If the system functioned as intended, the process of referral should be a straight line. When patients require a surgery they receive the referral, see the doctor, do diagnostic tests, schedule a surgical date and successfully receive their surgery.
Instead of having a straight line going from referral to surgery, because of all the gaps and nuances in the system it becomes a puzzle that needs to be put together.

The referral system has many pieces that need to be put together for it to work. The pieces are all scattered across a table. There is diagnostic tests, private laboratories, transportation, appointments, surgical dates, time, different sources of information, availability of beds and surgical material. The difficulty patients and even health care providers face is trying to put this puzzle together. From figuring out where to go to get a referral document as Isabel’s story shows, to choose the right hospital, to get diagnostic tests, to find the right person to talk to and finally to know what to do to get surgery if it is cancelled. Patients are left to solve this puzzle on their own, making it very difficult to play. Especially if they have never been exposed to this puzzle before. What helps patients put this puzzle together?

**Facilitators**

Facilitators for patients to receive surgery were also observed in the study. Results describe how jumping the system with a recomendación, jumping the system by going to a private provider, and accompaniment were what helped patients receive surgery.
Facilitators as Barriers are intertwined. Patients usually go from one to the other. Sometimes patients will start their process of referral, look for a recommendation and then decide they are wasting time and money, therefore stopping the referral process through the MOH to collect a big amount of cash to go to a private provider. Other times, they may start their referral process and look for help with Compañeros en Salud (CES). CES will then use the contacts they have in the system to help the patient jump it, or will complete their process by using private providers. Moving forward in the process of referral usually requires more than one facilitator.

**Jumping the System**

Patients that have a recommendation, which is synonymous for knowing someone with power in the system, have a different experience. An example could be a physician that generates an emotional attachment. Even though health care providers through their training, and socialization of scarcity learn to de-attach from the patients results show that when health care providers become attach or when the patient is someone they care for, the system works better. When there is empathy for a particular patient health care providers suffer. So what do you do when you see complicated patients every day, not only physically complicated but bio-socially overwhelming? Every patient that arrives to the hospital has a very difficult life, full of suffering. When a health care providers feels empathy for a patient, without any particular reason they take them under their arm and the barriers seem to disappear. They get free lab work, get surgical material, the operating room works. But, it is impossible to do this for all. Those who are selected to receive this special care become recomendados, and receive the surgery they need. For a patient
to receive this “special” treatment they need social capital, if they do not know anyone then it is almost impossible to use this facilitator.

**Accompaniment**

“As long as poverty and inequality persist, as long as people are wounded and imprisoned and despised, we humans will need accompaniment – practical, spiritual, intellectual.” Paul Farmer

Another facilitator has been an accompaniment. Patients and health care providers describe the importance of solidarity, of dividing the emotional and physical burden that the referrals process entails. Patients reflect how they have been accompanied by family members, or by their general practitioners, and how this accompaniment was necessary for them to receive medical care. After working as a rural physician and observing how referrals were not being completed I was hired by CES to create a referrals program, “The Right to Health Care Program.” The base of this program is the accompaniment model that PIH has used in other countries. Paul Farmer (2013), one of the founders of PIH defines “To accompany someone is …to go somewhere with him or her, to break bread together, to be present on a journey with a beginning and an end. The process is humbling, since there is always an element of temporal and experiential mystery, of openness, in accompaniment.” In the right to health care program, the one who accompanies is someone that knows how to navigate the system, they also know people inside the system to jump it if necessary and many times they avoid the system if it will help the referral process be more efficient. It is someone, an *acompañante* that walks with the patient. Accompaniment gives hope, emotional support and helps eliminate all the barriers in the way, for patients to receive surgery. At the same time accompaniment is a model that requires social capital and economic capital, it is resource intensive. In CES we provide to patients’ food, transportation, a place to spend the night,
we schedule the patient’s medical appointments, go with them to the appointment and follow up with their primary health care physician at their local clinic.

Patients reflect and ask themselves: Why do we need someone to accompany us? As a patient shares in the result section, what happens if there is no one to accompany us? What happens to those who are alone? She says, “They end up going home and dying.” Therefore accompaniment acts as a facilitator to help strengthen a broken system. For it to work for every patient, it should be embedded in the system. It is worth asking the question, can the accompaniment model be embedded in the health care system? Can we re-imagine the role of social workers or someone else, maybe community health workers to play this role?

_Avoiding the System_

The last facilitator becomes avoiding the system by going with private providers. Patients describe that many times they spend more money when trying to access care through the health care system than by going with a private provider. The irony of this facilitator is that the poorest of the poor, those for who the _Seguro Popular_ was created prefer spending their scarce resources with a private provider because it is better spent. Patients with universal health coverage are being impoverished if they need care. No matter what system they prefer, the poor are the worst off.

Those who can afford it prefer to avoid the system. Nevertheless going with a private provider requires a big amount of cash up front, and many can only get small amounts of cash per time. The referral system becomes a downward spiral for patients, especially those in greater need. The downward spiral affects not only the patient but drags with them their families, and the community where they live.

Patients interviewed that were able to receive a surgery used one, two or all of the facilitators mentioned above. Even though this facilitators are the ones currently being used to
move through the system, they require capital; either economic or social capital. At the end, only people with resources are the ones who can make it through the system. If the system does not change, patients and communities from the Fraylesca will continue to be trapped in a downward spiral whenever they require surgical care, leaving those that are poor and marginalized without access to health care.

**Limitations**

The greatest limitations of this study affected mostly the quantitative data collection. Not every hospital has an organized medical file department, therefore medical records were hard to find. There are no electronic medical records available and the information in the physical medical records is not complete. For many patients, particularly in one hospital, it was clear that surgical consultations were not recorded in a regular basis, as well as the pre-surgical evaluations. Therefore it is possible that data like diagnostic tests, medical absenteeism, surgical cancelations, and patients that were lose to follow up are under-reported. Adding on to this, one of the biggest limitation is that many patients that receive a referral never make it to the hospital, therefore we do not have records of the patients that never opened a medical record.
Conclusions

The aim of the study was to answer the question what factors influence whether patients with Seguro Popular in the Sierra Madre of Chiapas progress successfully from referral to procedure. More specifically, to identify the barriers patients face in seeking surgical care; to understand the factors that allow patients to overcome the existing barriers and successfully complete a necessary procedure; and identify the number of patients who successfully complete surgeries following referral.

The findings from the quantitative data suggest that patients with the lowest odds of receiving surgery are women with an elective gynecological condition. For example women that require a hysterectomy due to fibroid tumors in their uterus, or women that require a pelvic floor surgery. During my years working in CES, I witnessed the veracity of this finding when accompanying patients like Doña Josefa, described in the introduction, with a fistula connecting her bladder to her vagina; and Doña Juana living with her uterus outside of her abdominal cavity for more than ten years. Women like them continue to suffer and live with chronic and incapacitating pain, lowering their quality of life because they do not have what is considered a life threatening condition.

Having an emergency is associated with higher odds of receiving surgery. As the interviewed farmers describe, hospitals only see you if you are dying. Therefore, patients with chronic surgical conditions either get trapped in the run-around in addition to getting impoverished while waiting for their “elective” surgery; or they get complicated like Isabel and their health becomes a life threatening condition. Even then, only half of the times patients will receive surgery.

This futile and inefficient system leads to higher expenses. Chiapas is a state with scarce resources, and the health care system has very few resources. Therefore, we have a system with
low resources, inefficiency and higher costs per patient. A system with an uncertain pathway for patients that may not lead to the end of care.

Nevertheless pain is the tipping point that always brings patients back to seek care. It becomes the threshold for patients and gets them trapped in the interplay between pain and hitting up against the system. The only way for them to move forward in the system is having capital, either economic or social capital. Patients use capital as the main facilitator either to jump the system, to avoid the system or by having an acompañante (someone that accompanies them). Without capital patients cannot patch the holes in the system. Its dysfunction in drags down patients leading them to a downward spiral that affects the patient, their families and the community. This system that can only be overcome by those with capital. It becomes the worst for the most poor.

The uncertainty and instability of the system is for patients and health care providers. The barriers encountered are all interconnected and need to be seen as a whole: the economic fragility of farmers, the system’s scarce resources and the different dimensions of conflict that persist at all levels of the system.

The main sources of conflict are the communication amongst patients and health care providers; the animosity amongst health care providers in the same hospital and between hospitals, manifested with bullying, miscommunication, the hidden curriculum in training, and the corrupted economic incentive for health care providers. We also observe a lack of communication infrastructure that makes it very difficult for personnel to talk to each other. All this problems have as a consequence a communication breakdown at all levels of the system.

As mentioned before, and portrayed as a reflection of Dra. Lorena, if we want to make changes in the system we need to go from the de-humanization of physicians to re-humanizing
them; from conflict to teamwork. By transforming this conflict we will be able to target the inefficiency in the system and the lack of responsiveness to transform it into efficient use of resources and a responsive health care system. Therefore I ask, how do we change institutional culture to benefit the health care workers so that consequently you can benefit the patients?

Moving forward, CES will work on one of the hospitals of the study by doing a hospital assessment to determine the different dimensions of conflict that are specific to this hospital. After the assessment, we will use conflict resolution and negotiation frameworks to plan an intervention that may rely on negotiation and conflict resolution training, and in improving communication with patients.

If we observe successful results, because of the strong ties with the ministry of health, we are looking forward to a possibility of replication in collaboration with the health districts and state authorities.
References


http://cataleg.bnc.cat/record=b2216281~S13*cat%5Cnhttps://www.youtube.com/watch?v=tSPgs9Evii0&index=3&list=PL0F73A61D88973E61.


http://cataleg.bnc.cat/record=b2216281~S13*cat%5Cnhttps://www.youtube.com/watch?v=tSPgs9Evii0&index=3&list=PL0F73A61D88973E61.


27. CONAPO. Índice de marginación por entidad federativa y municipio 2010 | Consejo Nacional de Población CONAPO.


40. Dialogan enfermeras y autoridades de Chiapas por huelga.


46. Farmer P, Gutierrez G. *In the Company of the Poor: Conversations between Dr. Paul Farmer and Fr. Gustavo Gutierrez*. (Griffin M, Block JW, eds.). New York: Orbis Books;


Appendices

Appendix 1. List of diagnosis included in Study

1. Acute abdomen
2. Abscess
3. Appendicitis
4. CCL (cholecystitis)
5. Benign tumor
6. Hernia
7. Hydrocele
8. Intestinal obstruction
9. Wound
10. Pelvic organ prolapse
11. Leiomyoma (fibroids)
12. Female sterilization
13. Ovarian cyst
14. Benign breast tumor
15. Fracture
16. Ganglion cyst
17. Dislocation
### Appendix 2. Quantitative chart abstraction form

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 1. Hospital | H. Bicentenario  
H. AAC  
H. Revolución |
| 2. Date of referral | M/D/Y |
| 3. Age of patient | >18 |
| 4. Sex | Male  
Female |
| 5. Specialty | General Surgery  
Gynecology  
Trauma Surgery |
| 6. Diagnosis | See appendix 1 |
| 7. Type of referral | Elective  
Emergency |
| 8. Civil Status | Single  
Married |
| 9. Occupation | Unemployed  
Farmer  
Commerce  
Home  
Student  
Teacher  
Other |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 10. Education | Illiterate  
|   | Finished pre-school  
|   | Finished primary school (1-6)  
|   | Finished middle school (7-9)  
|   | Finished high-school (10-12)  
|   | Higher education >12 |
| 11. Socio Economic Status (SES) | Scale from 0 – 6  
|   | 0 = lowest SES |
| 12. Total trips to do diagnostic tests | Numerical |
| 13. Total number of pre-surgical evaluations | Numerical |
| 14. Total number of times a surgery was scheduled | Numerical |
| 15. Received surgery | Yes / No |

**Appendix 3. Patients Interview Guide**

1. Informed consent

2. Introductory questions
   
   1) How long have you lived in this household?
   
   2) Can you tell me who lives in the house?
   
   3) Can you tell me more about what you do?
   
   4) Do you feel that you have enough money to satisfy the needs of the house?

3. Effects of disease in their daily lives
   
   5) Can you describe me your health problem?
   
   6) Can you tell me how (disease) affects your life?
4. Process of seeking care

7) When you felt sick what where your biggest concerns?

4.1 From awareness to referral

8) Tell me the story of how you seek care for this problem (surgery)?

➢ Map out providers sought

1. Who did you see?

2. Why did you go to them?

b. With each stopping point:

1. Tell me how it went

2. What helped?

3. What did not help?

4. How were treated by the providers?

   a. Probe for how these feelings shaped their choices about what to do next

5. From there, where did you go? / What did you do?

➢ Repeat all these questions with every provider sought.

9) What were the main challenges you faced in getting medical care during this process?

10) How did you overcome these challenges?

   a. Who has helpful for you during this process?

   b. Was there anyone that was not helpful?

4.2 from referral to procedure

11) How did you get a referral?
a. What was helpful?

b. What was an obstacle?

➢ We will follow all the steps/stages that the patient had to go thru after receiving the referral. In each step will ask

a. What was helpful?
   a. Why?

b. What was an obstacle?
   a. How?

12) What were the main challenges you faced in getting medical care during this process?

13) How did you overcome these challenges?
   a. Who has helpful for you during this process?
   b. Was there anyone that was not helpful?

14) Please take me thru a day in where you had to go to the hospital

5. Consequences of seeking care

15) How did this process affect your life?

16) How did you pay for your medical services during this process?

6. Transformative power of surgery / Lack of surgery

17) Tell me about the day when you had surgery. / Tell me what you are going to do about your (disease).

18) What were the biggest challenges or difficulties on the surgical day? / How do you feel about not receiving surgery?

19) Tell me about any difficulties or challenges in the week leading the surgical day. / What would need to happen differently for you to get the care you need?
20) What has been your experience after surgery?

7. Concluding questions

21) Imagine I am your cousin, with the same surgical problem, what would you recommend?
   
   a. Probe for recommendations and suggested changes to the system

22) Do you think there is enough support for people that had your problem?

23) What do you think of seguro popular?

24) Is there anything else you would like to share with me?

25) Do you have any other questions?

Appendix 4. Health Care Providers Interview Guide

1. Informed consent

2. Being a health care provider

   1. Can you please take me thru a day in your job?
   
   2. Why did you became a health care worker?
   
   3. What is your favorite part of the job?
   
   4. What do you like least about your job?

3. Health care providers and Referral Systems

   5. Explain to me what your role is in the referral system.
   
   6. Can you tell me a story about a patient that needed a referral, and you were able to help?
   
   7. What are the main challenges you face when a patient needs a referral?
   
   8. What do you think about a patient that needs elective surgery?
   
   9. In your experience, ¿How is it different from a patient that needs an emergency surgery?
4. Agency at work

10. Can you tell me a story of a patient that needed surgery and did receive it?

11. Can you tell me a story of a patient that needed a surgery and did not receive it?

5. Local social world

12. What do you think about the economic resources allocated to patients that need a referral?

13. Do you feel supported in your work?

14. If you needed a surgery, where would you go?

6. Reflections on the system of referrals

15. In your experience, what works well with the referral system?

16. In your experience, what do you think are the main problems with the referral system?

17. In your experience, what changes do you think could improve the system?

7. Conclusion

18. In your experience, what do you think about the support available to patients that need a referral?

19. What do you think of Seguro Popular?

20. Is there anything else you’d like to share with us?

21. Do you have any questions for me regarding this interview or the study we are doing?