Understanding Mexico's Social Service Year From Physicians' Perspectives: A Mixed Methods Study in Rural Chiapas

Understanding Mexico's Social Service Year from Physicians' Perspectives: A Mixed Methods Study in Rural Chiapas

Enrique Valdespino Serrato

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Thesis Advisors: Mary Jo DelVecchio Good, PhD; Molly Franke SD; Andrew Van Wieren, MD

Abstract

Every year in Mexico, the state deploys 8,000 medical students to increase health coverage in primary care clinics in rural areas as part of a mandatory social service year called the *pasantía*. These social service year physicians, better known as *pasantes*, solely staff about one-third of state clinics in Mexico during their last year of medical school, without another graduated physician present for support or back-up. *Pasantes* are sent remotely to work with few supplies, limited training in primary health care, and little or no mentorship or supervision. Absenteeism, demotivation, underperformance, fear and frustration are common features among the *pasantes.*

A mixed-methods convergent design study was used to assess the clinical and social medicine experiences of *pasantes* in three districts of rural Chiapas, the southernmost and the poorest state in Mexico. The quantitative component was based on multiple surveys with 19 Partners In Health (PIH) *pasantes*. The qualitative element was based on 100 hours of field observations, and 36 in-depth semi-structured interviews with PIH and Ministry of Health (MOH) *pasantes* and key informants.

The qualitative study revealed three main findings. First, *pasantes* experienced a lack of educational and professional support from their medical schools and the MOH, as well as a lack of meaningful connection with members of their assigned communities. The institutional detachment led to *pasantes* feeling frustrated with the state health system and dissatisfied with the medical profession. Second, the social service year contributed to an improved understanding of social barriers faced by patients while trying to access health care. Third, experiences in rural communities encouraged empathy for patients and a focus on the social determinants of health,

especially when there was support provided to *pasantes* in remote areas. The quantitative study conducted among Partners In Health *pasantes* showed that an education-support program for *pasantes* can lead to: 1) perceived overall improvement in clinical preparedness and understanding of the health system organization; and, 2) an increased willingness to choose a career in primary health care and work for poor or marginalized communities after completing the social service year.

Keywords: Social Service Year; Community Medicine; Maldistribution of Human Resources, Medical Education; Rural Mexico.

Table of Contents

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Preface: Rural Healthcare

This thesis is about the clinical and social medicine experiences of social service year physicians (*pasantes*) who serve in the Mexican countryside. The following case is one of my own biosocial experiences from my social service year, and one of the reasons I decided to embrace this project.

In December 2012, I was working as the sole medical physician in a remote and rural village called Reforma, home to one thousand people located in the mountains of Chiapas, the poorest state in Mexico that share borders with Guatemala. Since I was just out of medical school—it was my first professional practice providing service by myself—I did not receive training to deliver primary health care during my medical education. However, I perceived this as a moment to gain experience as a social service medical doctor (*pasante*) responsible for the same duties as a certified general practitioner. As a *pasante*, I oversaw the rural medical center and offered medical care to patients with hypertension, diabetes, malnutrition, communicable diseases including tuberculosis and HIV, prenatal care, and very frequently saw to disregarded and socially excluded patients with mental conditions such as depression and schizophrenia.

During this mandatory social service year in a low resource setting I saw one of the most shocking cases of my career. My coworkers had identified a patient with a severe case of mental illness. After my daily activities in the clinic, I decided to make a home visit to the patient to evaluate the situation. Chember was the name of the patient, and his family gave me a warm welcome, his mother and sister eagerly answered every question I asked during my unsolicited and unexpected visit. The family had incarcerated their beloved relative; they showed me his room next to their house.

Just as the family of Chember opened their doors to me, I also want to share his case to illustrate how challenging it can be to handle and improve the case of a single individual in the high mountains of Chiapas. Cases like Chember are frequently silent and invisible, neglected by us *pasantes* and certified physicians, the professional group of people supposedly in charge of providing healthcare, a group that often is distant from the plight of vulnerable populations in rural areas. Furthermore, the years of silence and suffering that Chember kept with him show how the provision of care to patients, the social service year and the primary health care system need to be rethought and supported.

It was one of the brightest days in Reforma; however, I could not see Chember's face because he was hiding in the corner of the darkest room I had ever seen, even though it was midday. An unusual, obscure room, holding a space of around nine square meters, walls constructed with sun-dried bricks made of clay and straw, and a ceiling created by several metal sheets, with no windows or any apertures; built that way primarily to prevent Chember from escaping like he had tried before. The sunlight was only allowed to pass through a small gap in the door when Chember extended his hand to receive corn and fried beans from his family. There was no bathroom, lamp or any object inside. Chember had no possessions, only a dirt floor covered with his waste. Despite the outward appearance of abuse, it was perhaps the ultimate expression of care by Chember's family and community.

I peered through the door that had been closed with a rusty lock and a thick chain for almost five years; no one had come or gone during that time. Just for a moment, I saw in the shadows a shrouded, skinny and naked body with a long, untamed mane. Chember was quiet at that moment, not responding to my words. Usually, he screamed during the night and cursed during the day, accordingly to his family. Chember had been restricted not only by a room of

permanent shadows, but a lonely psychotic state due to violent social forces that have no apparent responsible actor, a consequence of a structural force embedded in the Mexican health system that threatens human rights and dignity of vulnerable people. Chember could not find effective access to continuous and high quality mental care in a middle-income country that supposedly provides universal health care coverage.

I did not know about Chember's existence and his condition for nearly a year, despite living in his village, walking by his room every day on my way to other home-visits, walking for recreational purposes, or seeing his parents and siblings during their monthly visits to my clinic for hypertension follow-up. Besides, I did not ask or actively search for people with a mental health condition or people locked in their rooms until I harshly discovered it was a common practice in many communities in the region. I asked the male nurse who had been working in the community for more than ten years, if he knew about our imprisoned patient. He stated he was aware of the case just like everyone else in the community. Nevertheless, no one used to talk about Chember or asked for our help at the health post. It seemed that Chember was already dead to everyone in Reforma.

It was my last month in the community before finishing my work as a *pasante* and I was unsure about how to proceed with the alarming news. A new physician was coming from medical school in less than a month to serve as my replacement. I knew for sure I was leaving the community, although my future was uncertain since the MOH had no contract for me to continue as the community doctor. Moreover, as many of my peers at the same career stage, I was not inclined at that moment to reorient my path into community primary health care. At least not after investing 19 years in education in urban areas, having a negative perception of general practitioners, holding a desire to realize further clinical training, acquiring loans from my private

medical school, and living away from my family in alien contexts for many years. Therefore, I was anxious about Chember's case management, who and how his clinical and social case would be approached.

The more though I dedicated, the more my concerns increased. First, I had to explore if the family wanted support from their local clinic. Otherwise, I would have to assess the situation according to ethical and legal aspects, not to mention the evaluation of the health care post capacity to appropriately respond to the case. Second, the patient needed a medical evaluation since I had no diagnosis and had not even seen the patient outside of the darkness where he was living. A psychiatrist or a mental health expert was required to perform an appropriate evaluation. Finally, even with a proper family, community and medical coordination to activate a response, the treatment was compromised. During the previous eleven months, the MOH clinic pharmacy was not supplied with medicines to treat several mental conditions including depression and psychosis, the MOH referral system was not reliable, and psychiatric care was practically inexistent. At that time, we had access to less than four psychiatrists through the public health care system in the state, located five hours away in the capital along with the tertiary health care centers. Finally, Seguro Popular[i] insurance was supposed to cover the specialized care for psychotic disorders in 2012, but costs of transportation, food, housing, among others were not considered to help the subsistence farmer family, making risks for impoverishment or catastrophic expenditure very likely.

Chember's hopes to receive care and improve his health outcome depended on young, inexperienced physician completing a mandatory social service year with limited previous experience in primary health care, restricted to provide or refer to specialized services, using an

[i] Seguro Popular: The financial instrument of the Mexican universal health care coverage to protect the informal sector previously uninsured against catastrophic health expenditures and out of pocket expenses.

unsupplied, disjointed and ineffective health care system too complex to navigate through and financed by an incomprehensive medical insurance.

The realities and the expectations of the social service year program demands reflection about its own purpose, as well as the relationships between the ways we educate our physicians, the *pasante*'s experiences, the nature of the service delivered, the health care system and most importantly, the patient's healthcare outcomes. What role should the social service physicians serve? If *pasantes* are supervised, what kind of support and mentoring should they be receiving? How does the social service year experience shape *pasante*'s practice and their career plans? What are the implications for rural communities receiving care from a *pasante* or not even having a *pasante*? These questions are usually unasked by the medical and public health care sector, yet they should be considered and responded to, especially in a country with enough human and financial resources to allocate a certified general practitioner in every rural health care post nationwide (Nigenda 2013).

Introduction

Every year in Mexico, approximately 8,000 medical students graduate from medical schools.[1] Before graduation, the medical students are required to complete a mandatory social service year to obtain their medical degree. During this social service year, medical students are called *pasantes* and typically provide primary care in rural areas. Throughout this paper we interchangeably refer to them as *pasantes* or social service year physicians. These students have already finished their core clerkships as interns during the fifth year of Mexico's six-year medical school curriculum.

Scarce resources and insufficient educational and professional support for these *pasantes* compromise the delivery of high-quality health care in rural areas, where one third of the primary health care units in the public system are staffed solely by these social service year physicians[2].

President Lazaro Cardenas promoted the creation of the social service year in 1936 through the National Autonomous University of Mexico (UNAM). The institutionalization of the social service year took place during the post-Mexican Revolution period, a time of socialist mandates and interventions including the agrarian reform in which land was provided to peasants in rural areas[3].

Today, all medical students complete a mandatory social service year to graduate from medical school. Most students complete their social service year in a rural area, maintaining the original purpose of the Mexican medical social service year started 80 years ago: to provide access to health care in rural areas, promote social development in the countryside, gain exposure to the realities of their country, integrate their medical training within the health care system, and contribute back to society through social action[4,5]. However, it is currently not well known

whether *pasantes* are accomplishing these goals, what their clinical and social medicine experiences are during the process, and how the experience shapes their future career trajectory.

The Federal Direction of Education and Quality of Healthcare, the MOH central office in charge of the social service year program, states that *pasantes* should continue to receive training during this year, mandating that: *"The responsibility to provide proper training to the medical students during this phase should be unavoidable"*[6]. Nevertheless, social service physicians solely staff about one-third of state clinics in Mexico during their last year of medical school, without another graduated physician present for support or backup (Nigenda 2013). It is commonly understood that the students with highest grades and social status often select placements in more desirable areas closer to cities. Others are sent remotely to work with few supplies, limited training in primary health care, and little or no mentorship or supervision. Absenteeism, demotivation, underperformance, fear and frustration are common features among the intern physicians or *pasantes* (Van Wieren A 2014).

These dynamics create an insulating environment that limits the rural population's effective access to well-prepared and adequately supported medical care. Through highlighting *pasantes'* experiences, we hope to facilitate a deeper understanding of how best to improve conditions for *pasantes* so they might decide to continue their work in rural areas after their social service year, increase their clinical skills and understanding of social medicine, and thus improve access to high quality health care in Mexico's poorest communities.

Even when proper training should be provided, there is no responsible or accountable institutions to supporting *pasantes* during this phase. How can this be possible if certified physicians and instructors in charge of training *pasantes* avoid working in rural areas?

Today, 80 years after the creation of the social service year not much has changed with the program structure; however, the characteristics of the country and the burden of disease have changed. Mexico is no longer 80% rural, as it was in the 1930s when the social service program was created. The Mexican health care system has also modernized, with significant biomedical and technological advances and an evolution toward more specialized care. Finally, and perhaps most significantly, an epidemiological transition has taken place in which infectious diseases and chronic diseases simultaneously affect the general population, including those living in rural areas and especially affecting people who suffer from poverty[7].

Nevertheless, Mexico still has a 20% rural population, which means roughly 20 million people live in rural communities. Settlements of less than 2500 people are considered rural communities by the MOH[8]. Despite recent urbanization, there are still areas in Mexico that are extremely rural and isolated. Mexico is a middle-income country with high social and economic disparities, where 46% of the population lives under the poverty line[9]. The maldistribution of human resources and the lack of necessary incentives commonly keep the professional healthcare workforce from providing services in the countryside. Most newly licensed physicians do not prioritize or even consider working in rural communities. These demographic dynamics make the *pasantes* an important potential asset for the state to increase health care coverage in rural areas.

The aforementioned history and current reality of the Mexican social service year demand reflection about the future of the *pasantia* in Mexico. We must consider: How should the model be implemented? How can the experience provide an opportunity for medical students to consolidate their medical training as general practitioners, while also ensuring safe and high quality health care is provided to Mexico's most marginalized population? And, how should both

pasantes and graduated physicians be supported and incentivized to serve the most marginalized communities in a nation with enough financial and human resources to cover the entire population? (Nigenda 2013). Through exploring the perspectives and experiences of current and recent *pasantes*, this study aims to answer these and other questions with the goal of: 1) better understanding the current state of Mexico's social service year; and 2) beginning to offer a sense of what type of reforms might be required 80 years after the creation of the *pasantia*.

Study Methodology

Overall approach: mixed methods

This study used a mixed methods approach, including surveys, in-depth interviews with social service physicians, and 100 hours of field observations. Quantitative data were analyzed using Stata 14, and qualitative data were analyzed using *ATLAS.ti*.

Ethical Statement

This study received IRB approval from Harvard Medical School through Harvard Human Subjects Institutional Review Board (IRB) approving this project as an IRB exemption study. The number of the protocol is IRB16-0761 and it was accepted on 9/2/2016. Additionally, the Bioethics Committee of Chiapas, a local IRB, also approved this project on 8/30/2016 with the number 5003-09353.

Research Setting

Chiapas, Mexico contains 4.4% of the country's population with 5.2 million people, of which 36% identify as indigenous[10]. Chiapas has a diverse geography and extensive district distribution with 118 municipalities. It is the poorest state in the country with three-quarters of the population living below the poverty line and one-third living in extreme poverty[11]. Although access to health care services is up to 82%, effective and ready access to local medical services can be challenging, especially in rural areas. Moreover, half of the state's population lives in rural zones, more than twice the national average of 24% (INEGI 2015). Reaching the most remote rural communities in Chiapas is a challenge due to geographical isolation, long distances, arbitrary municipality divisions, poorly maintained roads and limited public transportation to the communities.

This study included three of the ten health care districts in Chiapas for the qualitative data collection. The three health care districts included were districts II, IV and X, corresponding to an indigenous zone known as “Los Altos de Chiapas,” a highly mountainous region called “La Fraylesca,” and a territory along Mexico’s southern border with Guatemala called “Motozintla.”

The quantitative data collection, ethnographic field observations, and qualitative individual semi-structured interviews occurred in Partners In Health (PIH) and Ministry of Health (MOH) headquarters in Chiapas. Community health care units were used as the space to conduct qualitative individual interviews. Of note, the local principal investigator had an affiliation as a social service physician and then regional supervisor with PIH before the research implementation and data collection of the study.

PIH Mexico allowed the investigators to conduct research at PIH headquarters and clinics. PIH started operations in Chiapas in 2012. Currently, PIH collaborates with the Chiapas MOH in 10 primary health care centers in remote communities in the high mountains. PIH offers affiliated *pasantes* an education-support program that includes supportive supervision and consultation, an extra stipend beyond the MOH stipend, access to a more robust pharmacy supply, continued medical education through monthly courses, and coordination of multiple programs such as community health workers, reproductive health, mental health, and referral systems.

Quantitative methods

Sampling methods

The quantitative study was based on a dataset comprised of 57 surveys completed by PIH-affiliated social service year physicians at the beginning, halfway through, and at the end of their social service year. PIH provided the authors access to the de-identified data set along with its corresponding consent forms. The social service year physicians who participated in the study were completing their social service year during the period from February 2014 to August 2015.

Every survey contained 23 closed-ended questions and 11 open-ended questions. The surveys asked the *pasantes* about their self-perceptions of their clinical competence, confidence in clinical disciplines, continued medical education, supervision and clinical management. *Pasantes* signed a consent form before enrolling in the study. Van Wieren et al provide a detailed account of survey development.[12]

To date, 39 *pasantes* have completed the social service year with PIH Mexico as part of its education-support program. We analyzed the data from surveys of 19 *pasantes* who completed their social service year during the period from February 2014 to December 2015. We chose this subset as the PIH survey was updated in 2014 after significant changes to the educational support program. The data for the 19 *pasantes* analyzed represents a 100% response rate for *pasantes* during that period who had completed their social service year at the time of data analysis.

Recruitment methods and data collection

PIH Mexico personnel invited *pasantes* to participate in the study during a monthly seminar in their headquarters at the beginning of the social service year. We included participants 18 years or older who were doing their social service year with PIH in a rural primary health care clinic. We excluded *pasantes* who did not want to participate, or who were not doing a social service year in a primary health care clinic in a community.

Qualitative methods

Sampling methods

Limitations from the quantitative data motivated the author to include a qualitative component and invite *pasantes* from PIH and from the MOH to participate in the study.

36 individual in-depth, semi-structured interviews were part of the qualitative piece of the study, corresponding to 10 medical students doing their social service year in the PIH program, 10 medical students completing their social service year with the MOH, and 16 key informants from both PIH and the MOH. The interviews typically had a duration of approximately one hour and comprised 720 single-spaced de-identified pages.

100 hours of field observations were performed in PIH and MOH headquarters during continued medical education seminars and lectures. The field observations also included shadowing 6 PIH and MOH supervisors. The field observations produced 100 single-spaced de-identified pages created by the local principal investigator and a research assistant Nick Seymour, a Harvard College student who contributed during the six months of study to data collection.

Recruitment methods

Participants were invited to participate in the study through email and in person. The MOH and PIH facilitated the contacts, space, and conditions to invite and meet with the participants.

Data collection

The participants defined the best time for the interviews to take place. The topics included in the interview correspond to the clinical and social medicine experiences of social service year physicians. *Pasantes* were asked about the reasons and stories of why and how they found themselves providing services in their specific placements. Other topics included stories about their most meaningful and challenging clinical cases, lessons learned during their time in the clinics and the communities, and the experiences with continued medical education, supervision, and impressions of the social service year.

The setting of the interviews was a private space either in MOH or PIH headquarters. In some cases, interviews were performed in a private room in the community clinics of the *pasantes*. The people present for the interviews were only the informant, the local principal investigator, and the research assistant. The participants signed a consent form that permitted the use of audio recorders during the interview, later used to create anonymized transcripts. The interviews and transcripts were performed in Spanish by the local principal investigator, a native Spanish-speaker.

Data analysis

Quantitative analysis

The quantitative component is a descriptive, observational, retrospective, and longitudinal study. The variables were analyzed through Stata software 14.0. We utilized data from 54 surveys to run a descriptive analysis that included mean, median and percentiles of 19

observations corresponding to the individuals who completed their social service year from February 2014 to December 2015. The analysis was based on the observations of changes in means and percentiles. The observations were used to describe and compare variations in responses over time at the beginning, halfway through, and at the end of the social service year of the participants.

Qualitative analysis

The qualitative component of the study used an inductive approach to analyze the anonymous individual in-depth interviews. We relied on a content analytical approach (Patton 2002)[13]. We used open coding for the purposes of creating a codebook. Then, we used the codebook to code the entire data set. Afterwards, we examined the coded data for key concepts. The key concepts were labeled, and elaboration was provided with key associated quotes to illustrate the concepts. These initial categories were re-examined and revised until 11 final conception categories emerged.

Results/Discussion

Neither here nor there

Pasantía, the colloquial and most common way in Spanish of referring to the medical social service year program indicates itself a function, "passing through". Social service physicians are passing through because *pasantía* is perceived as another requirement to obtain their medical degree. *Pasantes* do not fully belong to the medical establishment, nor do they fully belong to the rural community in which they are working. They are in an intermediary space. During ethnographic observations in rural health care clinics and during informal conversations in *pasantes*' assigned communities, they repeatedly expressed to be in a state of *Limbo*.

Limbo is related to thoughts on Catholic theology. It is defined by The Oxford Dictionary of Christian Art & Architecture as *"a place for those who could not enter heaven, but were sinless. Not a place of punishment or expiation, but a place of waiting"*[14].

Pasantes used the term as analogy to express how they are not part of medical schools anymore; they are not formal workers of the Ministry of Health; they do not belong to the communities; they are neither here nor there.

The social service year *limbo* perception is an uncomfortable space where *pasantes* feel abandoned by their medical universities and perceive a place where they do not receive acknowledgment and financial recognition for their work as temporary but full-time general practitioners in the state clinics. This leads to a grave and dangerous social disengagement that may affect their delivery of medical services, and disrupts relationships between the *pasante*, the institutions, and the community.

> *I never heard about a program supporting pasantes...the pasante does not exist, I mean, they socially kill you (PIH Pasante, state medical school).*

The forgotten year

The social service year occurs after medical students have completed their clinical clerkships. *Pasantes* talked about the hardships they experiences during their clerkships, including experiencing high levels of stress related to long hours of work (up to 132 hours per week), frequent night shifts, and a psychologically violent work environment. As clerkship interns, they were constantly supervised and kept inside a hierarchical medical structure in hospital settings.

In contrast, the social service year features a minimum chain of command in the health care posts. *Pasantes* experience a radical increase of agency to make clinical and management decisions. They fill the role of full general practitioners, and one-third of them are assigned as medical unit directors when there are no available certified medical doctors to cover the position[15]. Fundamentally, *pasantes* undergo a shift from a closely monitored hostile hospital environment, where clerkship interns rarely make decisions regarding patient treatment to a primary care center with limited or nonexistent local medical hierarchies.

> *Starting the social service year you realize a change in your quality of life. From doing night shifts and working straight without sleeping for 36 hours three times a week, sleeping in the hospital, being in the hospital work environment that is very ponderous, very harsh. It is a complete change. Here, I am the director of the health care post, it is like there is not anyone putting pressure on me, insulting or denigrating me (PIH Pasante, state medical school).*

Pasantes find a space of contentment where they are not confronted anymore. Yet, it is a space where they do not receive guidance, mentorship, or supportive consultation from more experienced physicians. Ultimately, the health system has forgotten them. This negligence enables disengagement between *pasantes* and their communities. Moreover, as we mentioned, pasantes are exhausted from the clerkship year. If the system does not give them enough support,

they might use the social service year as a recuperation year. They feel they are forgotten because they have lost their ties with the medical establishment.

> *The idea of being a social service physician has changed. It was supposed to serve the community, to engage with the community. Pasantes no longer understand that the social service year is made to support the population and public health. The current pasante has lost that (MOH Officer, District Medical Director).*

What next?

The main concern of *pasantes* is their professional future after finishing their social service year. 13 of 20 *pasantes'* narratives showed desire to pursue a residency program to become specialists. During in depth individual interviews and ethnographic observations in their institutional headquarters and in their communities, *pasantes* expressed strong emotional responses about the uncertainty of their future.

A common plan among *pasantes* is to enroll into a clinical specialty. This requires that *pasantes* apply and satisfactory complete the specialty program enrollment prerequisites. Completing the requirements to enter and match into a residency program can be an arduous process. Moreover, *pasantes* are also required to complete final academic requirements from their medical universities. Matching for a specialty and completing final degree requirements may be challenging when in charge of rural primary health care clinics as the sole physicians. If the main concern of *pasantes* is to enter into a specialty program, there is a risk of neglecting delivery of health care when completing these requirements during the social service year.

Quantitative data from 19 PIH *pasantes* at the end of the social service year showed that 83% of the *pasantes* were willing to compete for specialty program and take the national

residency entrance test (ENARM)[ii]. Only half of these *pasantes* considered that the social service year would have a good or a very good impact on their ENARM test performance, 40% were neutral and 13% considered that the social service year in Chiapas would have a bad or vary bad impact on their test performance[iii].

> *I only planned one thing after the social service year, it was to enter into a residency training program. But, it looks it will not be happening next year because I did not pass the test (ENARM). I am not sure what I am doing after my social service year (PIH Pasante, state medical school).*

The national test and process to apply for a specialty program may compete for a *pasante's time.* The actions to increase their performance in the national test and the chances of being accepted into a residency program may conflict with the actions to provide care. It is a conflict of principles between their professional progress and their primary role as physicians for communities with limited access to health care.

> *The pasantía is a year when you already finished medical school, a year when you give back to the country doing almost nothing. I feel that the idea that everyone has (medical students, clerkship interns, and pasantes) is that it is the year to be lazy and prepare if they want to continue their training (PIH Pasante, state medical school).*

The MOH should consider a strategy to prevent this type of conflict of interest. The professional development of the *pasantes* is important, yet the care of marginalized populations is at stake. For example, in Chile, the rural social service has a duration of three year and the physicians receive bonus points on their national test when applying for a specialty. This strategy may help to relieve the dichotomy between delivering service and studying for the test[16].

[ii] *ENARM: Examén Nacional a Aspirantes a Residencias Médicas* it is a national test implemented every year to select specialty candidates.

[iii] Partners In Health (PIH) *pasantes* report and follow indications from both PIH and Ministry of Health. This may have influence in their perceptions about the impact of the social service year in their expected performance in the national test (ENARM).

Why should I give back?

Pasantes show an ambiguous sense of duty about contributing to society. On the one hand, the social service year is considered a social mechanism to pay back the nation for the education they received for free or at a low cost. Four *pasantes* from UNAM, the state medical school that graduates up to one thousand physicians every year, reported they received excellent medical education. They feel a nationalist sentiment that motivates them to endorse the social service year existence. The sense of debt generates a sense of collectiveness that endorses the commitment to contribute to society through their participation in the social service year.

> *Since I was born I have had a sense national duty because it is what I was taught at home. Then, I enrolled into UNAM medical school (state university) where this national sentiment is cultivated even more. The national taxes educated me, I had a debt (PIH Pasante, state medical student).*

On the other hand, many *pasantes* from private medical schools disagreed with that nationalist sentiment. These pasantes are not satisfied with the mandate of the state to complete a social service year since their families had to pay out of pocket for their medical education. The sense of duty is not strong and they ask themselves why they should give back to society.

> *I am from a private medical school, so if I must do a social service year it is for my parents. I understand the needs of my country, but Mexico did not pay for my medical education. I should not be doing a social service year, and even worse, in such a distant and unsafe place (rural indigenous community) … The truth is that I should not be here. Indeed, I know it is useful, I help, I give the best of myself, and I contribute. But, I should not be doing the social service year (MOH Pasante, private medical student).*

In both PIH and MOH narratives, *pasantes* perceive the state as an entity that is trying to take advantage of them without giving proper incentives. *Pasantes* feel exploited by the service they are providing, since they perceive that their work corresponds to the job of certified general practitioners. They believe that they deserve higher incentives and recognition for their service.

When *pasantes* share narratives about this topic, they do not shy away from showing significant resentment against the state and call themselves a cheap labor force of the state.

> *The social service year means being a slave in a poorly designed and unfair system that takes advantage of you, the system does not have to pay you a "peso" (a cent), so you go where no one else wants to go and you have to do the best you can with your little fingernails and nothing else… It means to give attention at low or practically null-cost for the government (PIH Pasante, state medical student).*

Medical schools and their role during the social service year

Medical schools may shape *pasantes'* attitudes and behaviors during the social service year. Key informants working as MOH officers who support *pasantes* note differences between private and state medical school physicians. Officers from the MOH in Chiapas show how pasantes from private medical schools are less willing to do their social service year in rural areas and it may be more difficult to work with them.

> *I have realized that pasantes coming from state medical schools usually want to go to more distant communities, and students coming from private medical schools would be happier close from their homes. We have more problems with those pasantes coming from private schools, they give us more trouble (MOH District Officer, social service coordinator).*

There is not only tension between medical students and medical schools, but also between the state and medical schools. During three key informant interviews with MOH officers in charge of *pasantes*, they were dissatisfied with the lack of communication, interest, and responsibility from medical schools to collaborate to support their *pasantes*. Only one officer narrative showed satisfaction with the coordination between the MOH office and medical universities.

> *The medical school does not come here, the communication with them is nonexistent. They only call to demand from you one thing or another of the tests that we have to do (MOH Pasante, private medical school).*

Medical schools are absent during the social service year. These institutions have abandoned their medical students; they have transferred all responsibility to the state. During the social service year, their role is merely to implement final tests and process diplomas. *Pasantes* are aware of this, and undergo lack of emotional, clinical, and educational support.

> *We do not have any kind of relationship with the medical school. I do not know why... Last year during the clerkship it was the same. They abandoned us. It is even worse now; they have not visited us in the social service year…(MOH Pasante, private medical school).*

Supportive supervision helping pasantes to understand their context

During emergency cases, the physical presence of PIH supervisors enabled PIH *pasantes* to physically follow their patients. These supervisors provided expertise and knowledge about the dynamics of the community and promoted the collaboration between community members, the patient, and the *pasantes*.

PIH supervisors play a unique role rarely seen in other social service year models. Supervisors stay in the communities providing support to *pasantes* for three to five days each month. They review medical records and paper logs, provide clinical advice, guidance about the local social dynamics, and encourage patient-centered approaches to care. Supervisors encourage *pasantes* to engage with the community, visit families at their homes, and meet with the local leaders. This is a model of supportive supervision that helps boost the delivery and quality of health care in limited resource settings.

> *I had a medical case about a digestive tract bleeding. Having my PIH supervisor made all the difference because we could refer the patient. I was alone when the patient arrived…we inserted an intravenous catheter into the patient, we transported her outside the community; we found a car that could take her, it was close, we almost didn't find anyone to take us (outside the community). It was already night and nobody would want to, and the patient had no money to pay (for the private transport) (PIH Pasante, state medical school).*

We did not find narratives from MOH *pasantes* about clinical mentorship, supportive supervision, or training for referrals and health system organization. We observed supervisions during ethnographic observations from MOH supervisors in three rural health care clinics. However, this supervision was focused on paper logs and medical records and was not patient-centered or based on the *pasantes'* needs.

Engaging with the community and humanizing disease

Pasantes suffered from *dehumanization* during their clerkship as interns, which carries over to their medical practice as *pasantes*. The harsh work environment enclosing violent power relationships during the clerkship contributed to dehumanizing their medical practice[17]. Nick Haslam reviewed the term of dehumanization of patients in the medical domain. His interpretation can be applied to the medical student's experience during the clerkship:

> *The concept of dehumanization features prominently in writings on modern medicine, which is said to dehumanize patients with its lack of personal care and emotional support; its reliance on technology; its lack of touch and human warmth; its emphasis on instrumental efficiency and standardization, to the neglect of the patient's individuality; its related neglect of the patient's subjective experience in favor of objective, technologically mediated information; and its emphasis on interventions performed on a passive individual whose agency and autonomy are neglected. A denial of qualities associated with meaning, interest, and compassion*[18].

Three of ten PIH *pasantes* told us about their dehumanizing experiences through narratives about their relationship with patients in tertiary hospital settings during their clerkship. Their relationship with their patients was strictly clinical, the exposure to patients' social background was limited, and they had only superficial knowledge about the personal issues of their patients. In a way, they did not know their patients. In the best-case scenario, pasantes knew their patients' conditions, their labs and images, their medication, but not the person behind the disease.

These PIH *pasantes* described how the lack of personal interaction during their clerkship motivated them to do a social service year in rural areas. Now, as *pasantes*, they see the social service year as an opportunity to learn about the context of their patients. This is an interest that may serve as a vocational path. *Pasantes* are in a formative year trying to define their careers. The social service year may serve as a period in their medical career to define how appealing it is to pursue a career in general practice or community medicine inside the state health system. A negative experience during the social service year may demotivate them to follow their potential path in primary health care.

> *I choose to do a social service year to know more deeply about our surrounding. I came to the community to see how I could be useful, I had the idea of being closer to poverty and not only see it in the hospital. In the hospital, you can see the patient, but you cannot fully appreciate where the patients are coming from, you do not understand what is around them. I thought that by coming here I would know more the roots of their background, and learn what I could do to improve the health quality and the medical service (PIH Pasante, state medical school).*

In 16 of 20 narratives from PIH and MOH *pasantes* we found statements about how the social service year helped them strengthen and develop empathy and respect for their patients. The social service year in rural areas has the potential to motivate new generations of physicians to be more sensitive and engage with their assigned communities. During participant observations in monthly seminars in PIH headquarters and during supervisions in PIH health posts, we observed how the PIH model provided cultural and sensitivity training. For example, PIH staff and *pasantes* simulated doctor-patient relationships using the local expressions and common barriers to obtain clinical information. In the communities, PIH supervisors provided orientation to the *pasantes* to better socially adapt into their communities.

These supported *pasantes* engaged with their assigned communities, invested time with local families, and performed clinical and social home visits. This support promoted the development of empathy and the re-humanization of patients. The disease stops merely being a condition, and becomes a person that is closer to the *pasante*.

> *It is completely different to have knowledge of the diseases and then realize that the disease it is not only a condition, it is called Betty, Fernando, Luis. I mean, the diseases have a name. And that hurts, and it is probably wrong, but it hurts even more with people that you live with. That should not influence practicing good medicine without the emotional attachment that sometimes strikes. It is difficult (PIH Pasante, state medical school).*

In the preceding quote, the *pasante* emphasizes that emotionally engaging with the patient is probably wrong. This reflects the traditional heritage of dehumanizing medicine, where efficiency, standardization and objectivity are a priority. However, this *pasante* realizes the importance of the person behind the disease and starts questioning the human warmth in her/his practice. This is an opportunity to move from a model of a physician treating conditions to a model of a sensitive physician caring for people with a type of care that may help *pasantes* and health professionals allocate compassion at the core of their practice. The social service year should support *pasantes* to be more alert about the suffering of their poor and marginalized patients who cannot access high quality health care[19].

Fighting for the patient; navigating a complex health system

During ethnographic participant observations at PIH headquarters during a monthly seminar, *pasantes* received intensive training on the structure, capacity, and dynamics of the clinics and hospitals around their own health care posts. The instruction included orientation about what centers are better prepared to respond to acute and chronic conditions in case of emergencies or need to refer for more specialized care. This training and supportive supervision helps them advocate for patients during emergencies.

Pasantes in charge of primary health care clinics are responsible for referring and sending emergency cases to the next level of care when they have acute and severe medical cases. The PIH model does not have a systematic approach to respond to these emergency cases. However, the social care provided by PIH *pasantes* is not seen in regular MOH *pasantes*. PIH *pasantes* physically follow their most severe cases to a preferred referral clinic. They are in the therapeutic pathways together with the patients. During this process *pasantes* provide social support to help patients and their families navigate numerous complexities of the health care system.

Some examples of how *pasantes* supported their patients when following them during a referral are: encourage families to look for transportation and to seek more specialized care outside the community; advocate for the patients to be admitted into the second and tertiary hospitals; interpret and fully explain the hospital staff care plans to the patient; advise and provide guidance to families about what to expect in case they are referred to another hospital. This support strengthens bonds and trust between the community members and the *pasantes*.

The Mexican health care system is complex and extremely unintuitive. Even *pasantes* are unfamiliar with the organization of the system. Quantitative results found that from 18 PIH *pasantes*, only 41 % had good or very good understanding of the health system at the beginning of the social service year. It increased to 94% six months after starting the social service year, and to 100% by the end of it, after receiving training on health systems from PIH during their social service year.

Although PIH pasantes were skilled to provide social support during emergencies, only 78% of the 19 surveyed pasantes perceived good or very good preparedness to deliver trauma and emergency care at the end of the social service year. In comparison, 100% PIH *pasantes*

perceived good or very good preparedness in their general knowledge, internal medicine and pediatrics clinical skills.

Biomedical and clinical competences are essential and should be fostered. However, understanding the organization of the health system and the local context of the communities may improve quality, health outcomes, and increase trust of the patients when supporting them to navigate the complex health care system.

Inequalities and social barriers to access health care

Pasantes understood the social barriers that prevent their patients from arriving to the health care posts in the community and medical centers outside the community. The most common barriers we found in eight pasantes' narratives were: patients lacking money to seek for health care outside the community, scarcity of transportation, geographical distance, shortage of diagnostic tools, and no specialized care provided by the state in the region.

These conditions were more severe for individuals living in small communities without a health care post. These small communities usually have a population of 100 to 600 inhabitants and are not big enough to receive a state primary health care post staffed by a physician or a *pasante*. Therefore, the closest health care post takes responsibility for those communities and is referred to as "an area of influence."

Pasantes are witnesses of the constraints of community members. They become more familiar with the backgrounds of the patients and more sensitive to their circumstances. This sensitivity and empathy was reflected in 5 *pasantes* who gave resources to their patients including money, food, and medicines not available in the state pharmacy.

> *I had a family where the father had died from tuberculosis (TB)…When I saw the family during their Prospera (conditional cash transfer program) appointment I realized that the wife was pregnant and I decided to send her kids to get x-rays and study everyone to rule out TB. Some of the kids*

were positive in the x-ray. But, it was a family without economic capacity. I had to pay for the public transport. There were many times when I supported the patients, otherwise they would not go to their referrals. And those are important appointments. But it is difficult. I cannot pay for the medicines and the transport for everyone (MOH Pasante, state medical school).

Shaping *pasantes* to not change the world anymore

12 of 20 *pasantes* expressed not feeling well prepared to tackle the challenges of the social service year. Their medical training is not aligned to respond to the needs of a rural population in a primary health care setting. Their confidence and perception of preparedness to provide care is constrained, especially during the first trimester of the program in those health care posts without a licensed general practitioner offering supportive consultation.

I believe that nothing of the clinical training prepares you for social service. And that was very clear to me, I mean, nothing that I have lived during the whole medical career prepared me for this year as such. You have some skills that you have been collecting, but nothing prepares you for this; to be at the head of a population and in charge of a health care unit. In a place where you are the only entity (medical service) available (PIH Pasante, state medical school).

As noted in the last quote, *pasantes* emphasized how nothing prepared them for the social service year. Thus, impotence is experienced by *pasantes* who experience for the very first time the complexity and limitations in the field. Three PIH *pasantes* mentioned the existence of forces causing social and clinical problems to their patients. Yet, they do not feel capable to beat such forces with the training they hold or with any biomedical treatment. *Pasantes* get frustrated not having the control and power to heal as they were taught during their medical school.

You may prescribe Fluoxetine (antidepressant) to a woman in the community, and they truly take the pill, and participate in the psychoeducational course, but that's not going to change the fact that her husband beat her. Or the fact that her husband tells her every day that she is stupid or that she is no good enough. And the fact that she has a history of sexual abuse. The fact that you are present, does not change these situations.

And you listen to the women, offer her affection, and give her medicine. But you cannot get her out of her context (PIH Pasante, state medical school).

After observing limitations to help, *pasantes'* expectations to make an impact in society collapse. They perceive that their efforts and contributions are insufficient and not impacting the community. This perception makes *pasantes* believe that the community is an unchangeable entity that cannot be helped by their actions as health providers. The original task to make an impact in the community is surpassed by the lack of staff and resources available in the MOH primary health care clinics. After perceiving that they cannot change the community, *pasantes* shift their efforts to impact their own development and at least try to get some benefits from the social service year for themselves.

You realize that the community was before you arrived, it will continue there after you leave, and during your time here you will not provoke a significant change in the community. You are not going to be changing the whole community structure and all the community dynamics, nor will you solve all their problems. You do not have the time, you do not have the resources, a year passes through and the one who changes or the one who develops the most it is you (the pasante), the one that acquires the most experience, the one that obtains the most impact of all the people that are around is you (the pasante) (PIH Pasante, state medical school).

Medicine used to represent a charismatic profession that offers the authority to prescribe medicines, perform interventions, and subsequently heal bodies. However, *pasantes* arrive into a low-resource setting where there is a lack of materials to provide care. There are not enough medicines, equipment, diagnostic tools, supervision, or specialty expertise. *Pasantes* are excluded from the authority of the profession that restricting their capacity to heal; *pasantes* are detached from the medical establishment and they learn that they cannot change the world.

After this year, I no longer have the idea that I am going to change the world…I cannot against everything that implies giving a good healthcare

service. In the end, you can have all the willingness, and try to give the best care to the patients, but, there are no medicines, or there are no resources, or simply the patients do not want to receive their treatment (MOH Pasante, private medical school).

Moreover, this experience creates an image of how the MOH operates their health care system. This image may be negative and pasantes can develop a repulsion against the state, public health, and primary health care in rural communities, and contributed to the perpetuation of the cycle of human resource maldistribution and notoriety of the general practice. This phenomenon compromises the wellbeing and health care of vulnerable and minority populations in rural areas[20].

Rural communities cannot complain

Ministry of Health *pasantes* avoid living in their assigned communities. Nine MOH *pasantes* in charge of their clinics mentioned leaving their medical units without approval before the regular official time, and going away from their communities every day, despite guidelines stipulating they should be present at all times six days a week[21]. One of these *pasantes* explained how communities usually do not complain about the health services they receive, and when they do they are at a disadvantage. In some cases, a *pasante* is the highest attainable human resource communities can receive from the state. If communities decide to complain, they may find themselves oppressed by the system. Their voices and political ties are not strong enough to demand for the services they prefer.

The community submitted a memo requesting a permanent certified physician, and not a pasante... The MOH said, if you do not want a pasante you will stay without a physician because there is no permanent certified physician. The community remained without a physician for a month…The MOH said that no permanent certified physician would be available for approximately a year. Then, the community submitted another memo requesting a pasante (MOH Pasante, private medical school).

In addition, during ethnographic observations in the rural communities, we observed how leaders from communities were in charge of documenting nurses and *pasantes* attendance. However, these community members often signed attendance sheets even when the health professionals were absent. *Pasantes* from PIH observed how their nurse personnel was frequently absent, yet received attendance sign-off from the community leaders proving attendance to the state. However, *pasantes* did not want to report these irregularity to the state because they were afraid of creating conflict with the nurse personnel, and in turn ruin their work environment and relationships.

Concluding reflections

The annual workforce of 8,000 *pasantes* helps fill the gap in healthcare coverage in rural Mexico and contributes to the health equity agenda by tackling the issue of misdistribution of human resources across rural areas.

The MOH supports the model, which has operated for 80 years. However, health care coverage does not just mean increasing the number of medical centers and percentage of population enrolled in health care insurance. Ensuring health care coverage also involves an equity agenda that should guarantee effective access to care to the most marginalized areas including rural communities through care delivered by adequately trained and supported health personnel.

Mexico's epidemiological transition has led to a rise in chronic conditions such as diabetes, concentrated in urban areas, which has become the geographical focus of policy makers. However, the citizens living in remote and rural areas still require accessible, high quality healthcare. The *pasantes'* narratives reveal reluctance by certified physicians to practice in rural posts without adequate medical supplies – tools they were just taught how to use in

medical school. In a sense, just as the rural populations are marginalized from the rest of the country, pasantes are marginalized geographically, socially and professionally from the medical community practicing in urban areas.

Without adequate support including access to medicines, labs, technologies, clinical expert advice, and an effective referral system, *pasantes* are cut off from the medical establishment and must find their own ways to maximize their capacity to provide effective care. However, *pasantes* may just disengage from their assigned communities, and normalize the lack of medical resources they encounter during the social service year. The normalization of lack of resources during the *pasantía* may create an artificial idea of accepting the shortage of physicians and health care in rural areas, and lower the expectations to provide care for populations living in poverty. Farmer et al. describes this as socialization of scarcity of resources as: "the assumption that resources for poverty reduction will be in perpetually short supply- forming part of the dominant logic of healthcare"[22].

Therefore, the social service year is at risk when not supporting pasantes in their assigned rural communities, and when failing to allocate *pasantes* in the most remote and marginalized communities.

An experience that should be filled with pride and excitement, a physician's first experience working as a *pasante,* is diminished by a general perception of lack of prestige in working in rural areas as a general practitioner. This dynamic reinforces negative perceptions against practicing rural medicine, working for the MOH, and the entire field of primary health care.

Ethical implications of the social service year structure were revealed through the *pasantes'* narratives. There is a need to review the process of assigning communities to *pasantes*

by the medical school and MOH in order to ensure to most marginalized communities are being reached. In addition, the culture around medical students' choice of social service year location must be altered. Top performing students, better equipped with the skills and knowledge necessary to succeed in providing care in rural areas with complex health challenges compounded by poverty, should be encouraged to practice in the countryside. As it currently stands, students with lower performance in medical schools are sent to the most remote areas because they are less competitive in the selection process, creating a non-standardized model where structural violence may emerge through low performing medical students covering the most remote and poor regions[23].

Disregarding support and extra investment in *pasantes* would neglect the health care of rural communities and go against social development in Mexico. It will fail the original purpose of the *pasante* program of socializing urban doctors to provide care in remote and rural areas. Rethinking how to address the social service year program must include increasing the quality and effectiveness of the delivery of health services through a community-based approach.

Finally, supporting *pasantes* in their assigned communities is a way to provide a transformative year to better prepare physicians and provide care to rural populations that otherwise would not have any kind of medical services.

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