Unsupported Medical Interns in Rural Medical Units, Nuevo León

Montserrat Chagoyán Herrera, Marisol Urías Luna, Gonzalo Mendoza Olloqui,
Luis Ángel Hernández Ruiz, María Karina Elizondo Villarreal, and Iza María Sánchez Siller

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Note: Authors are listed alphabetically with the faculty mentor listed last.

Cover photo: Private medical clinic in Doctor Arroyo (photo by SSMI Diana Rubi)

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Executive Summary

The Mexican government requires all medical students who have completed their undergraduate medical education to complete a mandatory six-month to one-year period of community service to obtain their degree. This social service was established to ensure that future doctors contributed to society, specifically to underresourced communities, while gaining practical experience before formally entering professional medical practice.

The health institutions they're assigned to can vary from hospitals in cities to mobile healthcare clinics that travel through the state to rural healthcare facilities located in marginalized areas. Their responsibilities vary depending on the facility they're assigned to and the community's needs, but usually they range from general consultations, routine vaccinations, and general diabetes treatment to even treating life-threatening traumatic accidents.

When Social Service Medical Interns (SSMIs) are sent to remote locations, they usually have to work with insufficient supplies, limited training in primary health care, and little to no mentorship or supervision. The current federal government's austerity policies have exacerbated this issue, causing shortages of doctors and nurses who can assist or guide the interns. These policies have also affected access to essential services like electricity, water and sanitation, and internet connectivity in these communities.

After conducting several interviews with medical interns currently doing their service and doctors who had already completed their social service in the municipality of Doctor Arroyo and other municipalities close to it (in the southern part of the state of Nuevo León), we analyzed the resource shortages' effects on clinical care delivery, and aimed to quantify them so that we could recommend improvements to the social service system as a whole. The issues observed in Dr. Arroyo and nearby communities replicate themselves all over the country.

In our initial interviews in Monterrey with medical interns on their days off, we received consistent warnings that it was unsafe to visit Doctor Arroyo because of the pervasive risks associated with gang violence and other security concerns. We prioritized the safety of our research team and participants and decided to conduct all interviews in a safe environment. We met at a local coffee shop or for brunch, and conducted some interviews via Zoom.

Context: Doctor Arroyo, Nuevo León

Mexico is a middle-income country that grapples with pronounced social and economic disparities, with approximately 40 per cent of its population living below the poverty line by income and around 12 percent living in extreme poverty by income.[1] While social issues like poverty, inequality, homelessness, and healthcare shortages occur in every state of the country, these issues tend to be more extreme in rural areas. Just over one-fifth of the population lives in a rural municipality with under 2,500 inhabitants.[2] This means roughly 20 million people live in rural communities below the poverty line.

With the intent of providing healthcare in these rural areas, the federal government sends medical interns to cover these areas. They are often the only asset to enhance healthcare coverage in rural sectors — the low pay in these areas deters licensed physicians from practising there. Today around 40 per cent of the population do not have any access to healthcare services.

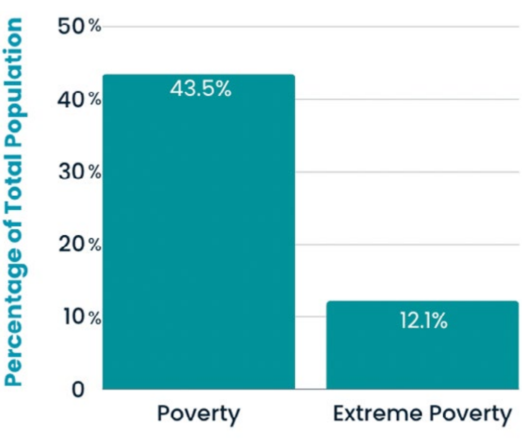

Figure 1. Degrees of poverty in Mexico (our elaboration with data from CONEVAL)

In Nuevo León, a state in northeastern Mexico, just over 30 per cent of health centres are staffed exclusively by medical interns doing their social service. The number of complaints about the region's public healthcare system has been increasing since 2019, no doubt because of the unsupported student interns who are exclusively responsible for people's care yet unprepared to do so adequately.

Doctor Arroyo is a municipality located in the southern part of Nuevo León, where approximately 36,088 people are located. According to the most recent census only 16 per cent of houses there have access to the internet, and just under 15 per cent have access to a computer at all; 75 per cent of the houses have access to at least one cellphone. In 2020, almost 45 per cent of the population lived in poverty, with 12.6 per cent in extreme poverty.

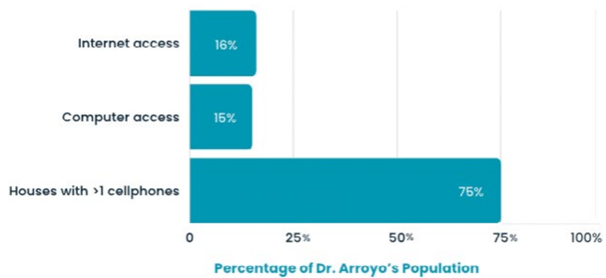

Figure 2. Access to computers, cellphones, and internet in Dr Arroyo (our elaboration with data from Data México)

SSMIs in Dr. Arroyo lack material resources and medications are poorly distributed between medical units. For example, interns we interviewed mentioned that diabetes is a significant problem in the area, but the state does not provide enough medicine to cover the high demand for it. Since most of the population's income is below the poverty line, they cannot

1 "Pobreza en México," 2022, Coneval.

2 "Censo de Población y Vivienda 2020" [Census of Population and Housing 2020], INEGI.

afford the much-needed medication for their conditions, and remain untreated. Like many other rural municipalities, Dr. Arroyo has been abandoned by the state and federal government, and it lacks funding for all its urgently needed public expenditures. The most pressing example of the state ignoring Dr. Arroyo is their constant need for clean water and the lack of a long-term plan for a solution since 2020.

Karla, a medical intern stationed in a village near the municipality, told us about the lack of material resources: “I often find myself without the basic medicines needed to treat my patients. It’s devastating to look a patient in the eye and tell them that I can’t help because we lack the resources. It becomes more heartbreaking when they stop coming by — they already know the answer.”[3]

Ethical concerns arise when interns provide suboptimal care, and as Karla mentioned, interns feel impotent when medicine isn’t available. Although the Hippocratic Oath that urges physicians to do no harm is the fundamental principle of medicine, interns find themselves in situations where their capacity to comply with this principle is compromised by systemic resource constraints.

Like many other medical interns we interviewed, Karla described how patients are frequently left without the treatments they urgently require, which undermines their trust in the healthcare system. People in these rural areas decide to not go to public health centres because they feel hopeless about getting help. Sometimes, people come from other areas, paying a lot to travel only to find when they arrive to receive medical treatment that there are not enough medicines for them. Why deploy medical interns when they often lack essential resources for medical care?

Interviewees told us that in addition to economic and social problems, Dr. Arroyo and its nearby communities have endured a heavy onslaught of violence from drug cartels. Organized crime poses dangers in the form of threats, abductions, and even murders. It is also a significant obstacle for the government’s public policies that aim to benefit these communities and the medical interns who are supposed to help them.

People in the area perceive of their own safety based on their gender: 36 per cent of men perceive that they are safe while 28 of women feel safe. Family violence was the principal legal complaint in May 2023. (Most of the crimes committed in the first five months of 2023 involved attacks on life and bodily integrity). SSMIs we interviewed indicated that people in Dr. Arroyo have a sexist perspective on gender roles in society.

Ricardo, a male SSMI, said that he felt safe being there but he was aware that his sex was the source of his safety and the respect that the community has for him because of it. Daniela, a female SSMI, mentioned that she feels safe in Dr. Arroyo, even though she felt it was normal for her to have the following experience: “I had a stalker at one point who was clearly under the influence of drugs. He would relentlessly search for me and leave items in my office. It was a distressing ordeal, but I still find a sense of security within Dr. Arroyo’s community.” She seemed so nonchalant that we asked how common it was to experience having a stalker. She told us: “I was lucky with my community. I wasn’t alone — I had nurses with me. Other friends are completely alone. One of my friends left the community she was in because some patients were violent toward her and robbed the few things that the clinic had. And you know, you always hear about a friend who went through sexual harassment or psychological abuse. As I said, I was really lucky.”

The community and the SSMIs normalize violence and harassment and don’t take any action to prevent it. When Daniela tried to contact the

3 We use pseudonyms for interviewees to protect their identities.

university authorities about the situation, she was told, “There is nothing we can do — there are no signs of direct harassment” so nothing was done about the stalker. Although violence has an obvious negative impact on the service that SSMIs bring to rural areas, nothing has been done to solve this issue, neither by public institutions nor by the universities that medical interns attend. They are left to fare for themselves.

Mexico’s Healthcare System: A Brief History

Social and political reforms derived from the Mexican Revolution led to the establishment of the healthcare system. During the late 1930s the government established the National Department of Public Health as part of the Ministry of Education, transitioning to the Ministry of Health and Assistance, known as *Secretaría de Salubridad y Asistencia* (SSA). This institution is in charge of generating health policies, as well as regulating and coordinating healthcare providers.

The healthcare system has historically been organized by employment status. In the early 1940s the government made significant contributions to the healthcare system, with the establishment of the two main public healthcare institutions: *Instituto Mexicano del Seguro Social* (IMSS) — Mexican Institute of Social Security — and the *Instituto Mexicano de Seguridad y Servicios Sociales de los Trabajadores del Estado* (ISSSTE) — Institute of Security and Social Services for State Workers. IMSS is a public health institution that offers healthcare services and social security coverage to everyone who belongs to the formal sector of workers, as well as their families, funded by contributions deducted from the employee’s salary and the employer’s contribution. The ISSSTE provides healthcare services to government employees, including teachers and federal workers, as well as their families, covered through their payroll contributions.

During the late 1950s, the private healthcare sector in Mexico grew, in part in response to the population’s needs. The country was going through a period of economic growth, historically known as the “Mexican Miracle,” which increased many people’s incomes, and gave them the opportunity to pay for private healthcare services. Those who could afford it opted for this option because public facilities were often overcrowded and underfunded. Becauses private healthcare facilities had more

Figure 3. The health centre in Doctor Arroyo

resources, they could afford better equipment and provide better care for patients. Public opinion also affected this surge in private care — being able to attend private healthcare facilities and having access to private health insurance became associated with a higher social status.

Since the only two government institutions providing healthcare services focused on the working population and their families, in the early 2000s the Seguro Popular or "popular insurance" was created to cover the uninsured (and underemployed) population. This popular insurance was one of the main efforts of decentralization in Mexico's healthcare system, since before this program the federal government made decisions regarding healthcare administration, funding, etc. The establishment of popular insurance gave local authorities control over decisions about resource allocation, medical personnel, etc. With this independence each state could make decisions based on their healthcare needs.

Changing government administrations since 2000 have changed their focus and health policies. In 2020, with the beginning of President Andrés Manuel López Obrador's administration, the popular insurance was merged with other healthcare programs, creating instead the *Instituto de Salud para el Bienestar* (INSABI), or "Institute of Health for Well-being," which aligned with the administration's agenda of austerity.

INSABI aimed to provide healthcare coverage to everyone without health insurance in Mexico, especially vulnerable or marginalized sectors of the population, reducing financial and economic barriers in the healthcare system. While in theory INSABI was aimed at enhancing the health system, in reality there were several challenges.

The transition from popular insurance to INSABI presented a delay in the service provided by health professionals, as well as a debate regarding this new program's funding. Popular insurance patients were also faced with problems in the continuity of their care because of the change in internal policies.

Figure 4 explains how the Ministry of Health (also known as SSA) is organized. The SSA is a federal government agency in charge of overseeing everything related to health policies and programs nationally. Mexican healthcare services are provided either by private or public institutions with the private sector having higher fees but also better service.

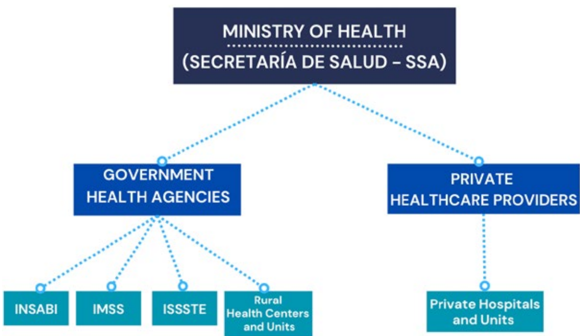

Figure 4. Overall healthcare structure in Mexico

In the public sector, IMSS and ISSSTE provide healthcare services to employees, the first one from the formal sector and the latter from the government. Rural health centres and clinics, which provide services to rural and underserved populations, are supposed to be run by local governments. But these clinics are often run by medical interns.

The private sector is composed primarily of hospitals and clinics, but there are also pharmaceutical companies that provide medicines exclusively to private sector patients and to public sector patients when there are not enough medications. There are also health insurance companies and the medical schools and universities that prepare healthcare professionals such as doctors, nurses, pharmacists, among others.

Universities, like the healthcare system, are also divided into public and private. Public institutions do not charge tuition and are administered by

the government, while private schools require fees and payment, and are owned by individuals, either people or organizations. Both of them are accountable to the Ministry of Education because they need to follow general standards and regulations.

Recent changes in our healthcare system have heavily affected the quantity of people serviced and the quality of the service they receive. During the current federal government's administration, we have observed a heavy downturn in the overall healthcare system. Not only has there been a severe lack of medicines and other resources, but the transformation of *Seguro Popular* into INSABI has also left a lot of people without healthcare access. As Figure 5 indicates, the percentage of the population with healthcare access has diminished continually during the past six years, the time that austerity measures have been in place.

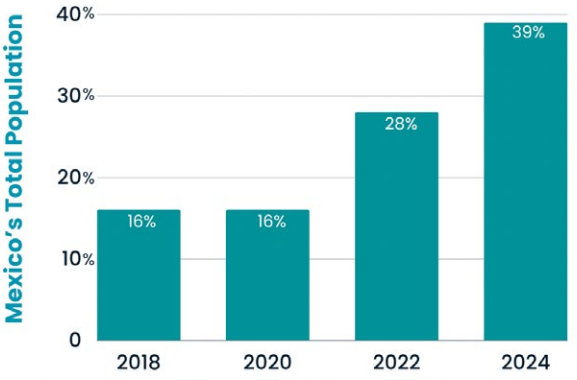

Figure 5. Public healthcare coverage through the years (our elaboration with data from CONEVAL)

Medical Social Service in Mexico

The origins of social service go back to the beginning of the twentieth century, at the State University (UNAM) in Mexico City. After witnessing the precarious conditions that farmers and people living in rural areas experienced, Doctor Gustavo Baz Prada established social service as a mandatory activity for all medical students. He later became the university's chancellor and turned social service into a requirement for every student regardless of their career.

Medical social service began in 1936 with medicine undergraduates as part of reforms addressing the deficiencies in healthcare access and social disparities in the country. It originated from an agreement between UNAM and the Department of Health to place medical interns (undergraduate students) in rural communities that didn't have healthcare services.

In 1942, the fifth article of the constitution was changed to establish social service as a requirement for all undergraduate students, but it considered the academic plan of their institution, their knowledge, and capabilities. In other words, the requirements changed depending on the student's career because some majors could do social service at the same time as they took classes, while students in other disciplines, like medicine, had to finish their classes before starting their social service. Because the guidelines for social service began with one university, UNAM, they were simple and focused on the curriculum of a single institution. However, as time passed and social service turned into a legal requirement, the guidelines began to adapt to each institution, but the main goal was always to give back to society, generating social consciousness among future professionals in their respective disciplines.

In 1943, the Mexican Congress established healthcare policies that encouraged medical graduates to help the population, especially underserved communities, as a way of giving back for the education they received. Later, in 1961, Congress passed the General Health Law that made social service a prerequisite for all medical students who wanted to receive a degree. Under this law, medical graduates

were required to complete a period of between six months and a year of community service before receiving their medical degree. Interns would be given guidance from professionals or professors. Such compulsory service aimed to inspire a sense of social responsibility for future healthcare professionals and expose them to the realities of the healthcare system in marginalized communities within their states.

Over time, this social or moral aspect of social service faded and service became a bureaucratic requirement needed for graduation, instead of focusing on the social impact and need in rural communities. The perception of social service also changed for student-receiving institutions that now used their services as a form of cheap labour and no longer considered the moral imperatives of social service. Today many soon-to-be doctors feel exploited as cheap labour in a decaying healthcare system.

New Policies

In the early days of medical social services, medical students from both public and private institutions were evenly distributed and fairly assigned to health institutions from all over their states. This changed dramatically in the 1980s when an economic crisis hit the country and the health system began the process of decentralization. States were given some autonomy in implementing obligatory social service, instead of continuing with federal guidelines. The entire healthcare system was decentralized, not only the social service program. Now, each of the 32 states had the authority to handle their health system as they wished, but they were not granted financial support for healthcare services, medical equipment, or even medicine.

Figure 6. Mobile medical clinic during service

Since then, students have been assigned to both urban areas and rural medical facilities. However, by the year 2000, rural healthcare institutions received barely 10 per cent of social service medical interns and today that number ranges from 2 to 5 per cent of interns, depending on the state. Universities prefer to assign their social service medical interns and resources to urban areas to protect them from increasing insecurity and rates of violence.

Insecurity and Violence

Mexico's long history of insecurity and violence arises from social issues such as inequality, lack of access to education, social exclusion, and an increase in economic and social disparities. The lack of economic opportunities, normalized corruption, high levels of impunity, and the challenges of having weak law enforcement have contributed to an increase in organized crime and drug cartels, which have increased the country's insecurity levels. Levels of organized crime and insecurity increased in 2008 when President Felipe Calderón declared war on the drug cartels. Since then the number of casualties and missing persons has increased dramatically.[4]

4 "Año 11 de la guerra contra el narco," *El País*, 2016.

An annual survey conducted by the International Institute for Strategic Studies (IISS) considered Mexico the second deadliest country in the world, surpassing countries such as Afghanistan or Yemen. According to this survey, levels of violence are comparable to those in civil wars.

Journalists are especially vulnerable. Reuters declared Mexico the deadliest country for journalists in 2022.[5] But journalists are not the only professionals who suffer the consequences of insecurity. Doctors, especially medical interns who work in rural communities, face dangerous conditions when completing their medical social service. There have been several cases of medical interns being abducted or threatened when they refuse to give medical attention because they feel insecure. One intern was murdered. Eric Andrade had only about two weeks left to finish his social service when he was murdered while working in the hospital. His death led to several protests in which other medical interns voiced their concern about working in high-risk areas where insecurity levels endanger their lives.[6]

Each administration since 2008 has left the healthcare system in worse shape. During President Felipe Calderon's administration, hospitals being built were left unfinished. President Enrique Peña Nieto's government in 2012 had a national problem with the distribution of medicine, leaving patients to obtain medicine and treatments on their own. This trend of increasing neglect of public health continued with Andres Manuel Lopez Obrador's new government in 2018.

On 1 January 2020 his government closed the universal public healthcare institution known as *Seguro Popular* or "popular insurance" to launch *Instituto de Salud para el Bienestar* (INSABI) in the context of the COVID-19 pandemic's early days. The new institution focused on providing primary health care and access to essential medicine, ensuring that everyone can receive decent medical attention and reducing health service disparities. Although the concept of INSABI sounds good in theory, it was poorly implemented. It increased demand for medical services in underserved populations without providing the necessary medicines and tools to care for their conditions.

Between 2020 and 2022 — the two years since INSABI's implementation — the population without access to healthcare increased from 28 per cent to almost 40 per cent. INSABI also generated administrative changes in terms of where medical interns were assigned, as well as inefficient medicine and equipment distribution. INSABI's inadequate implementation increased social disparities, decreased people's access to healthcare, and reduced the efficiency of material and human resources, including social service medical interns.

Assigning Medical Interns

Since the decentralization of the healthcare system, each state defines its own guidelines regarding social service. Each university gets assigned the spots that they need depending on the number of medical students that will graduate that semester, but there is also a non-official system for private universities. Private institutions have a preference for urban healthcare facilities, while public universities get more medical positions in rural areas. Although private universities' first-vote privileges are not officially documented or explicitly stated anywhere in policies, a common sentiment emerged in our interviews. "We all know that private universities tend to be top picks, and they usually offer more serene communities. They probably have an arrangement of sorts." Students' assignments are also based on their overall grade point average,

5 "Mexico: The Deadliest Country for Journalists in 2022," Reuters, 14 December 2022.

6 "Caso Erick Andrade: médico pasante asesinado en Durango," *El Sol de Durango*, 20 July 2022.

so students with higher grades choose first and typically choose urban facilities over rural ones.

Before the changes associated with INSABI, medical students once enjoyed their social service, which they considered a way of learning new skills while contributing to society. Although social service is supposed to be an unpaid job, medical students were once offered a stipend — a scholarship or honorarium to cover some of their expenses and basic needs. Today the stipend does not cover their most basic needs.

Table 1 shows how medical social service depends on its location and population served. It also indicates the typical salary or honoraria that interns receive monthly (in pesos — MXN 100 is approximately CAD 8).

Government Vs. Reality

When federal law made social service mandatory for all students, it was informed by the belief that "social service represents a formative stage in which the student puts their knowledge into practice, contributing to the sectoral goal of preserving the health of the population through service."[7] Both the state and the universities claimed that there were five main benefits:

1. **Giving back:** The social service year is a way to pay back the nation for the education students receive for free or at a reduced cost. It acknowledges and repays the investment made by the state and society in their education, thereby fulfilling their obligation to the broader community.
2. **Access to healthcare**: Mandatory social services often place students in remote or rural areas to address healthcare disparities.
3. **Practical learning**: Students gain hands-on experience by working in real-world settings, equipping them with practical skills, problem-solving abilities, and a deeper understanding of their field.
4. **Personal growth**: The medical interns gain qualities such as self-confidence, empathy, and adaptability, as well as effective communication skills, which help them to work effectively with diverse populations.
5. **Career development**: Because medical interns work in varied and often challenging environments, they are exposed to the

Table 1. Medical interns' placement, pay (in Mexican pesos), and work (data collected by the authors in October 2022 from interviews)

MEDICAL SOCIAL SERVICE CATEGORIES	TYPE A	TYPE B	TYPE C	TYPE CC
Location	Urban Area	Rural Area	Rural Area (dispersed population)	Rural Area (dispersed population and difficult access)
Population	+15,000	2,500 – 15,000	500 – 2,500	500 – 2,500
Monthly Stipend	$2,500 MXN	$5,000 MXN	$10,000 MXN	$12,000 MXN
Schedule	6 hours daily Monday – Friday	8 hours daily Monday – Saturday	8 hours daily Monday – Saturday (available 24/7)	8 hours daily Monday – Saturday (available 24/7)

7 "Social Service," Medical Department, Universidad Autónoma De Nuevo León, 2023, our translation.

different areas of medicine that they may choose to specialize in.

Following the murder of a medical intern, Eric David Andrade, Secretary of Health Jorge Alcocer Varela described social service in a press conference last summer as "an academic necessity. And in principle, it cannot be cancelled as it is at the point when the doctor is almost ready to graduate. They use this time to prepare for their exams and, of course, to receive preparatory courses in certain places … It is not advisable for medical interns to leave their service in remote communities because, in addition to being a requirement for completing their degree and obtaining their professional title, it is a service they must provide to the population … we cannot set aside sites that have unsafe conditions."[8]

While social service may indeed be an academic requirement, the safety and security of students should always be a top priority. Alcocer's statement that SSMIs should continue their service, even when faced with unsafe conditions, disregards the very real dangers that medical interns can encounter in such environments, and puts their lives at risk. His insistence that these students should provide a service at any cost is misguided at best. While social service may be a valuable part of their education and training, it should not come at the expense of their safety and lives. It is the responsibility of the authorities, including Secretary Alcocer, to ensure that students are not sent into harm's way without adequate protection and support.

Andrade's case was not an isolated incident but a stark reminder of the broader issues that medical interns and doctors encounter while fulfilling their obligations. *Animal Político*, a prominent Mexican news media outlet, published a report documenting cases of doctors who were killed. Its title told the story: "In 45 out of the 50 municipalities with the highest homicide rates, there is a shortage of internists, surgeons, anesthesiologists; doctors are demanding security."[9]

For example, María Fernanda Hernadez Viera was a dentist with two postgraduate degrees and three young children; she was gunned down in her office in Tijuana. In Ciudad Juarez, orthopedic surgeon Sergio Espejo Guasco was murdered while travelling in his vehicle on his way to the medical centre. In Coahuila, Jorge M was gunned down while he was attending to a patient in the emergency room.

One of the most chilling cases that made the news related to the death of SSMI Mariana Sanchez Davalos, who was found lifeless in a rural community of Nueva Palestina. The State Attorney General's Office concluded that her death was a suicide, even though the crime scene was not properly preserved. Her family's lawyer concluded that the clinic did not meet the basic requirements for health, safety, and privacy. He also argued that Mariana had been stalked by her boss who was already linked to previous sexual harassment crimes. Despite these allegations of prior assaults, the man was never fired because the union supported his case. "The secretary of the Social Security Workers' Union asked the institute's director to reinstate him as long as he did not receive back pay."[10]

These cases are a culmination of issues that were never attended to. According to Eva Pizzolato, a member of the Mexican Association of Medical

8 "No es 'oportuno ni aconsejable' suspender servicio social de médicos: Jorge Alcocer," *El Financiero*, Redacción, 19 July 2022. Our translation.

9 A. Vega, "In 45 Out of the 50 Municipalities with the Highest Homicide Rates, There Is a Shortage of Internists, Surgeons, Anesthesiologists; Doctors Demand Security," *Animal Político*, 31 May 2022.

10 Elio Henríquez, "Denuncian 'irregularidades graves' en caso de médico muerta en Chiapas," [Serious irregularities reported in the case of a deceased doctor in Chiapas] *La Jornada*, 5 March 2021.

Interns in Social Service, "[SSMIs] often face many threats from organized crime: they are harassed by certain individuals, and women are in great danger because they have been victims of rape, sexual harassment, and they are pursued."[11]

Dr. Cynthia Flores, Pizzolato's peer, emphasized: "There is a lot of fear. There is a lot of organized crime, a lot of violence, and there is nothing in terms of security that really guarantees that … we will also come back safely. I hope that this message reaches the National Palace, to the President of the Republic, so that he can see that there are so many doctors here — that we are here to fight for the health of Mexicans, and that we are taken into account to fulfill this duty, this dream we have of being doctors and caring for the population."[12]

When asked about the cases that have been reported, Valeria — an SSMI — told us what she experienced.

> I think that the first time I feared I would become a face plastered on the news like them [the murdered SSMIs] was one day at work. I was at the medical centre with two other patients. Then, the sharp crack of gunshots shattered the tranquility; I had never heard gunshots. I didn't know it could be so loud. I don't know how long the gunfire lasted. For me it felt like an eternity. I remember the nurse told us to lock everything, turn off the lights, and not to make a single sound. We don't even have supplies to treat the wounded, so they would have gotten angrier, or who knows which group they belonged to, and later, the rivals might come to finish them off, or worse, come after us. The next day, I tried to search on the news — you know? Find out why it happened. I didn't find a single news media outlet that covered the story. The nurse told me this happened often. If cartels disappeared or killed entire families, we would be none the wiser.

David, another SSMI, was the first to tell us that we shouldn't visit Doctor Arroyo. He insisted that it was not safe for us: "Haven't you heard about that radiologist who got gunned down because she refused to stop her vehicle at the checkpoint manned by armed men? Organized crime is everywhere — they control the place." When we asked what he meant by "they control the place" he answered, "organized crime has a firm grip on certain communities; they've even imposed curfews where no one can come in or out unless they give the green light."

Questioning the Reported Figures

While the government celebrates success stories and insists that they have improved security and that there is no longer a lack of material resources, some interns revealed that they are instructed to report inflated data regarding patients treated, medicines administered, and the overall quality of the clinic. Marcelo, a medical intern, described it like this:

> As medical interns, we are constantly caught in a precarious situation. The medical authorities mandate that we meet a minimum quota of patients treated each week. If we fall short of this quota, we face reprimands and the implicit pressure to "make the numbers" by, regrettably, inflating our patient counts. You can see where our commitment to providing genuine care clashes with the administrative demands, often leaving us torn between our ethical principles and institutional pressures.

11 Our translation, "'Estamos aquí para luchar por la salud de los mexicanos,' dicen médicos a López Obrador," *López-Dóriga*, 27 July 2022.

12 Ibid.

The Puzzling Distribution of Medication

Another gap in the story about social service involves medication mismatch. Typically, the medicine received does not align with the health needs of the community, exacerbating the challenge between supply and demand. In many instances, SSMIs find themselves in the perplexing position of receiving medications that are irrelevant for the prevalent conditions in the community. Valeria, a medical intern stationed in Doctor Arroyo, told us "Our community is coping with a high prevalence of diabetes — that's where the urgent need lies. However, we often receive medications or remedies that have little relevance to our pressing medical concerns. For example, we get a larger amount of calcium than Metformin [diabetes medication]. It's disheartening to see these resources go to waste while our patients are in dire need of diabetes medication."

This raises questions about inadequate needs assessment and how much the authorities are attuned to realities on the ground. In Doctor Arroyo and similar communities, the lack of proper diabetes medications can have dire consequences. Patients are left without essential treatments, leading to worsening outcomes and even death.

The Toll on Mental Health

Beyond the physical challenges, SSMIs face a multitude of emotional and psychological stressors. Martha, a medical intern, revealed how "even the doctors in charge of our community warned us that every one of us would experience depression." She highlighted how the isolation imposed on interns intensifies their emotional burden. Sara, another intern, further described the emotional distress that is typical of their term. "Even though we're supposed to study for our exams during this period, I can't focus. The overwhelming sense of loneliness makes it incredibly difficult to concentrate on our academic responsibilities." Both recognize how their emotional isolation during social service hinders their ability to fulfill their educational commitments.

SSMIs' Experience: The Numbers

During the final stages of our investigation, we decided to run one last survey through the doctors and medical interns we had interviewed before. We hoped to obtain crude numbers that represented the interns' experiences during their service. Some of the most valuable insights we found involve their sense of safety or the lack of it, resource shortages, gender discrimination, and medical social service as a requirement.

SENSE OF SECURITY AND WELL-BEING

We surveyed 20 medical interns, all of whom completed their social service in the last five years. They reported that their overall sense of security during their service to the community averaged around 24.1 points on a scale of 0 to 100 points, so overall they felt unsafe during their service.

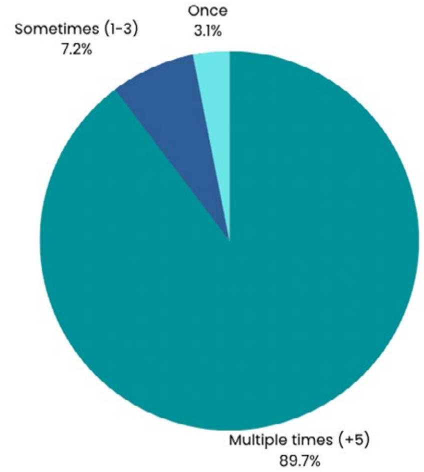

Figure 7. Interns fear that their lives are in danger

RESOURCE SHORTAGE

Medical interns also reported high levels of material resource shortages. Each one of them

had to refuse to provide medical attention because of a lack of resources. When asked how often they had to decline care, the average answer was around 60 per cent of the time. In other words, on average, just over one out of every two people was turned down for medical attention.

On the scale of 1 to 10, how often do you have to turn down medical service due to a lack of material resources?

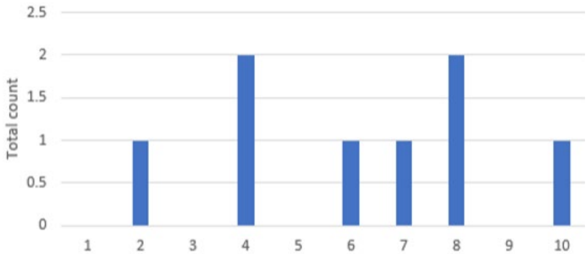

Figure 8. Refusing to provide care because they lack resources

RISK OF VIOLENCE DUE TO GENDER

Out of the 30 women we surveyed, 27 answered that during their service either the medical authorities or the community they attended to discriminated against them on the basis of being a woman at least once. They also said that this discrimination led to violence.

Do you consider your gender puts you at risk of violence either from medical authorities or the community you serviced?

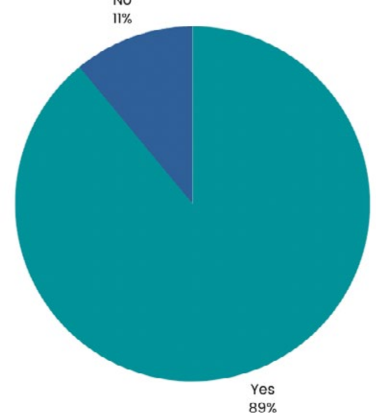

Figure 9. Risk of violence due to gender

MEDICAL SOCIAL SERVICE AS A REQUIREMENT

The group of medical interns we surveyed was a mixed group from both private and public school backgrounds. Nonetheless, when asked how much they agreed with the requirement to do social service in order to receive their degree, the average answer was 17 points out of a 0-to-100-point scale, showing just how much medical interns do not agree with the necessity to comply with social service.

What Caused This Problem?

Social service in Mexico dates to 1936 but there have been no notable changes in the way it works. However, the country's needs have changed and evolved since social service was first introduced nearly 90 years ago.

Fundamentally Flawed Healthcare System

When it was created, the public healthcare system was designed to give coverage based on employment: only people who worked had access to free, or affordable medical attention. It started with the Mexican Social Security Institute (IMSS). A few years later, another institute was created to give health coverage to those who worked in public service — the Institute of Social Services and Security for Civil Servants (ISSSTE). Since its earliest stages, the Mexican healthcare system discriminated against people who did not work and was meant for only those who did. In other words, the basic human right to access healthcare was tied to work.

By the 2000s, half of the population remained unable to access public healthcare. In 2003, the government designed significant public policies to ensure a universal healthcare system able to provide medical attention to everyone, regardless of their employment status. This Popular Health

Insurance (or *Seguro Popular*) began operating in 2004 and offered subsidized health insurance for people who could not receive coverage under IMSS or ISSSTE.[13]

Within *Seguro Popular* people could access only the hospitals or clinics covered by their particular insurance. For example, a worker covered under IMSS could get medical attention in an IMSS clinic only. However, if that healthcare unit couldn't provide care at a particular moment, the person would have to wait until treatment became available. Patients often had to wait until their clinics had the treatment or medicine they required. In her interview, Karla told us that one of her patients had diabetes and had been waiting for medicine to treat it. One day, Karla got a call from the hospital nearest to the community saying that they had received a shipment of insulin and diabetes treatment. She quickly called her patient to let them know about this. The patient went to the clinic to get the prescription they needed for the medicine and then headed straight to the hospital where the medicine had arrived. But the doctors there said that there was no diabetes treatment available. The patient, after travelling around an hour and a half to get to the hospital, went back home empty handed.

In 2012, President Enrique Peña Nieto created a National Development Plan to further increase universal healthcare coverage and to ensure that it was accessible to everyone. Although this plan sought to ensure that resources were at hand so people could receive proper treatment when they required it, to this day, healthcare coverage is still not a reality for everyone and these new public policies also affect SSMIs.

Outdated Social Service

Social service was once a "key to initiating public health in rural areas."[14] It was a way to introduce healthcare to citizens who had no formal employment and lived far away from the city. SSMIs may have aimed to correct issues in the healthcare system but in practice they are used as a band-aid to cover an open and bleeding wound. Every year students are sent to rural clinics and given major responsibilities with nearly no supervision or help. Although they may have had hands-on experience during their previous school years, they are still not doctors who are licensed to perform surgeries or procedures on patients. And they cannot opt out because social service is a prerequisite for graduation.

Medical Interns' Role

Social service medical interns (SSMIs) are sent out to rural communities and assigned to a clinic where they are responsible for evaluating and treating every patient who visits that clinic. They are often accompanied by a nurse, but because nurses can perform only limited procedures, it is up to the SSMI to do most of the work — and rarely with supervision. Higher-ranking medical professionals are mostly situated in the main hospital near the jurisdiction, which can range in distance from a 30-minute drive to over a three-hour trip.

Many SSMIs describe how they definitely did not feel prepared to fully take on being the only health professional in a community. What limited hands-on experience they did have is mostly in city hospitals where more resources are available. In rural communities they have to make do with what's available to them, which usually means not giving patients the exact treatment they require.

One SSMI told us how she was taught to properly treat a viral disease. But when she was running a clinic in the Doctor Arroyo jurisdiction and had to treat a patient with that disease, she did not know the medication's potential side effects. On her own, she had to figure out what medications she

13 "Mexican Healthcare System Challenges and Opportunities," ManattJones, January 2015.

14 Michael Sherraden and Margaret S. Sherraden, "Social Services and Adolescents," *Children and Youth Services Review* 13, no. 3 (1991): 148.

could combine to deal with the virus while also reducing the side effects of the antiviral. She had no one to ask or go to for help — the patient had an un-comfortable experience and she was responsible.

Another SSMI shared how, in addition to their role as the area's medical professional, some students are given responsibilities as a "promoter." The promoter goes around the area checking on people's living situation. Sometimes, they have to change light bulbs and do repair work on houses. These students are not only in charge of the community's healthcare, but they also must go around town checking up on everyone's houses and reporting this information to the Health Department.

Many student doctors have also experienced violent events. Right now, all the roads leading from Monterrey (the main city in Nuevo León) to Doctor Arroyo and nearby communities are frequently sites of violence. The news regularly reports kidnappings, armed robbery, and organized crime activities along the roads and within the communities. Sofía, an SSMI, told us a story about one of her friends who was driving in town and being followed by a truck. Her friend told her that she should not accelerate or stop because the people in the truck had weapons and she was afraid that something could happen to her. She also said that recently an organized crime cartel entered the community she was working in and began causing disturbance among the people. Sofía and her colleagues wrote a letter to the medical authorities saying that they felt unsafe. The authorities sent a representative to tell them that they had to take care of themselves and that there was nothing else they could do because they are not responsible for security.

What Social Service Medical Interns Need

To achieve universal health coverage, medical students must no longer be treated as a fix for a flawed healthcare system. They are working for a system that hardly even acknowledges them. The social service system has to be reevaluated and modernized to fit Mexico's current requirements. Entrusting students with the responsibilities of healthcare professionals doesn't serve the best interests of either the communities or the students themselves. Resources ought to be better allocated for medical professionals working in rural areas. The deficiency of resources limits the medical attention and support they can provide for community members.

The increasing violence in the communities should also be a concern. SMMIs need protection and ways to guarantee their safety — it is not fair for them to be threatened by violence while having to take care of themselves without the authorities being concerned about it.

RELATIONSHIP TO SUSTAINABLE DEVELOPMENT GOALS

The United Nations Sustainable Development Goals (SDGs) that apply to this situation are: (3) good health and well-being; (4) quality education; (5) gender equality; (10) reduced inequality; and (16) peace, justice, and strong institutions. The state must consider the SDGs to improve the health care system in rural areas, and protect the integrity of SSMIs.

Good health and well-being. Public institutions are essential for people to have access to reasonable treatment but in rural areas most of the personnel in health units are students used as cheap labour by the state. Target 3.4.1 of this goal is to "reduce mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease." The government is not acting toward this target in rural areas.

Quality education. SSMIs are concerned about their preparation for the National Examination of Applicants for Medical Residencies (the acronym is *ENARM* in Spanish). Based on their grade on this exam, applicants have more chances to apply for different residencies to specialize. However, most students do not have the conditions to study for this exam while completing social service in a rural area. Target 4.7 of the SDG goal mentions:

> By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, *human rights, gender equality, promotion of a culture of peace and non-violence*, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development. (our emphasis)

The state does not provide the security for SSMIs to complete their studies safely. Some interviewees were afraid of organized crime in rural areas. In some healthcare centres, SSMIs are alone — they must learn on their own, with no assistance. Some SSMIs told how they encountered hostile, sometimes-dangerous patients. And women SSMIs described how they did not have the same respect that male interns experienced.

Gender equality. Women SSMI didn't feel safe and they had experiences that normalized different kinds of gender violence. The first two targets of this SDG are "End all forms of discrimination against all women and girls everywhere," and "Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation." The state must provide security to women and girls in Dr. Arroyo, both community members and SSMIs. The normalization of stalking or harassment is a dangerous indicator of the lack of equality — no violence should be tolerated or justified.

Reduce inequality within and among countries. People who live in rural areas have fewer opportunities than those living in urban areas. In rural areas like Dr. Arroyo, people must adapt to the medications they have available because there are not enough healthcare units or pharmacies. Meanwhile, people in urban areas can attend a nearby pharmacy looking for a specific medicine. Target 10.2 of this goal mentions "Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard." This means that people of a low socioeconomic background must not be discriminated against, especially when it comes to public goods; they deserve good quality health attention.

Promote peaceful and inclusive societies for sustainable development; provide access to justice for all; and build effective, accountable, and inclusive institutions at all levels. The public health care system needs to improve its administration of material and human resources. Target 16.5 is "substantially reduce corruption and bribery in all their forms." Reducing corruption could make a positive change in transparency and management of medicines and material resources in rural areas. The state must have strong institutions to serve the people and achieve the SDGs of the 2030 agenda.

Figure 10. Mobile medical clinic en route to Doctor Arroyo

Lessons Learned and Possible Remedies

The program for social service medical interns (SSMIs) in Mexico needs to be restructured. The data on the program are unreliable, supervision of SSMIs is inadequate, and clinics are dangerously underresourced.

Unreliable Data

Official public information — about SSMIs' living conditions, the number of patients they see each day, the diseases these patients have, and the resources available in each clinic — is far from the truth. Multiple SSMIs told us how the reports they provide with information to the authorities regarding consultations patients, diseases, and treatments are often altered to fit quotas. An intern named Maria told us "you might report some consultation numbers to your superiors, and they bloat them."

We often hear that what is not measured cannot be improved. Without clear records of SSMIs' actual living conditions, the number of patients they must treat daily, or the medicine that they are given to provide medical attention, it is nearly impossible for society to pressure the authorities to improve support to social service. And without information on these issues, authorities can overlook these problems and continue to ignore them.

SSMIs are still students working full-time jobs that they are underpaid for. Many of their basic human rights related to decent living conditions and work are being violated and nobody is doing anything to help them because nobody knows what they are going through. Once everything is properly documented and registered, it will be easier to find the areas of opportunity to implement reforms to the social service program that will help the SSMIs and the communities they serve.

Lack of Supervision

In the *Norma Oficial Mexicana* NOM-009-SSA3-2013 (points 6.3 and 6.8), the regulation stipulates that authorities and universities should coordinate to protect, supervise, and advise SMMIs but in practice almost none are mentored

or cared for.[15] The interns are almost always alone and have to endure responsibilities that are often beyond their skillset. Their supervisors see them only once or twice a month.

To make medical social service work, authorities and universities must coordinate. Since SSMIs are working for public health institutions, it is fundamental that universities are fully involved in every process because these interns are still their students. Universities ought to pressure authorities to ensure that interns have favourable living conditions and resources so that they are able to perform their duties adequately.

Lack of Resources

Most interviewees lacked the proper medicine and tools to provide the correct treatment for patients. This leaves interns vulnerable to the community's complaints and possible hostile behaviour. Being the only person in charge of providing healthcare for a whole community is obviously unsustainable. SSMIs, aside from their jobs, often look for donations to buy the correct medicines for their patients, even though this is technically prohibited because supposedly the government stocks the needed treatments. Interns told us that the people in charge of distributing medication and equipment for procedures are often business administrators who don't understand what each medicine is for. This means that sometimes the clinics have a lot in stock but not necessarily the medicines that they need. Appropriate oversight is crucial for appropriate distribution of medicine and supplies.

Losing Faith in the Profession

SSMIs, after going through their period of social service, graduate and obtain their licenses to practice as general doctors. After this, they have the chance to specialize in a particular area of medicine. However, many interns we interviewed told us that after going through the hardships of social service, they decide to leave the medical profession entirely. This is a direct consequence of the struggles they faced during their times as interns. The country is losing doctors because we aren't providing interns with the support they need.

Independence from Political Influence

Each new government alters the healthcare and social service systems. In a democratic system, institutions ensure that public policies are consistent across different administrations. However in Mexico, there are no institutions that can hold other authorities accountable for what happens under their watch. In other words, no one is auditing or inspecting what executive authorities are doing regarding the healthcare or social service systems. Access to healthcare should not depend on the political party that is in power at a given time. We believe that by establishing an independent institution that is less susceptible to being changed every six years following an election, the healthcare and medical social service may finally have the stability it deserves to flourish. There has to be more continuity and less political influence.

In Mexico, we have several institutions that are a part of the public federal administration but remain independent from the executive power to perform technical jobs, for example, the Bank of Mexico (Banco de México). Constitutionally, the bank is given the power to independently decide on its own functioning. Replicating this independence in the healthcare system and the medical social service might create more stability and continuity in these institutions' work, ensuring that health is accessible to everyone and that medical interns are treated as they deserve to be.

15 *Norma Oficial Mexicana* refers tos a series of official, compulsory standards and regulations for different activities.

Research Team

Montserrat Chagoyán Herrera is in her sevententh semester of a bachelor's degree in law at Tecnológico de Monterrey. Her interests in social justice, reducing inequalities, and the protection of human rights continue to guide her involvement in various projects as a volunteer. She has been a member of the Criminal Law Clinic and the care booth for victims of gender-based violence. Montserrat has held leadership roles in her university's student groups such as Girl Up and the Law Students' Association, organizing the 2022 International Law Symposium and serving as president in 2023. She is passionate about helping reduce gender inequalities. Since September 2023, Montserrat has worked in CEMEX Compliance Legal Department as a legal intern.

Marisol Urías Luna is currently in her seventh semester of her bachelor's degree in law at Tecnológico de Monterrey. She now serves as a legal intern at Proeza. Her research explores the determinants of social activism in Mexico from the perspective of citizens. Marisol's passion for social justice and human rights has motivated her to volunteer at the care booth for victims of gender-based violence at Tecnológico de Monterrey's legal clinic. She has also dedicated her time and efforts to SAMPIN, a nonprofit therapeutic shelter that provides support to individuals with mental health challenges living on the streets.

Gonzalo Mendoza Olloqui is pursuing a double degree in economics and government and public transformation at Tecnológico de Monterrey. He is interested in data science and in creating long-lasting positive effects in communities through the use of effective public policies. Gonzalo is also part of Tec's varsity basketball team and actively participates in multiple alumni societies on campus.

Luis Ángel Hernández Ruiz is pursuing a double degree in law and international relations and currently serves as a legal intern at CEMEX. He has served as a research assistant with Noria Research and the School of Social Sciences at Tec, and contributed to MexiCovidApp. At Impunidad Cero, he researched corruption in Mexico and developed a legal framework of action to address this pressing concern. Luis Angel was also the senior writer at *Dicho y Derecho*, the academic journal of the Association of Law students.

María Karina Elizondo Villarreal is in the seventh semester of her bachelor's degree in law at Tecnológico de Monterrey. She is interested in discovering ways to reduce social inequalities and making sure every person has access to justice. Karina is also passionate about educating people so they know their rights and how to fight for them. She's always been an active member of her community and has joined different student groups throughout her studies at Tec. Last year she served as editor-in-chief of *Dicho y Derecho*, the academic journal of the Student Association of Law students. Since February, Karina has worked at BFT Legal Consulting as a legal intern in the corporate area and she was recently

accepted as a member in the International Legal Honour Society Phi Delta Phi that distinguishes students who are committed to their academic achievement and professional ethics.

Iza María Sánchez Siller is a professor at the School of Social Sciences and Government at Tecnológico de Monterrey. She graduated in law from the Tecnológico de Monterrey and holds a PhD in social sciences, with a specialization in migration and public health, having completed research stays at Mississippi State University and University of Trento in Italy. Her current work on social development focuses on gender and violence from a sociological and legal perspective, especially with domestic migrants, through projects with Indigenous communities within the Monterrey Metropolitan Area. Sánchez Siller is co-founder of the program "Promoting Gender Equity in Adolescents and Young Women in Rural Areas" in Mitunguu, Kenya — a program that works with local high schools to reinforce the importance of higher education and decision making.

Founded at the University of Toronto in 2015, with support from the Mastercard Center for Inclusive Growth, the Reach Alliance has since scaled to seven other leading universities around the world. As a student-led, faculty-mentored, research and leadership initiative, Reach's unique approach uncovers how and why certain programs are successful (or not) in getting to some of the world's hardly reached populations. Research teams, comprised of top students and faculty from across disciplines, spend nine to twelve months investigating each case study. Once the data collection process is complete, teams write case reports that are published and disseminated across the Reach Alliance's diverse network of policymakers, practitioners, academics, and business leaders.

Inspired by the United Nations' call to eliminate global poverty by 2030 as part of a set of Sustainable Development Goals (SDGs), our mission is to pursue the full achievement of the SDGs by equipping and empowering the next generation of global leaders to create knowledge and inspire action on reaching the hardest to reach.

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