

# The Shortage of Local Anesthesia and Palliative Care Medications in Minor Postoperative Orthopedic Surgical Procedures in Ecuador

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## Abstract

This white paper discusses the Ecuadorian healthcare system specifically the lack of proper anesthesia and post-operative pain medication and touches base with centralized hospitals. This paper articulates the specific problems inhibiting the usage of these proper medications, specifically looking at a hospital in Quito, Ecuador. Present day tribal situations are also discussed as they are a significant part of the population that is affected by the shortages of pain medication and anesthesia. Solutions are presented to solve the problems the country faces and how it is relevant today.

## Keywords

Healthcare, Ecuador, Anesthesia, Medication, Centralization, Reform

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## 1. Introduction

The healthcare system in Ecuador has been an ongoing public issue for decades and the citizens have been seeking for a change for years. In 2008, they finally saw significant reform based on the principles of Alma Ata guiding the country to achieve Universal Health Coverage [1]. Ever since the sweeping reform has been introduced, Ecuador's public health system vastly improved with people receiving coverage in both rural indigenous areas and populous cities. However, recently the centralized hospitals and lack of local anesthesia and palliative care medications have created an immoral issue amongst the people of Ecuador.

## 2. Issues in Ecuador Healthcare System

### 2.1. Experience in Quito

The need for the allocation and refunding of resources towards better palliative

care in mid-income countries like Ecuador is integral to the medical practice overall and the quality of care. Palliative care, often known as comfort care, is an interdisciplinary medical caregiving approach aimed at optimizing the quality of life and mitigating suffering among people with serious, complex, and often terminal illnesses. The public hospitals in the capital of Ecuador, Quito are facing a critical shortage of equipment and medications. Particularly troubling is the marked absence of opioid pain medications and anesthesia. During minor and major post-op and surgical procedures, patients are forced to endure agonizing and inhumane medical methods, sometimes causing more harm and damage to their bodies than when they came in.

In the public San Francisco Hospital (IESS) de Quito, physicians and medical students were asked why local anesthesia was not used during painful minor orthopedic procedures like de pinning, they answered the procedures were not “painful enough” to use anesthesia and that the patients will be able to endure this.

In our daily life, palliative care is needed for body aches and pains caused by any of the common flu, cough, fever, cuts, burns, cramps, and soreness, among others. These need the use of painkillers, whether they are cough syrup or painkillers. In a modern city like Quito, many pharmacies were visited to obtain these medications. Surprisingly, in a major city, they were unavailable. They have a lot of natural substitutes but no over-the-counter pain medication. This led us to focus on opioid-based pain-relieving medications and anesthesia in our study and understand the reasons for the lack of availability of these medications that are taken for granted in advanced countries like the US and Europe. Opioids and opiate pain-relieving medications are so broadly prescribed in countries like the US that there is a glut of them where both drug companies and doctors facilitate their use. But in Ecuador, not even the patients undergoing surgery can get them. This can be attributed to poor medical facilities, lack of sterile equipment, inaccessibility to prescription medication, and inefficient or botched surgical post-op procedures.

## 2.2. Financial and Medical Professional Hardships

The government uses 9.16% of the country’s GDP on the public healthcare system in comparison to the United States which uses 17.7% of the GDP for its healthcare system [2]. But given that there are fewer surgeries to begin with in Ecuador, this dearth of pain medication is puzzling. When compared with the United States, anesthesia and pain medication are used liberally in all procedures, regardless of their importance. From getting stitches to performing heart surgery, anesthesia is provided at any cost. Pain medication is found at every corner and is relatively attainable. If there is not enough money for surgeries in Ecuador, then the surgeries being done should at least have easy access to local anesthesia and opioid pain medication for all surgical procedures. Local anesthesia costs in the range of \$30 - \$35 per unit [3]. Opioids are \$5 - \$10 for a 20-count box of them [3]. Opioids are too expensive to treat people and companies are not aware of the need for cheaper access to opioids so they don’t apply for proper licensing to produce them. Lidocaine costs \$11 for 20 milliliters of the injectable

solution [3]. In an economy like Ecuador, these prices are steep and make it difficult for public hospitals to justify purchasing enough medication. Financial decisions of the hospital are solely interested in maintaining the critical care finances of the hospital, and they don't necessarily consider the ethical dilemma at hand with the shortage of pain medication and the mistreatment of patients' operations. Physicians feel pain medication is more of a luxury rather than a necessity. Patients who are treated and insured by the public healthcare systems are typically low income and don't have the financial means to purchase their own narcotics. When the finances were presented for the IESS, adequate funds were being spent on anesthesia, but they were only being used for major orthopedic surgeries and not for minor surgeries. Even with this single use, many patients still faced agony when getting nails removed from an ankle, as they would not have a proper anesthesiologist to administer this drug in an appropriate amount and dosage. Additionally, almost no salaries were going to the anesthesiology department. This means that because of the lack of anesthesiologist doctors, salaries was not needing to be paid. In a public hospital that has a shortage of funding and resources from the government, they deemed it unnecessary to hire anesthesiologists. A study by Dr. Paul Farmer highlights this issue in a 2008 paper in the World Journal of Surgery. For example, though the GDP spending on health care for Ecuador is half of the US, the number of anesthesiologists per 100,000 population in the US is 20.82 while in Ecuador it is 1.8 per 100,000 population [4]. He goes on to say that "major financiers of public health have shown that they do not regard surgical disease as a priority even though, for example, more than 500,000 women die each year in childbirth; these deaths are largely attributable to an absence of surgical services and other means of stopping postpartum hemorrhage" [4].

When a medical student was asked why the orthopedic unit does not use local anesthesia for lidocaine, she said it is not necessary since the patients can endure the discomfort of most of the procedures. Since the finance department is not providing the proper anesthesia and opioid pain medication for operations it forces the doctor to be ethically okay with performing procedures without this pain reliever. If the doctors had proper access to these vital medications then people wouldn't have to suffer and the doctors would not be crossing an ethical line. The lack of anesthesiologist physicians in a general hospital is a major contributing factor to the inadequate administration of lidocaine and other general anesthesia. Many of the orthopedic surgeons were the ones administering the anesthesia in major surgeries if any. In the postoperative clinics, some doctors worked in two starkly different medical fields like a dermatologist who was also in orthopedics. Because of the short staff and the short supply of physicians, without a proper anesthesiologist, many doctors do not want to have to go through the extra effort of providing comfort palliative care to patients if that is not their specialty.

The negative feedback from the patient also spreads making the anesthesiologist's life difficult. When patients didn't receive sufficient or prolonged medication then they tell the administration that the anesthesiologist did not assist

them properly which leads to hospital administration putting limitations on the number and hours of the anesthesiologists. This was especially exacerbated during the health care reform by former President Rafael Correa. During this time the health care system became more centralized with the consolidation of many rural hospitals into larger centralized hospitals administered by the central government. With this physical distance between the hospitals and many rural areas, many patients now have to travel farther with a longer stay outside of their communities, which means their livelihoods are affected, leading to delays in scheduling surgeries. Also under the centralization of the hospital budgets, anesthesiologists' hours are limited to only 8 hours per day rather than 24-hour coverage, leading to systemic difficulties and a significantly lower number of anesthesiologists having to cover many surgeries where the surgeons themselves have limited hours to treat patients [3]. All of this translates into a general belief in the medical community that anesthesia and pain killers are luxury medicine and not critical medicine and due to the centralized decision making and isolated decision makers, the budget allocations look the other way on luxury medicines. This further deteriorates the anesthesiologist and patient relationship. Anesthesiologists are both ways affected, and underfunded by the administration and patients have misgivings about their services and specialization or challenges to fit into their schedules.

Doctors who are already giving preexisting pain medication are unsatisfied with the job they are doing for their patients. Ecuador should be listening to doctors who are administering this medicine to the patients, and if these doctors are clearly unsatisfied then change must be made. This infographic shows how almost 56% of people are diagnosed with a disease that involves pain which goes to show how more than half of the people coming would be in need of pain medication to help soothe the complications (Figure 1). Making people suffer is

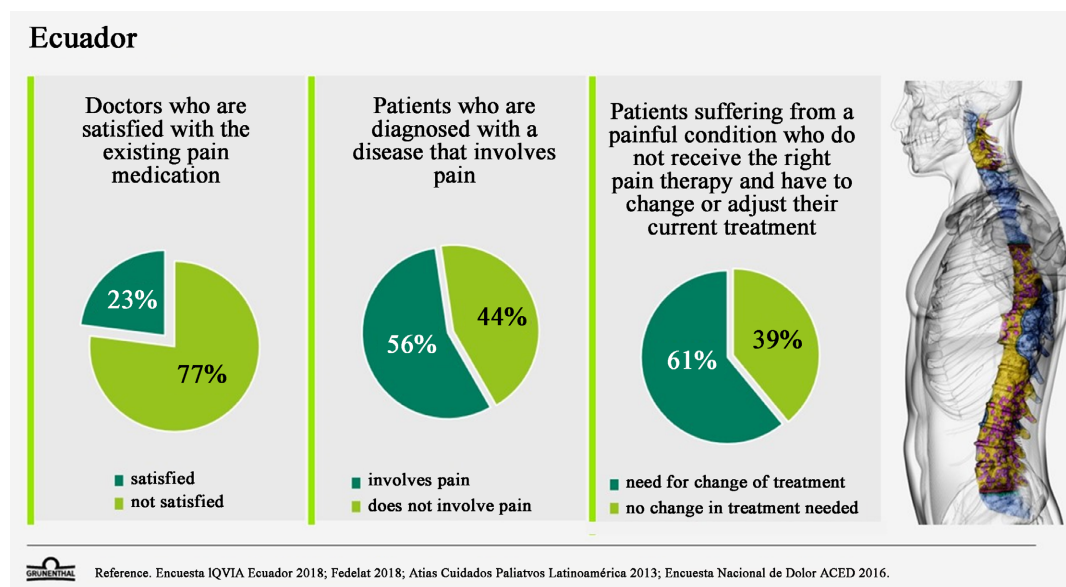


Figure 1. Ecuador's Treatment of Pain (PLACE THE PICTURE HERE).

inhumane and violates the basic morals of mankind. The following pie chart shows that 61% of people are going to be needing more pain medications than they are already being given during their treatment (**Figure 1**). This infographic displays how people who are given medication initially are still lacking enough medicine to soothe the discomfort. These patients who are clearly in need must be given the proper amount of pain medication instead of being sent home with inadequate amounts of it. With Ecuador expanding, it becomes more important to expand the already established healthcare system in place. Continuing to allow the mistreatment of people will only hurt the country, but there is still a chance for country-wide reform that can enforce quality and efficient care.

### **3. Potential Solutions**

#### **3.1. Adjusting the GDP**

Ecuador needs to allocate more of the GDP toward the healthcare system so that hospitals can have access to more pain medication. Right now, the country has vastly improved its economy compared to the past, allowing the GDP to be re-configured to distribute more money toward the healthcare system. The most recent report shows that the healthcare system is currently given 9.16% of the GDP. Increasing that number to at least 11% will create a lasting impact on the future of hospitals. At a glance, the number seems insufficient, however, increasing the budget of this sector will grant over a billion dollars to the much-needed healthcare system. This can be achieved by assembling a finance team for the country that finds ways to better prioritize the country's money and secure funds to provide proper pain medications to patients.

#### **3.2. Educating Finance Departments and Manufacturing**

Currently, finance departments in local hospitals are entirely unaware of the enduring effect their decisions cause. The country needs to educate finance workers in the hospitals on the importance of prioritizing the patient so that they can know the harm they have been inflicting. This would further prevent improper usage of the hospital's financial resources and allocate it toward more important things, like anesthesia and opioid pain medication. Another critical step involves encouraging local companies to produce these products so that it is relatively easier to attain and might keep the price lower as there is no need to import them into the country. If companies are hesitant about investing in this market, then the government should introduce incentives for businesses that manufacture pain medication in Ecuador. Companies that create a strong market in Ecuador may export their products internationally as well, thereby providing economic benefits. Ecuador can reap the profits from the global market and insert that extra money right back into the healthcare industry.

While attaining more medication is vital, Ecuador must make sure to not put the cost of the medications on the patient, and instead minimize the cost overall. It may be a good idea to consult other countries, such as allies in the United Na-

tions if the government needs more money or resources to provide access to these medications. Until there is incentive from the financial department in the hospital to obtain medications, there is no demand for companies to currently manufacture analgesics. To attain proper pain medication, one or multiple of the solutions listed above should be executed to repair the gaping hole in the health-care system.

### 3.3. Hospital Reform

Prioritizing the usage of lidocaine for patients is essential in repairing the trust between hospitals and communities. Hospitals should mandate doctors to inform patients of the drugs they will administer to avoid any fear and allow for a smooth procedure. Patients who are undergoing major orthopedic surgery are more likely to go under anesthesia than endure surgical pain. While the patient can decide whether to use anesthetic or not, in most cases patients are more willing to use the anesthetic. Tribes are aware of the painful suffering inflicted by hospitable care. To avoid going to local hospitals, many natives choose to endure agony on their own rather than withstand the pain imposed by modern medicine in Ecuador. Indigenous drug manufacturers can play a key role in producing pain medications, as many indigenous tribes are frightened by modern medicine. By implementing these manufacturers, tribal people will feel safer while being treated with medications because it has been created by the community, they put their faith in. To address the problem of the lack of anesthesiologists and their limited use, Ecuador can campaign to hire more medical professionals to help administer anesthesia to patients in minor surgeries. The health departments should allow anesthesiologists to work 24 hours so that patients are taken care of all the time. Looking at the average salary for anesthesiologist in Ecuador, it shows that the annual salary is \$24,000, which is the lowest salary out of any other physicians working at the hospital [5]. Therefore, hiring more anesthesiologists would not take on as substantial burden as the financial department believes. Lastly, educating health officials on prioritizing local anesthesia allows policies to be introduced that can further enforce the protection of patients while getting procedures done.

Cross-country collaborations to license these palliative medications instead of primarily relying on in-country-made medications could increase the efficiency, cost, and distribution of these medications. Instead of hospitals prescribing pain medications, the patient is subject to going to a pharmacy and getting low-dose ibuprofen instead of the proper opioid medication with sufficient and accurate efficacy and potency. Public resources need to be expanded on providing this anesthesia even in major surgeries like inserting nails into fractured bones. Perhaps the government's sentiment and views on the widespread use of pain medications are the problems or even the public sentiment and views on the use of pain medications. Certainly, it is the physicians' and medical practitioners' views on the "unnecessary" use of pain medications in necessary major and minor or-

thopedic procedures in both the clinic and the operating room that have left the practice unchanged for years. Altering the stigma that has been in place by medical professionals will not only improve the quality of care administered to the patient but also allows doctors to restore faith in the medical field. Doctors and medical professionals who have assimilated in allowing patients to endure excruciating pain will now be able to feel better towards the patient after a procedure is performed. Medical discrimination against underserved populations with lower socioeconomic status has created a rift in the proper treatment of patients. If they cannot afford private hospitals or if their insurance does not cover, insurance companies should cover the cost of using anesthesia. Though public health care is free, we need to understand whether there will be expenses for the patients and if anesthesia is charged separately.

### **3.4. Mobile Units**

One solution to centralized hospital care is many mobile units being positioned across the much-needed areas outside of big cities. There is a lot of research going on where orthopedic surgeries, cardiological surgeries, C-sections, and road accident surgeries can all be done in surgical mobile units. Part of the proposed increase in GDP can be used to mobilize big vehicles or trailers that have all the necessary medical equipment required to perform common procedures. Creating mobile units can limit the time people wait for important surgeries, and of course, all anesthesia and pain medication would be provided in the unit. This would be extremely beneficial to people who live in rural areas like the indigenous people. They always have a hard time accessing medical resources because of how far they are. These remote hospitals can create a stronger bond in the indigenous community and gain the trust of the tribes.

## **4. Conclusion**

With the healthcare system in Ecuador already being reformed, it might be harder than expected to see a real change. But a bigger concern involves the way patients are being treated in the system, where people are forced to suffer with their pain. As more patients are being nursed every day, the policy needs to adapt and change to better suit the public. The financial institutions that control the funds of the nation need to become aware of the inhumane pain that is being inflicted upon their people. Doctors who are unable to provide the proper pain medication are having to endure watching their patients go through excruciating amounts of pain. As a result, doctors have learned to shield their focus away from a patient's priority because of their inability to have access to proper pain medication. For change to occur, the people in authority must be educated on the effects that neglecting pain can cause on a patient's mental health and perception of medicine. As an outsider, one may believe the nursing of patients is unimportant in Ecuador and they have every right to suppose so. Citizens have become accustomed to unsolicited care and it is now engraved in people's minds. Since

they are so used to it, many people do not see an issue with the way patients are treated in the system. The recent indigenous protests in the summer of June 2022 have shown the world the issues at hand in the Ecuadorian government. Among many things, citizens want to see a change in the healthcare system as there are complaints about the shortage of necessary medical supplies and lack of ambulances. The indigenous people reached a deal with the government and ended the protests. The government will have 90 days from July 1<sup>st</sup> to offer solutions to meet their demands. The solutions offered above give a plethora of options to the Ecuadorian government. Executing most of the proposed ideas might be a tough challenge in the parliament, but even accomplishing some of the goals will create a drastic difference in patient care throughout the country. With the most recent substantial reform occurring in 2008, it is due time for a sweeping change in the healthcare industry. If Ecuador imposes new reforms in the near future, it can become one of the best healthcare systems in the world.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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