What do Ecuadorians think about the Ecuadorian Social Security Institute (IESS)?

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ABSTRACT

The Instituto de Seguridad Social del Ecuador (IESS) is one of the most important actors in Ecuadorian health care. Lately, the IESS has been facing problems of various kinds that have been obstructing it in its attention to the public. In this analysis, an investigation was carried out on the public opinion of Ecuadorians towards the IESS. The purpose of this research is to better understand what citizens think about the IESS and the most frequent topics of conversation in order to find valuable insights for the improvement of the institute in the short and long term. To achieve this goal, the analysis extracted the most repeated words, the most retweeted tweet and the geographical location of the tweets.

Keywords: Twitter, API, IESS, Ecuador, word cloud, public opinion.

1. The Ecuadorian Social Security Institute

The article 32 of the 2008 Constitution stipulates that the permanent, non-exclusionary and timely access to health services is a guaranteed right offered by the Ecuadorian state through educational, cultural, social, environmental and economic policies (Del Ecuador, 2008).

The health system and services in Ecuador are divided in public and private. The Ministry of Public Health (MSP), the Social Security Institute of the Armed Forces (ISSFA), the Social Security Institute of the National Police (ISSPOL), the Ministry of Economic and Social Inclusion (MIES) and the Ecuadorian Institute of Social Security (IESS) are part of the public sector. On the other hand, the private sector is composed of for-profit institutions.

The IESS allows formal workers, including the agricultural sector, to be affiliated to the institute. In addition, the Social Security Law (LSS) of 2001 establishes the General Compulsory Insurance (SGO) of the IESS. Article 2 of this law states that "all persons who receive income from the execution of a work or the provision of a physical or intellectual service, with or without an employment relationship" are obliged to apply for SGO protection (Penal and Reformatoria, 2001).

IESS affiliates are entitled to medical, surgical, pharmacological and dental care. Affiliates are granted coverage in the following areas: "outpatient, emergency, curative, preventive and rehabilitative medicine through the provision of orthotics and prostheses; surgical care and hospitalisation; home health care; cash sickness benefit; and care in medical units outside the IESS" (Lucio et al., 2011).

The financing of the Ecuadorian health portfolio is expressed in Article 366 of the 2008 Constitution. This article explains that the financing of public health will be sufficient, regular and timely from the General Budget of the State. The Ministry of Finance is the institution in charge of allocating the resources provided by the State; however, unlike other public health entities, the IESS controls its budget autonomously with the approval of its Board of Directors. On the other hand, article 4 of the LSS lists 13 sources of financing for the SGO, among

which are: the obligatory contribution of both members and employers, and the financial contribution of the State (Penal and Reformatoria, 2001).

2. Shortcomings and problems of the IESS

Ecuador-Decide (2020), in its diagnosis of the IESS and the Ecuadorian Social Security Institute Bank (BIESS) published in 2020, emphasises that there are three critical points for these institutions: deterioration of their institutional framework, disrespect for their autonomy and lack of harmony between the LSS and the Ecuadorian Constitution. The setbacks that occur in the formation of the board of directors delay and greatly hinder the financial processes of the organisation. The lack of technological transformation leads to inefficient and slow processes, which most of the time affect the health of patients.

It is worth noting that the impact of the pandemic on the IESS's activities has been very damaging. Income from affiliation fell during the pandemic because of high unemployment rates, especially in the private sector. In December 2019 there were 3.73 million members, while in October 2020 there were 3.49 million members.

According to Pinchao (2021), the Development Bank of Latin America in 2021 concludes in its study, *Pension and health systems in Latin America: challenges of ageing, technological change and informality*, that the contributions of members are not sufficient to cover the costs of benefits for retirees. The fact that an average IESS member receives 5 times more than what he or she actually contributed makes the current IESS system unsustainable.

It is public knowledge that the IESS has problems with shortages of medicines, timely medical appointments and medical equipment and supplies. These problems have been going on for 4 years, something that has hurt the vulnerable population because of their health situation. Citizens have been making complaints about the poor care, and several of the problems mentioned above. Patience was exhausted on May 13, when the computer system of the IESS, which allowed the use of the various health services, collapsed (Espinosa, 2022). Thousands of citizens made their feelings known through various

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social networks, with Twitter being the most widely used due to its characteristics as a space for expressing opinions.

For this reason, research was carried out on the opinion of Ecuadorian citizens on the IESS. Using the Twitter API, 10,000 Ecuadorian tweets with mentions of the IESS were downloaded and from this information several results were extracted that will be presented below.

3. What do Ecuadorians think?

3.1. The most repeated words

From the sample of 10,000 tweets about the IESS on 8 August 2022, it was possible to extract the 20 most repeated words in the tweets. The three most repeated words were:

- 1. afiliados (affiliates).
- 2. gobierno (government).
- 3. salud (health).

The remaining 17 words can be seen in the following bar chart.

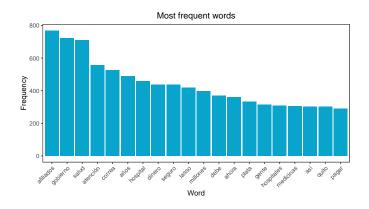


Fig. 1. Each bar represents a word, which is listed on the horizontal axis. The height of each bar is the number of times that word was repeated in the tweets analysed, e.g. the word *afiliados* was repeated around 790 times.

Subsequently, a word cloud was created, a graph that allows you to see the most used words in tweets but with a larger number of words than the previous bar chart which was limited to 20 words.

The three biggest words in the word cloud are the first three words in the bar chart, i.e. the most repeated. There are several related words that are covered by general themes. In particular, the words: payment, corruption, resources, millions, money, funds, pay, owe; are linked within a discussion of corrupt acts with the economic resources of the IESS and the financial difficulties the institution is going through.

Words associated with user dissatisfaction with IESS health services can also be observed. Worse, lack, broken, problem, bad, never, shift, service; are terms that reflect the dissatisfaction of IESS patients with their services, highlighting the lack of efficiency in the processes of appointment allocation, provision of medicines and patient care.

The privatisation of the IESS, described by the word *privatise*, mentioned 171 times, is a contemporary issue on the day of data extraction. The idea of privatisation of the Social Security Institute arises from the accumulating problems that are



Fig. 2. The word cloud has 50 words, the size of the word is relative to its frequency in tweets. This graph makes it possible to create visual relationships between repeated words and find patterns.

eroding the IESS. In 2021, Public Services International (PSI) examined the financial conditions of the IESS and accentuated the growth of the State's debt with the institution. According to Cornejo and Iturralde (2022), these circumstances lead to privatisation as an immediate solution. However, the state has reiterated on several occasions that it does not intend to privatise the IESS. In February 2022, Francisco Cepeda, then president of the IESS board, assured that the institution will not be privatised and that, on the contrary, they are working on the repowering of the hospitals (Davila, 2022). This confrontation of ideas translates into a citizens' debate, between people who are both for and against privatisation.

3.2. The most retweeted tweet

The most retweeted tweet was from user **@bonautill**. The tweet recounts a chilling and inhumane scene of a senior citizen abandoned and unattended inside the IESS Sangolquí Day Hospital.

3.3. What part of the country do most of the tweets come from?

To conclude the analysis, a geospatial data mining of the tweets was carried out to find from which sectors of Ecuador tweets referring to the IESS are published. From the original sample of 10,000 tweets, only those with the necessary information were chosen, and the sample was therefore reduced to 197 tweets.

The two largest points correspond to Pichincha and Guayas, provinces whose capitals are Quito and Guayaquil. There were 79 tweets from Pichincha and 62 tweets from Guayas. Six provinces of the coastal region are marked on the map: Esmeraldas, Manabí, Santo Domingo de los Tsáchilas, Santa Elena, Guayas and El Oro.

By contrast, in the inter-Andean region, 6 provinces are also



Fig. 3. Access the tweet via this link.



Fig. 4. Each of the dots represents a coordinate from which one or more tweets were issued. The size of each dot is relative to the number of tweets posted from that location, the larger the dot, the more tweets are coming from that location.

marked: Pichincha, Imbabura, Cotopaxi, Tungurahua, Azuay and Loja. As for the Ecuadorian Amazon, there are only records from Orellana. It is likely that the lack of tweets written from the Amazon region is due to the lack of internet connection points.

4. Implications

The analysis can be summarised as follows:

- The problems of the IESS have been accumulating for several years, something that is reflected in the negativity of citizens' tweets.
- The collective Ecuadorian conscience describes the IESS

as an inefficient, slow and worsening service.

- The tweets reflect that Ecuadorians associate the Social Security Institute with affiliates, government and health.
- The tweet with the most retweets features a health service that has reached ecpathy and inhumanisation of patients.
- Talking points such as corruption, lack of medicines and privatisation of the institute are highlighted.
- Most of the tweets come from Guayas and Pichincha. There is a significant decrease in the number of tweets posted from the Amazon region of the country.

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