

LEISHMANIASIS

Epidemiological Report of the Americas

PRESENTATION

The strengthening health surveillance of leishmaniasis in the Americas is one of the goals of the Regional Program of Leishmaniasis of the Pan American Health Organization - World Health Organization (PAHO-WHO), which together with the Member States has been working actively in this regard.

In 2013, we implemented a Regional Information System for Leishmaniasis - SisLeish - whose purpose is to aggregate and consolidate data on descriptive variables and occurrence of leishmaniasis in the region and to provide epidemiological information to managers and health professionals when making decisions. From 2012, through a joint effort of the National and Regional Programs of Leishmaniasis, variables and epidemiological and operational indicators were standardized to perform the analysis of interest. At the Regional Meeting of Leishmaniasis Programs-RepLeish- held in October 2013, the SisLeish was presented and discussed, and an annual schedule to add data to the system was established. In addition, relevant topics on diagnosis, treatment, monitoring and control were discussed. The conclusions and recommendations are available in Spanish in the Executive Summary at the following link:

<http://www2.panaftosa.org.br/static/repleish/index.html>

This report presents the epidemiological and operational situation of leishmaniasis in the Americas for 2012 and when possible it compares to previous years. This is a joint effort of all endemic countries in the region and shows some limitations and challenges that must be overcome.

EPIDEMIOLOGICAL SITUATION

Cutaneous and Mucosal Leishmaniasis

In the Americas, cutaneous and mucosal leishmaniasis is present in 18 countries. In 2012, 52,919 cases were reported. Cases were distributed in 16 countries in the region, but Venezuela and French Guyana didn't report data in the SisLeish. 82.6% (43,798 cases) are concentrated in Brazil and countries of the Andean sub-region (Table 1).

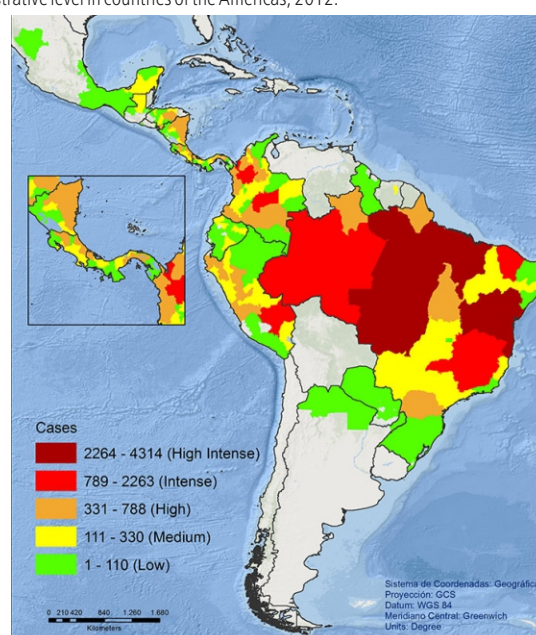
Table 1. Cutaneous and mucosal cases of leishmaniasis by sub-region, Americas, 2012.

Sub-region	N° cases	%
Brazil	23,793	44.9
Andean	20,005	37.8
Center America	7,937	14.9
Mexico	567	1.1
Southern Cone	350	0.8
No-Latin Caribbean	267	0.5

Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries within the Region of the Americas.

For these 16 countries, the cases were distributed within 192 first subnational administrative level units, corresponding to departments, provinces, states or regions. Figure 1 shows the number of cases of cutaneous leishmaniasis per first sub-national administrative level, and is categorized by Natural break into five levels of transmission: low, medium, high, intense and very intense, where the number of cases ranged from 1 to 4,314 cases.

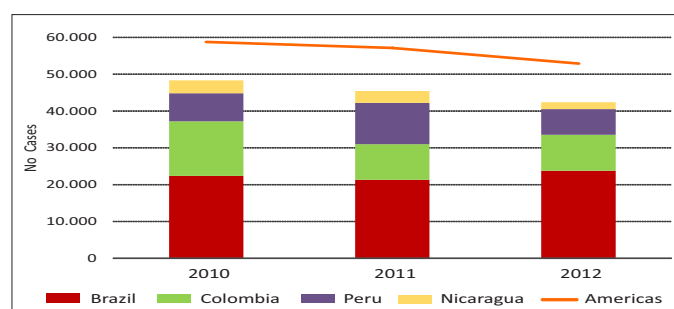
Figure 1. Distribution of cases of cutaneous and mucosal leishmaniasis by first subnational administrative level in countries of the Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

In an analysis of the last three years (2010-2012), a reduction of reported cases (9.3%) was observed. Furthermore, it was noted that more than 80% of cases are in four countries (Brazil - 40%, Colombia - 20%, Peru - 16%, and Nicaragua - 5%) (Figure 2).

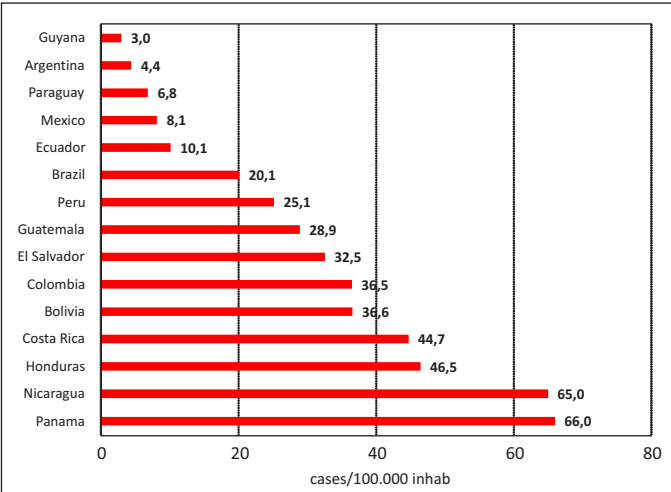
Figure 2. Distribution of cutaneous and mucosal leishmaniasis cases in the four countries that reported more cases in the Americas, 2010-2012



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

In 2012, the incidence rate was standardized for all countries, allowing comparative analysis between them. The denominator is the total population in the municipalities with transmission, so the results of the regional analysis may differ from the analysis carried out individually for each country. In 2012, the incidence rate of cutaneous and mucosal leishmaniasis in the region was 23.7 cases per 100,000 population, but the highest incidence rates were observed in Panama (65.9/100,000 inhab.) and Nicaragua 64.9/100.000 inhab.) (Figure 3).

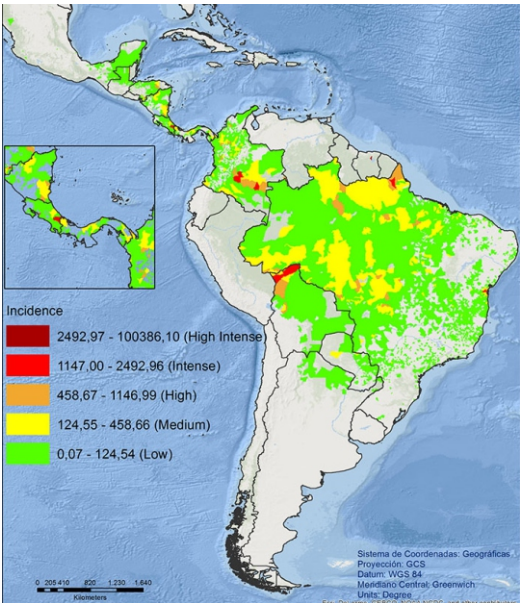
Figure 3. Incidence rate of cutaneous and mucosal leishmaniasis by country. Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

The incidence rate per municipality, the second subnational administrative level, shows a variation of 0.06 cases (low risk of transmission) to 1.829 cases (very high risk of transmission) per 100,000 population (Figure 4). The cases of this clinical form of leishmaniasis are distributed within 2,766 second sub-national administrative levels. However, in some countries such as Ecuador, Peru and Guyana this information is not available for this level.

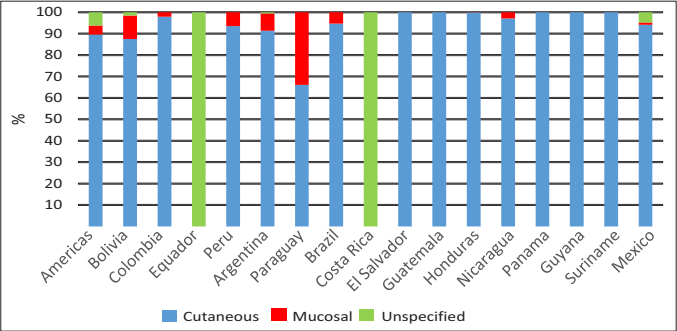
Figure 4. Incidence rate of cutaneous and mucosal leishmaniasis per 100,000 inhabitants, by second subnational administrative level. Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

In 93.8% of reported cases, the information of clinical forms is available: 89.5% (47,385) corresponds to the cutaneous form and 4.2% (2,244) to the mucosal or mucocutaneous form. Paraguay reported 33.9% of their cases as mucosal form, a proportion that is eight times higher than others within this region. Bolivia had a reduction in the ratio of cases of mucosal form, from 16.2 in 2011 to 10.9 in 2012. The clinical form of cases in Costa Rica and Ecuador was not available (Figure 5).

Figure 5. Proportion of cases of cutaneous and mucosal leishmaniasis by clinical forms and country. Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

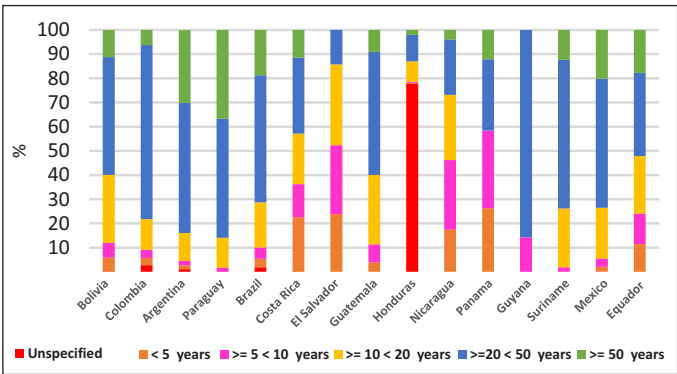
Gender information is available in 81% of the reported cases (43943 cases), 71.4% are male. In Panama and Costa Rica, the distribution of cases between the sexes was proportional, differing from the standard of other countries in the region.

Information regarding the age of the infected person was available in 82.6% (43,716) of reported cases. Of these, 72.1% (31,491 cases) were between 10-50 years old. Unlike the regional pattern, the cases in El Salvador and Panama occurred mostly in children younger than 10 years of age (52.4% and 58.4%, respectively) (Figure 6).

Laboratory criteria was obtained in 72.7% of the reported cases. In 19.8% of the cases, it was not possible to determine the criterion of confirmation used by health services; some of these cases were reported by Guyana, Costa Rica, Peru and Ecuador, where the criterion of confirmation is not specified for any case.

In 2012, only 31.6% of cases (16,702) specified clinical course. Of these, 99.4% were reported as cured (16,603) and 0.6% (99) as

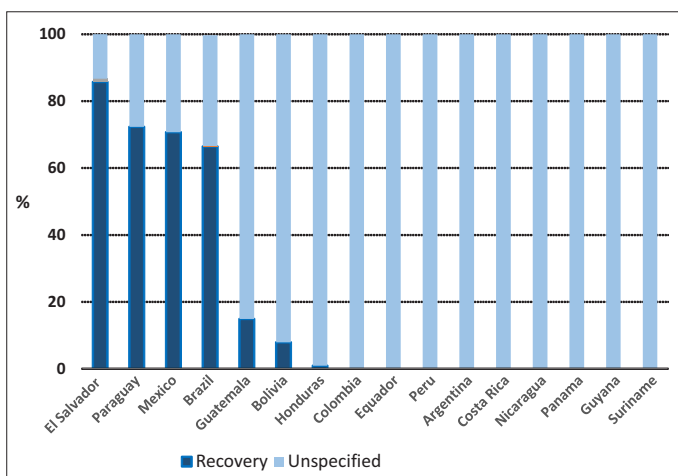
Figure 6. Proportion of cases of cutaneous and mucosal leishmaniasis by countries per age group. Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

deaths, with only Brazil recording mortalities. Of those countries reporting, El Salvador, Paraguay, Mexico and Brazil had the highest cure rate (85.7%, 72.3%, 70.7% and 66.5% respectively) - (Figure 7).

Figure 7. Proportion of recoveries to cases with an unspecified clinical course (cutaneous and mucousal) in the countries of the Americas, 2012



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

Visceral Leishmaniasis

In the Americas, 12 countries reported autochthonous cases of visceral leishmaniasis, and from these countries, five reported a total of 3,231 cases distributed in 781 municipalities during 2012. We observed a 19.3% reduction of reported cases compared to the previous year. Brazil accounts for 96.5% (3,118) of cases, followed by Paraguay 2.4% (76), Argentina 0.7% (24), Colombia 0.3% (9), and Mexico 0.1% (4).

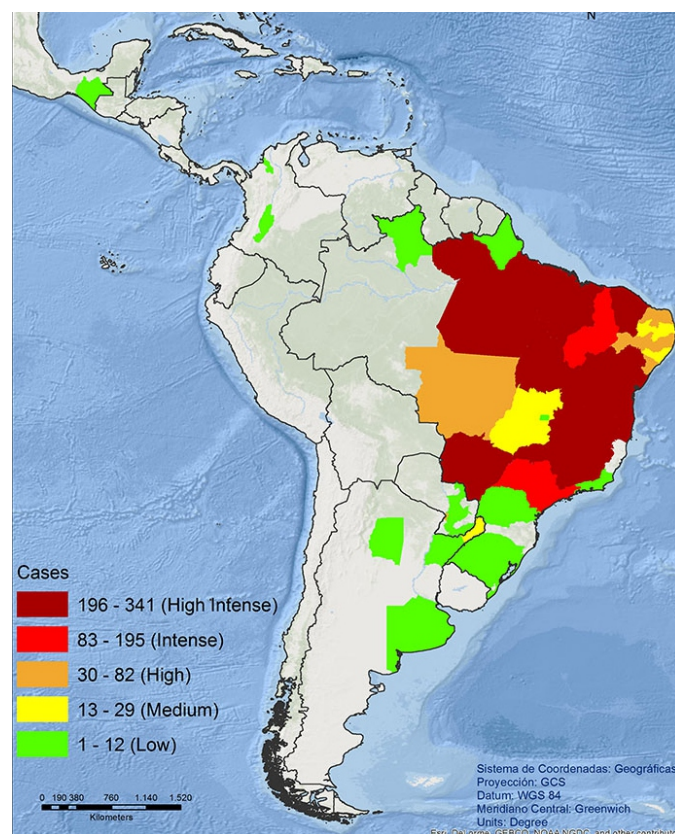
In Figure 8, we observed that in the five countries with reported cases in 2012, these cases were distributed in 40 first subnational administrative level units (departments, provinces, states or region) with a range of cases between 1 and 339 cases. For the second subnational administrative level, the interval ranged from 1 to 190 cases. We observed a record number of cases along the borders of Argentina, Brazil and Paraguay. This is an area that needs to implement surveillance actions, since the disease is expanding in the countries of the South Cone.

In 2012, the incidence rate of the disease in the Americas was 4.8 cases per 100,000 persons, ranging from 0.6 cases per 100,000 persons in Mexico to 5.1 cases per 100,000 persons in Brazil (Figure 9). As mentioned, the incidence rate of VL was standardized for all countries using the same method as for cutaneous leishmaniasis. The incidence rate per second subnational administrative level was calculated and ranged between 0.03 (low) to 465 (very intense) cases per 100,000 persons (Figure 10).

Gender and age data were reported in 99.2% of reported cases. The occurrence of the disease in males accounted for 62.7% (2,025 cases) in total. Colombia was the only country where females predominated (55.6%).

The majority of the reported cases occurred in children younger than 5 years of age, 33.1% (1,070 cases), a situation that was similar

Figure 8. Distribution of cases of visceral leishmaniasis by first sub-national administrative level, Americas, 2012.

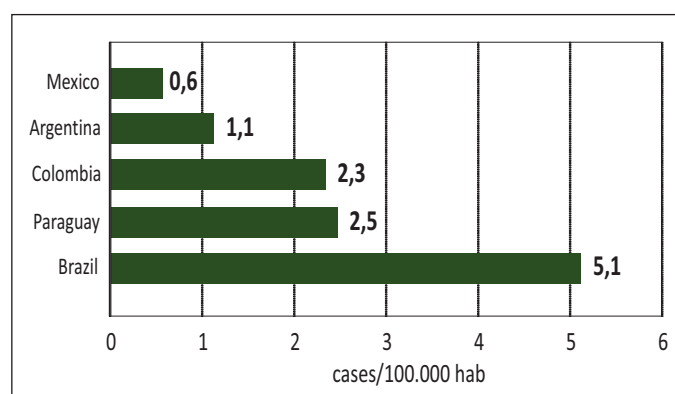


Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

among the notifying countries, however it is noteworthy that Colombia notified 88.9% in this age group. The group between 20-50 years old also deserves attention for being responsible for 31.7% (1,024 cases) (Figure 11).

Laboratory criteria was obtained in 89.5% of the cases (2,890). We observed a 1.7% increase compared to the previous year. From the

Figure 9. Incidence rate of visceral leishmaniasis, per country of the Americas, 2012.

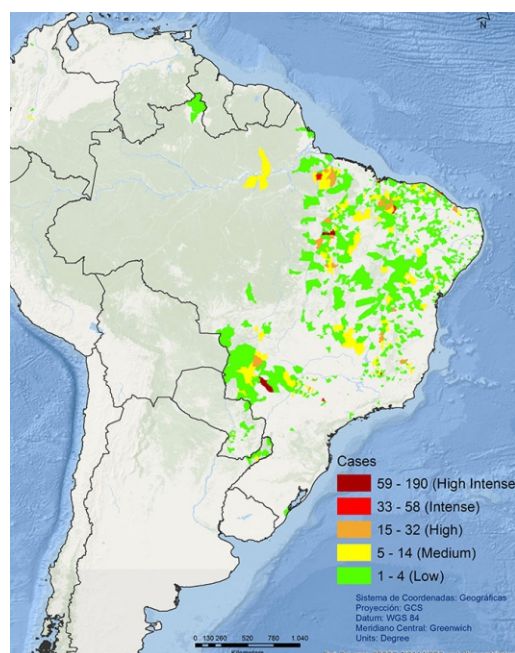


Source: PAHO-WHO. SisLeish: Data reported by Leishmaniasis programs of countries of the Americas.

five reporting countries in 2012, Colombia, Argentina, Paraguay and Mexico had 100% confirmed cases by this criterion.

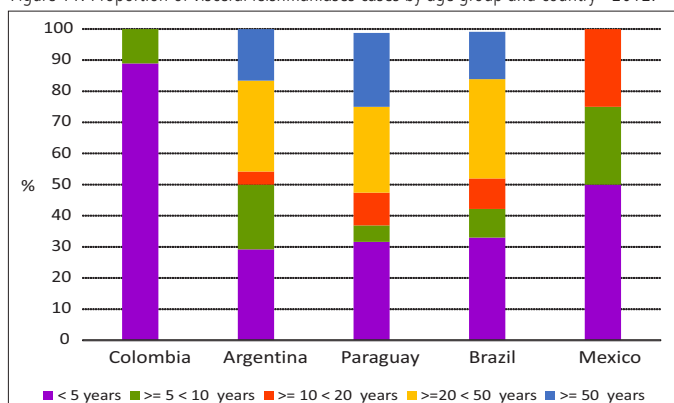
The fatality rate for visceral leishmaniasis in 2012 was 6.6% (213 deaths). This was a 1.8% decrease when compared to 2011 (8.4%) when 335 deaths were recorded. The cure rate was 69% (2,233

Figure 10. Incidence rate of visceral leishmaniases by second sub-national administrative level, Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniases programs of countries of the Americas

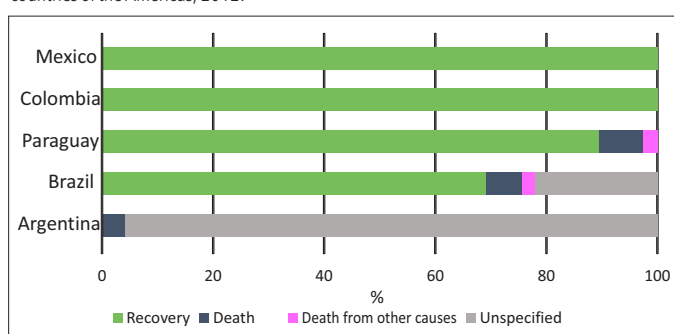
Figure 11. Proportion of visceral leishmaniases cases by age group and country - 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniases programs of countries of the Americas.

cases). This highlights the proportion of cases where the clinical course is unknown (22%). There was no improvement in the quality of information compared to the previous year when the proportion of cases with unknown outcome was 20.6% (Figure 12).

Figure 12. Proportion of visceral leishmaniases cases by clinical outcome by age group and countries of the Americas, 2012.



Source: PAHO-WHO. SisLeish: Data reported by Leishmaniases programs of countries of the Americas.

FINAL REMARKS

These results show the importance of leishmaniases in the Americas, both in magnitude and geographic distribution, and further reflects the endemic countries' efforts and commitment to strengthening surveillance and control for this disease. Despite the advances already stated, there are still challenges to overcome to improve surveillance.

With SisLeish, epidemiological and operational indicators are available to undertake regional analyses and facilitate access to data in the region, sub-regions and countries. Likewise, it assists in establishing appropriate interventions, supports the definition of priorities and establishes technical cooperation among countries, etc.

For the SisLeish to fully fulfill its purpose, it is important that the data of the previous year are included in the system before April 30th of the following year with the necessary quality and completeness. For this, a joint effort, taking into account the differences between surveillance systems of the countries as well as data availability, is required.

In this analysis, it was evident that the reported data were more complete and of better quality than the previous year despite disaggregating to the 2nd sub-national administrative level. However, diagnosis and clinical course data were incomplete and in some countries they are not available. This shows the need to establish internal mechanisms for monitoring and recording data, because the missing data reflect the quality and the coverage of doctor-care offered to patients with leishmaniasis.

It is important to mention that in 2012 there was a decrease in the number of cases of cutaneous leishmaniasis in the region, influencing in reduction of cases reported by Peru, Nicaragua and Panama. Also during 2012, visceral leishmaniases was reduced in 19.3% in the number of cases, compared to the previous year. It was expressed by the drop in the number of cases in Brazil, which represents 96% of the cases in the Region. In this context, it is important to analyze and understand the possible causes of this reduction, as well as take advantage of the present moment to review and make necessary adjustments to enable the coming years to improve the quality and completeness of the data to able to perform more meaningful epidemiological analyses.

ACKNOWLEDGEMENTS

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