

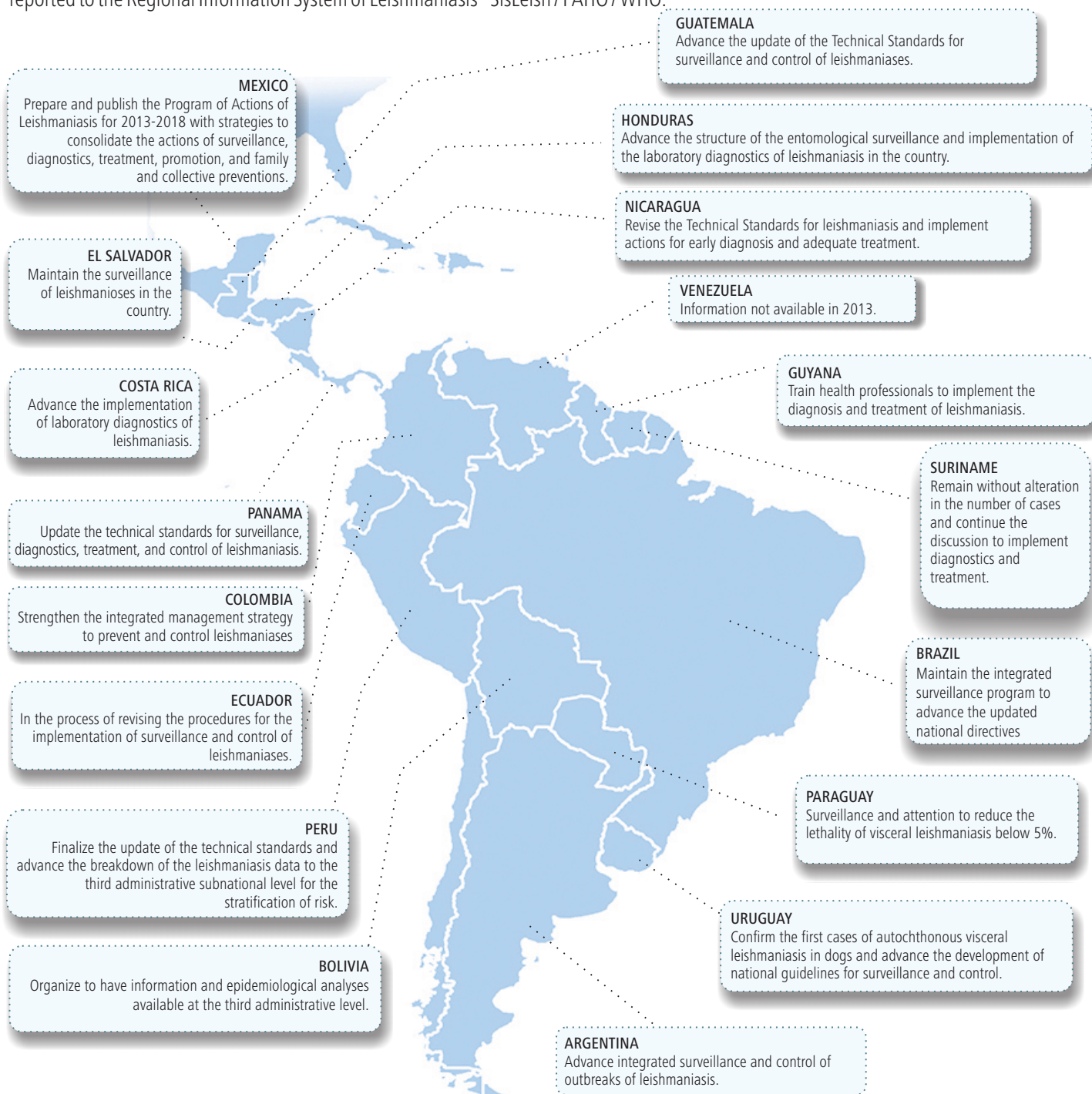
LEISHMANIASES

Epidemiological Report of the Americas

INTRODUCTION

In the Americas, leishmaniasis are a public health problem based on their magnitude, geographic distribution, and clinical forms which can cause mutilations, incapacities, and death. In recent years, the Pan-American Health Organization/World Health Organization (PAHO/WHO) fulfilling the mandate in Resolution 60.13 of 2007 and CD 49.R19 of 2009, has supported and worked jointly with endemic countries to reduce the severe forms of the disease by strengthening surveillance and control, providing early access to diagnostics and adequate treatment, as well as reducing contact with the human vector. Actions taken include the organization of services, improving the knowledge and expertise of professionals in the areas of diagnosis, treatment, and entomology, and strengthening the surveillance system with updated and available information.

This report presents the epidemiological situation of leishmaniasis in the Region with a detailed analysis of the data for the year 2013, reported to the Regional Information System of Leishmaniasis - SisLeish / PAHO / WHO.



EPIDEMIOLOGICAL SITUATION

Cutaneous and Mucosal Leishmaniasis

In the Americas, cutaneous and mucosal leishmaniasis is endemic in 18 countries with cases distributed between Mexico and Argentina. From 2001 to 2013, 743,970 cases were registered with a mean of 57,228 cases annually. In 2013, 16 countries in the region registered 47,492 cases of cutaneous and mucosal leishmaniasis in the PAHO/WHO Regional Information System of Leishmaniasis (data was not reported by Venezuela or French Guyana). The cases occurred in 149 states (ranging from 1- 3,058 cases) and 2,701 municipalities in the region. Of the total number of cases, 78.8% (37,402 cases) are concentrated in Brazil and the Andean sub-region (Figure 1).

In an analysis of the last four years (2010 to 2013), it is possible to observe the reduction in the number of registered cases (19.2%) in the region. This is principally due to the reduction in the number of notifications by Brazil, Colombia, Nicaragua, Panama, Peru, Equator, Paraguay, and Argentina. Despite the reduction in the number of cases in the Americas, there was an increase in the number of notifications by Bolivia, Honduras, Costa Rica, Mexico, Guatemala, and El Salvador (Table 1).

A reduction in the number of observed cases can be attributed to distinct factors such as the surveillance system of the organization as well as aspects environmental, biological, physical, and social, etc. In the Americas, the principle pattern of cutaneous and mucosal leishmaniasis is sylvatic, where the humans are within the natural habitat of the vector due to work, tourism, or recreation. In some

Sub-region	Number cases	%
Brazil	18.226	38,4
Andean	19.176	40,4
Central America	8.685	18,3
Mexico	970	2,0
Southern Cone	252	0.5
No-Latin Caribbean	183	0.4
Total	47.492	100

Table 1. Number and proportion of cases of cutaneous and mucosal leishmaniasis by sub-region, the Americas, 2013

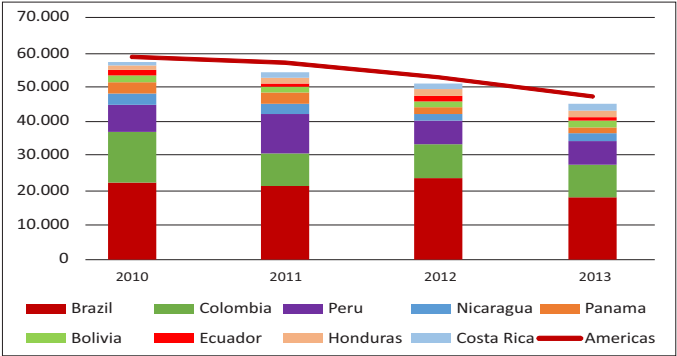
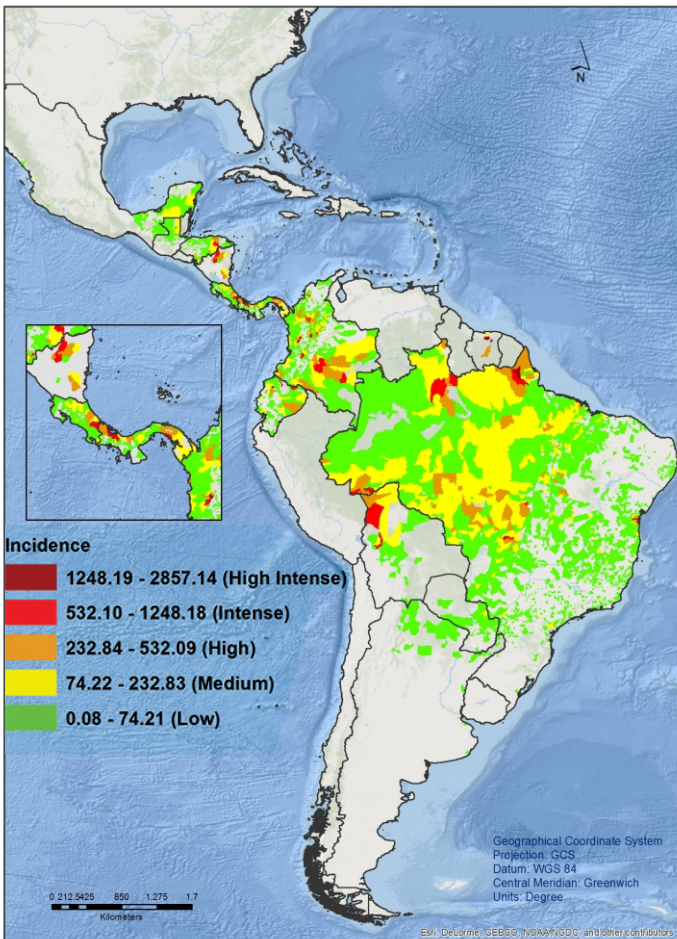


Figure 1. Cutaneous and mucosal leishmaniasis in the countries which registered the highest number of cases, the Americas, 2010-2013. Source: SisLeish-PAHO/WHO.: Data reported by the National Programs of Leishmaniasis

specific areas of the region, the transmission occurs in and around the house, once the vector has adapted to these modified environments. Figure 2A, shows the different eco zones and the distribution of the cases of cutaneous and mucosal leishmaniasis in



2a. Ecosystems and distribution of cases of cutaneous and mucosal leishmaniasis by municipality, the Americas 2013. Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

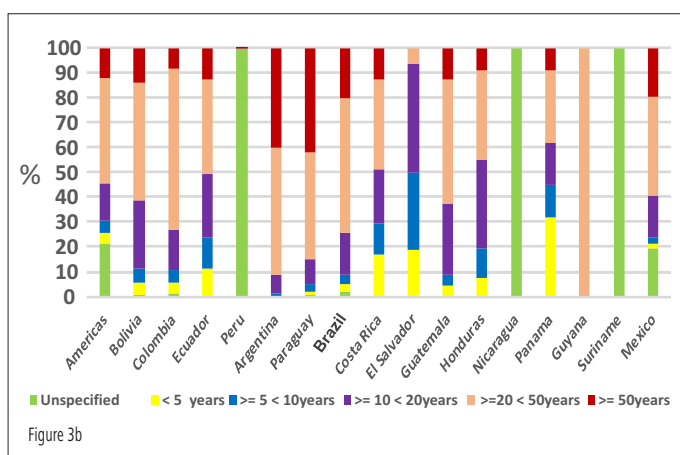
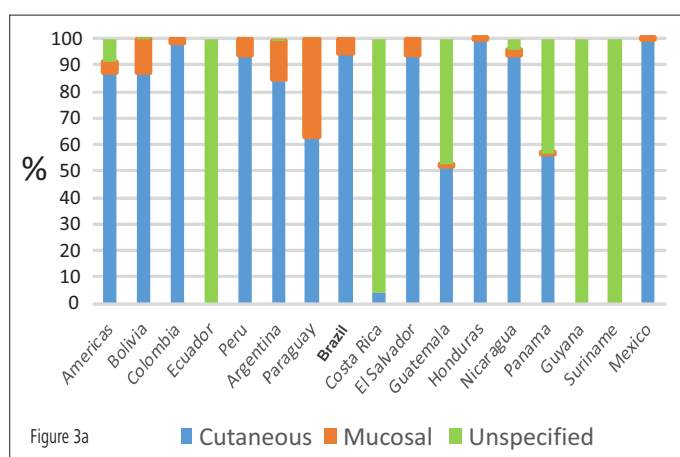


2b. Incidence of cutaneous and mucosal leishmaniasis per 100,000 inhabitants, by municipality, the Americas 2013. Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

¹ Countries in the subregions: Andean (Bolivia, Colombia, Ecuador, Peru, and Venezuela); Brazil; Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua e Panama); Mexico (Mexico); Southern Cone (Argentina, Paraguay and Uruguay) and Non-Latin Caribbean (Guyana and Suriname);

2013 by state (1-3,058 cases). The greatest numbers of cases are in areas with vegetation, regardless of whether the climate is tropical, humid, temperate, or dry. In Figure 2B, observe that the incidence of cases of cutaneous and mucosal leishmaniasis are per 100,000 habitants by municipality, and are stratified as low, medium, high, intense, and high intense.

Of the total cases reported in 2013, in 91.3% (43,379) the clinical form of the leishmaniasis is available, and of these 95.6% (41,465) correspond to the cutaneous form and 4.4% (1,914) to the mucosal or mucocutaneous forms. Paraguay and Argentina reported the highest proportion of mucosal cases in the region at 37.0% and 14.4%, respectively, while the number of reported mucosal cases was not available for Ecuador, Costa Rica, Guyana, and Suriname (Figure 3a). Of the registered cases, the patient's gender was available in 75.9% of cases (36,078), and of these 73.4% (26,500)



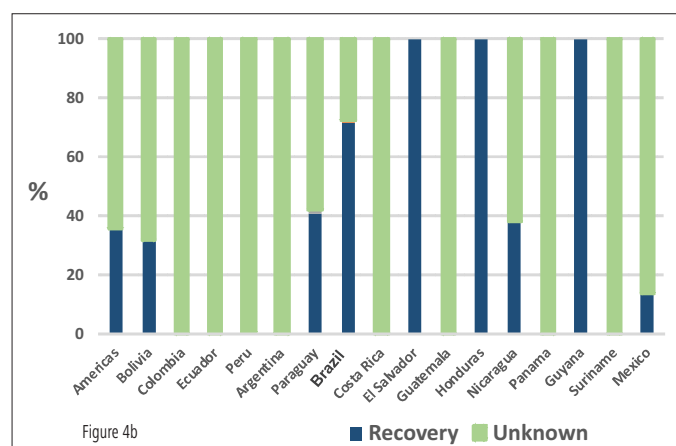
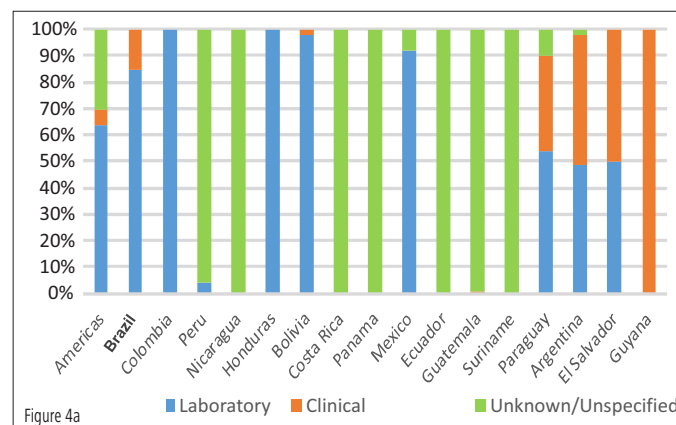
Figures 3a and 3b. Proportion of cutaneous and Mucosal Leishmaniasis cases according to clinical form and age, the Americas, 2013

Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

were males. The patients' age was present in 79.5% (38,673) of the notified cases. Of these cases, 70.2% (27,160) occurred in patients between the ages of 10 and 50 years. Contrary to the regional pattern, the majority of cases in Panama and El Salvador occurred in children less than ten years (50.0% and 45.2%), respectively. Peru, Nicaragua and Suriname did not report gender or age (Figure 3b).

In majority (69.6% or 33,196 cases), of mucosal and cutaneous leishmaniasis cases were confirmed by laboratory diagnostics. Paraguay, Argentina, El Salvador and Guyana reported the most cases without confirmation (Figure 4a). A co-infection

Leishmania/HIV was present in 99 cases (0.2%), with 98 registered in Brazil and one in Mexico. Of the total cases in 2013, only 35.8% (17,000) specified the clinical outcome. Of these, 99% (16,840) were cured and 1% (23) of the cases succumbed to the disease, 23 deaths were related to leishmaniasis and 123 to other cause (Figures 4a and 4b).



Figures 4a and 4b. Proportion of cases of cutaneous and mucosal leishmaniasis, based on the criteria of confirmation and outcome, the Americas, 2013.

Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

VISCERAL LEISHMANIASIS

Visceral Leishmaniasis is autochthonous in 12 countries in the Americas, with a total of 45,490 cases registered between 2001 and 2013 and an annual average of 3,499 cases (Figure 5)*.

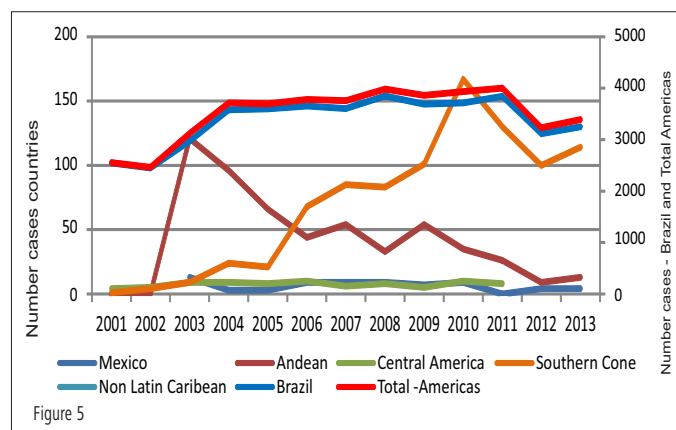


Figure 5. Cases of visceral Leishmaniasis, by sub-region, the Americas, 2001-2013

Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

*Total the Americas and Brazil – right axis

Other countries – left axis

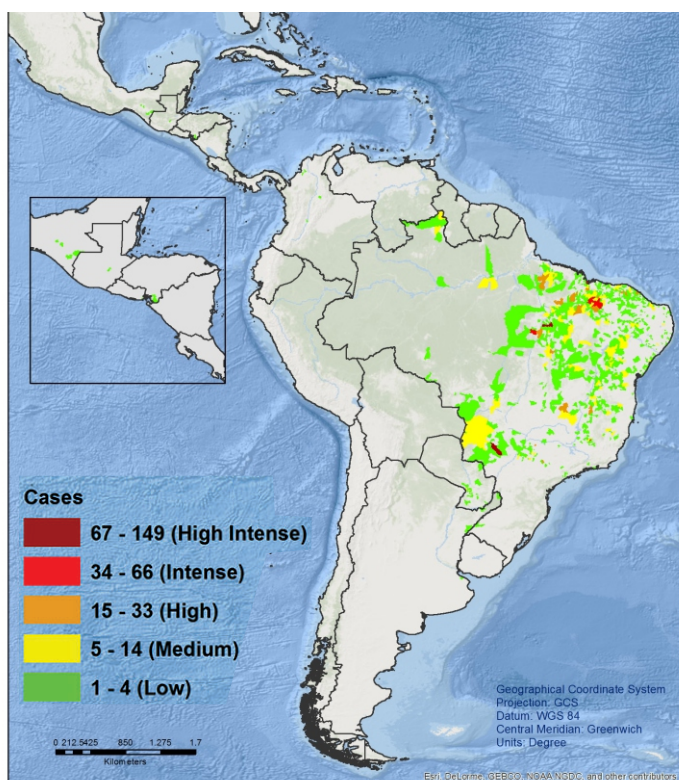


Figure 6a. Distribution of cases of visceral leishmaniasis by municipality, the Americas, 2013

In 2013, a total of 3,389 cases were registered in 8 countries and distributed throughout 798 municipalities (ranging from 1-149 cases) (Figure 6a). The countries with the highest concentration of cases were Brazil with 96% (3,253 cases), followed by Paraguay 3.2% (107) and Colombia 0.4% (13) (Table 2). The incidence of visceral leishmaniasis in the region had 2.59 cases per 100,000 inhabitants, within the zone of transmission. Brazil and Paraguay presented the highest rates with 4.35 and 3.85 cases per 100,000 habitants, respectively (Figure 6b).

Countries	2011		2012		2013	
	N°	%	N°	%	N°	%
Brazil	3.894	96,7	3.038	96,4	3.253	96,0
Paraguay	114	2,8	76	2,4	107	3,2
Colombia	0	0,0	9	0,3	13	0,4
Argentina	15	0,4	24	0,8	7	0,2
Mexico	0	0,0	4	0,1	4	0,1
Honduras	0	0,0	0	0,0	3	0,1
El Salvador	0	0,0	0	0,0	1	0,0
Guatemala	2	0,0	0	0,0	1	0,0
Total	4.025	100,0	3.151	100,0	3.389	100,0

Table 2. Number of cases of visceral leishmaniasis and their percentage of the regional total by country, the Americas, 2011-2013

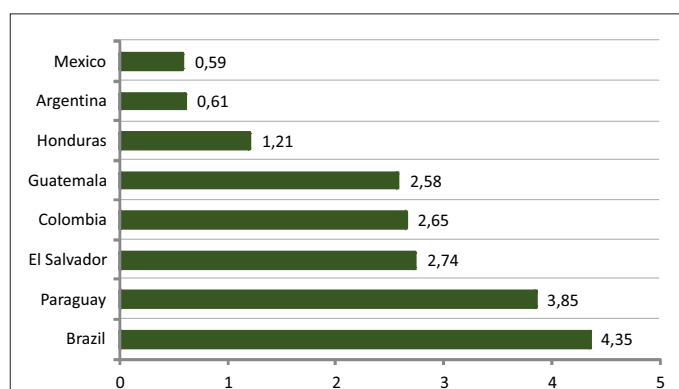
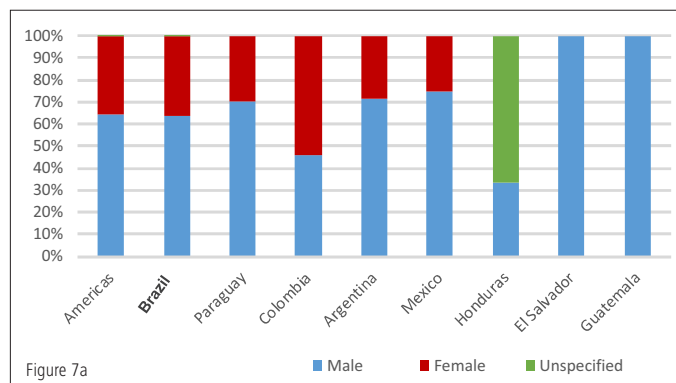


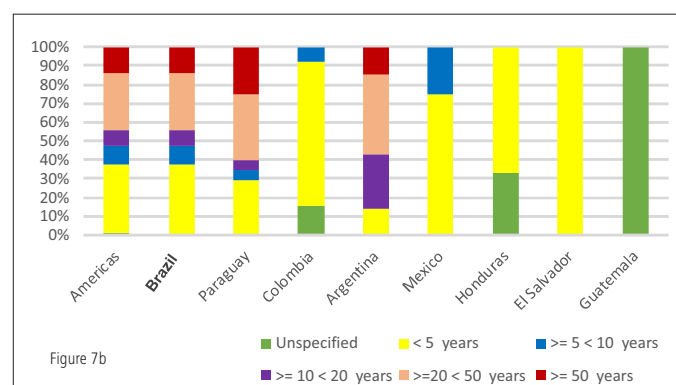
Figure 6b. Incidence of cases of visceral leishmaniasis per 100,000 inhabitants by country, the Americas, 2011-2013

The gender of the patient was reported in 99.9% of cases with males being most affected at 64.1% (2,172) of the total cases (Figure 7a). In relation to the distribution of cases of visceral leishmaniasis, the majority of cases occurred in patients less than five years at 37.0% (1,255); this situation was similar throughout reporting countries although 88.9% of cases notified in Colombia were within this age bracket. The countries of the Southern Cone (Argentina, Brazil and Paraguay) reported 30.2% of patients (1,024 cases) within the 20 to 50 year bracket (1.024) (Figure 7b).

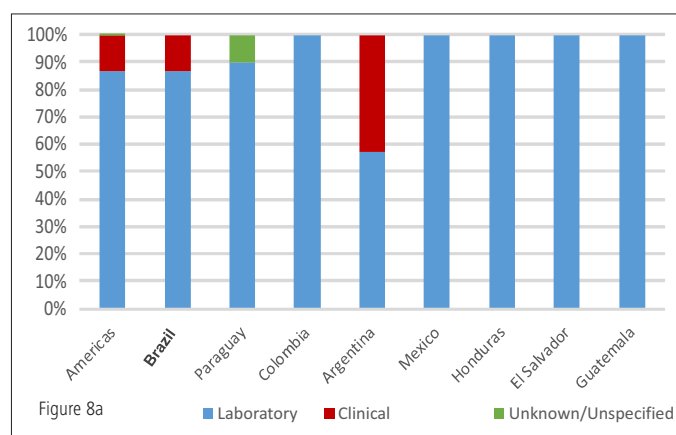


Figures 7a and 7b. Percentage of visceral Leishmaniasis by gender and age group, by country, the Americas, 2013.

Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis



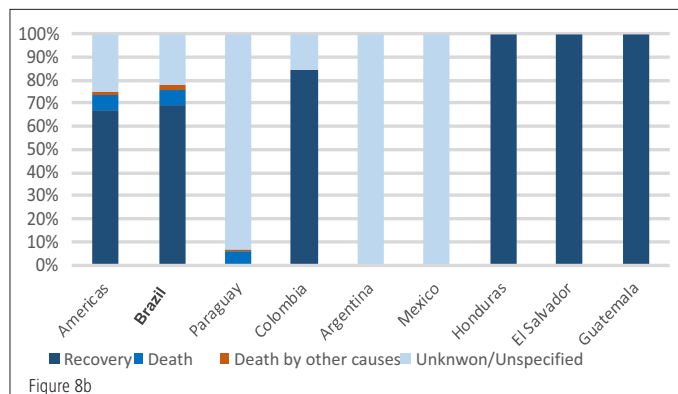
Confirmation by laboratory was registered for 86.7% (2,939) of the cases. Of the eight countries that had cases in 2013, Colombia, Mexico, Honduras, El Salvador and Guatemala had 100% of their cases confirmed in a laboratory (Figure 8a). Brazil reported 209 coinfecting cases *Leishmania*/HIV representing 6.4% of the total number of cases of visceral leishmaniasis in Brasil. The fatality rate for visceral leishmaniasis in 2013 was 6.7% (229 deaths) similar to 2012, when 213 deaths were recorded and mortality was 6.6%. The



Figures 8a and b. Percentage of visceral Leishmaniasis cases based on the criteria of diagnostics and clinical outcome, the Americas, 2013.

Source: SisLeish-PAHO/WHO: Data reported by the National Programs of Leishmaniasis

cure rate was 66.7% (2,260). This draws attention to the proportion of cases where the clinical outcome of the case is unknown (24.7%), which did not improve compared to the previous year at 22% (Figure 8b).



FINAL CONSIDERATIONS

In recent years, leishmaniasis surveillance actions have been implemented in the region. One of the purposes established and agreed on by the endemic countries was the improvement of the quality of the data and the analyses of the epidemiological information, maintaining them updated and available. In 2013, a regional database of leishmaniasis - SisLeish, presented data disaggregated almost entirely to the second sub-national administrative level. For 2014, it is hoped the disaggregated data

will be available for all countries in the region, permitting a more accurate analysis.

The analysis presented here shows the entirety of data for the different clinical forms of leishmaniasis, however, it appears that visceral leishmaniasis has more available data, since the percentage of unknown information is lower, possibly because cases required hospital care or systematic follow-up. In general, information on gender, age, and clinical form are available for almost all countries, but, the data referring to the diagnostic criteria and outcome of cases needs to be improved through joint efforts in surveillance areas and consolidation of this information in the national database. These last two indicators are needed for monitoring and evaluation of early diagnosis and treatment of cases, because is expected to reduce deaths and disabilities caused by leishmaniasis.

One of the intents of the regional program is to improve and provide joint analysis of epidemiological indicators with data on vegetation, climate, altitude, etc. to extend and improve knowledge of the disease and support the actions. Also, it is important to encourage countries to use these indicators as well as support the implementation of surveillance for areas now considered silent or without transmission.

ACKNOWLEDGEMENTS

The professionals of the National Programs of Leishmaniasis and surveillance in the region, the team at PANAFTOSA, PAHO/WHO representatives in the endemic countries, and Neglected and Infectious Diseases

Visit the interactive **MAPS ABOUT LEISHMANIASIS** and other **Neglected Infectious Disease (NID)** in the Region of the Americas (Onchocerciasis, schistosomiasis, lymphatic filariasis, trachoma, STH, leprosy and Chagas). Click on the link: http://www.paho.org/hq/images/ATLAS_CD/NID_Subnational/atlas.html



For more information about leishmaniasis, click on the link: www.paho.org

