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# Visceral leishmaniasis-HIV co-infection: emerging in South-America

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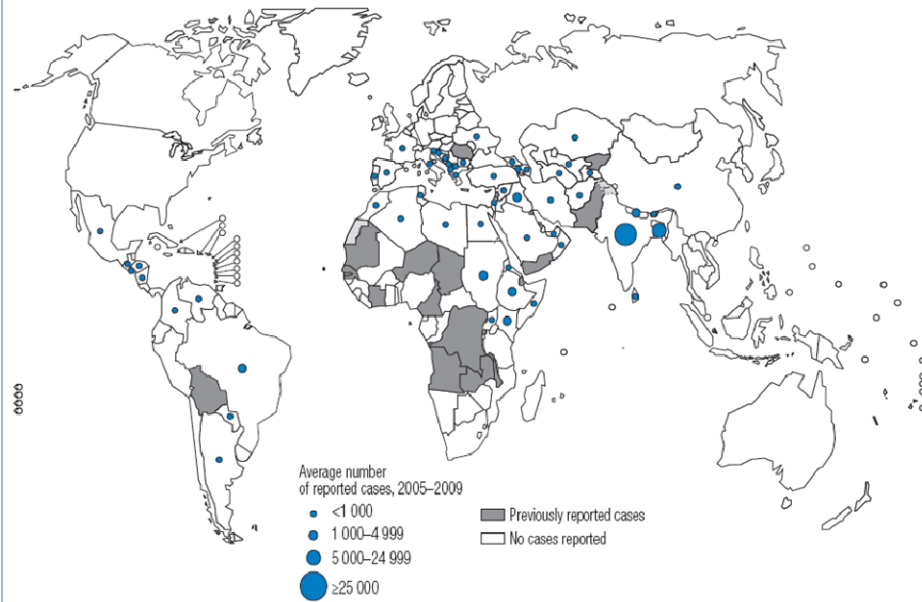
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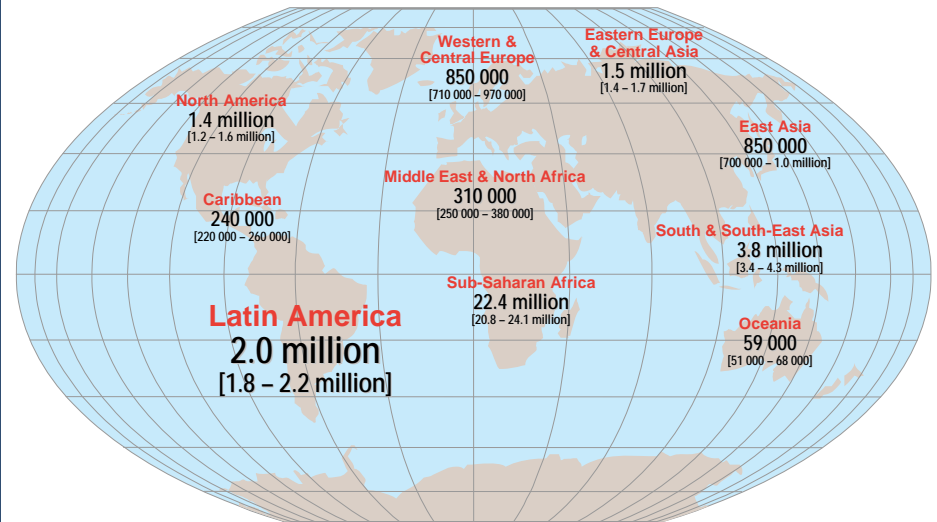
# Visceral Leishmaniasis and HIV Distribution

**Fig. 5.9.2** Distribution of visceral leishmaniasis, worldwide, 2009



Source: WHO, 2010. [http://www.who.int/neglected\\_diseases/2010report/NTD\\_2010report\\_embargoed.pdf](http://www.who.int/neglected_diseases/2010report/NTD_2010report_embargoed.pdf)

In Latin America, Brazil is the country with highest burden of VL, with ~ 3,600 new cases annually (incidence= 1.9/100,000 ind), which accounts for 90% of the cases in Americas.

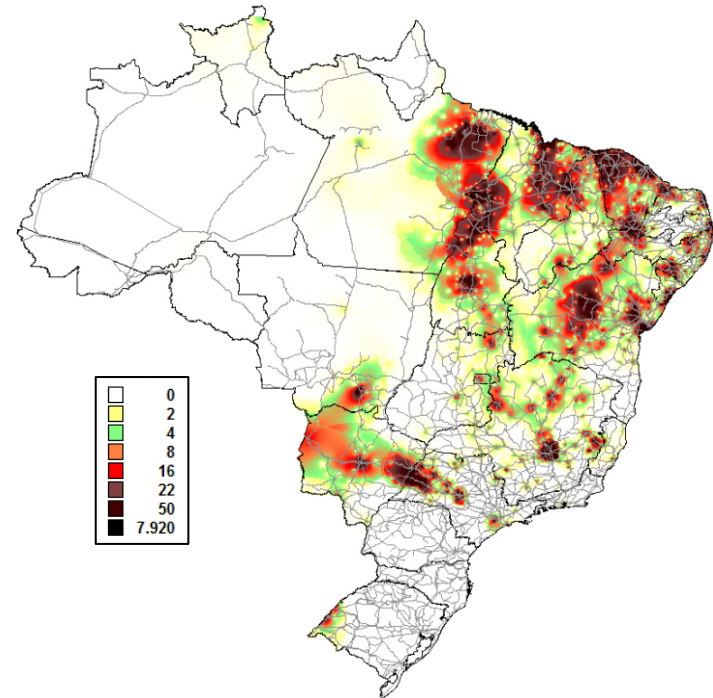
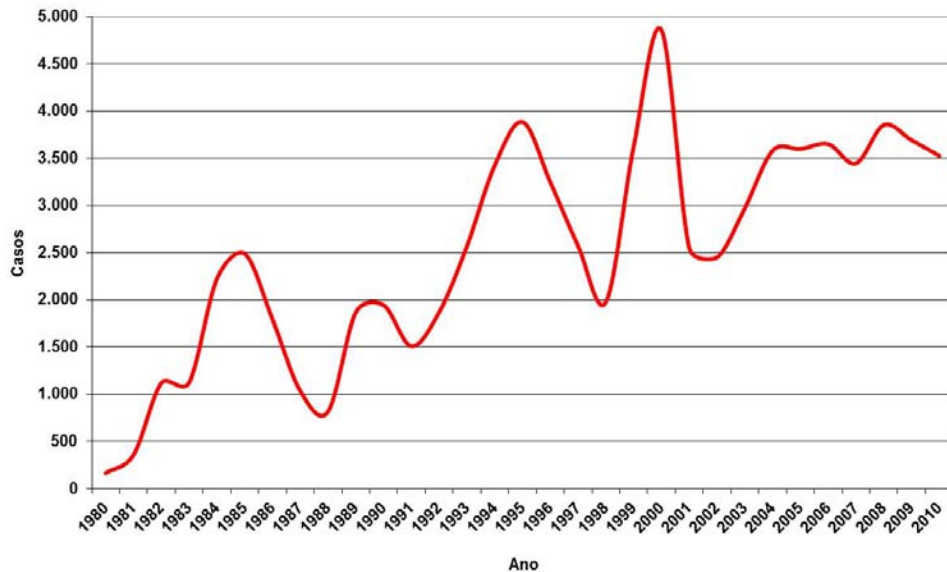


Source: WHO, UNAIDS, December, 2009

As for VL, Brazil is also the country with highest burden for HIV/AIDS in Latin America: 35,380 new HIV cases reported annually (19.7/100,000 ind), and a total of 630,000 cumulative number of AIDS reported in the country.

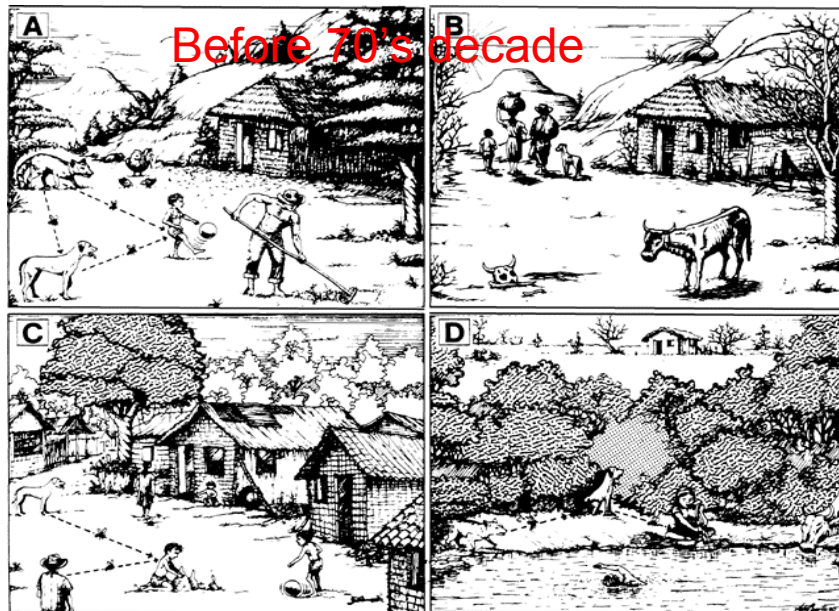
Sexual transmission: 74%

# Expansion and Epidemics of VL in Brazil - 1990 to 2010

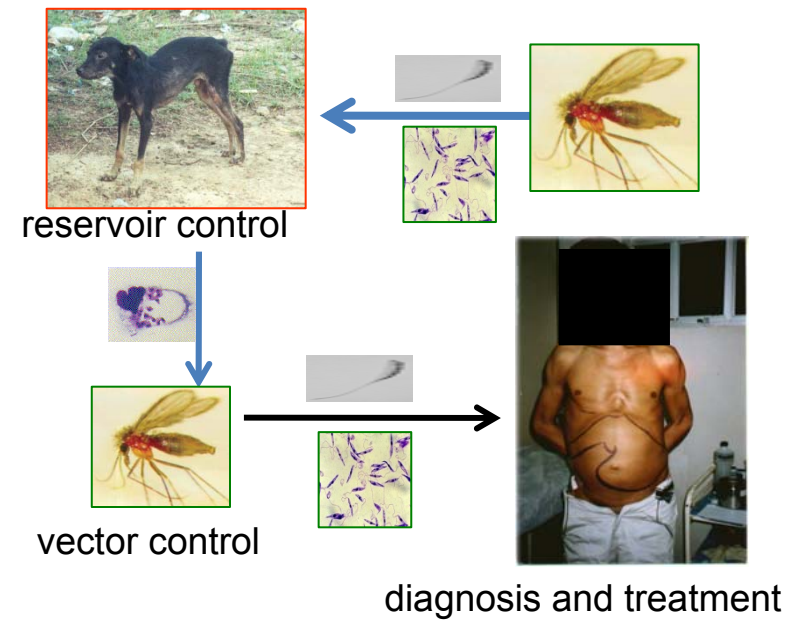


Source: 2008 map of VL, SVS/MoH Brazil

- **Distribution: 21 states and 5 political regions**
  - **Northeast : 47.1%**
- **Sex: Males account for 62.2 % of the cases**
- **Age: Majority are children, 46.2%**
- **Lethality: 6.2%**



## Cycle of transmission: Zoonotic



# Diagnosis and Treatment of VL

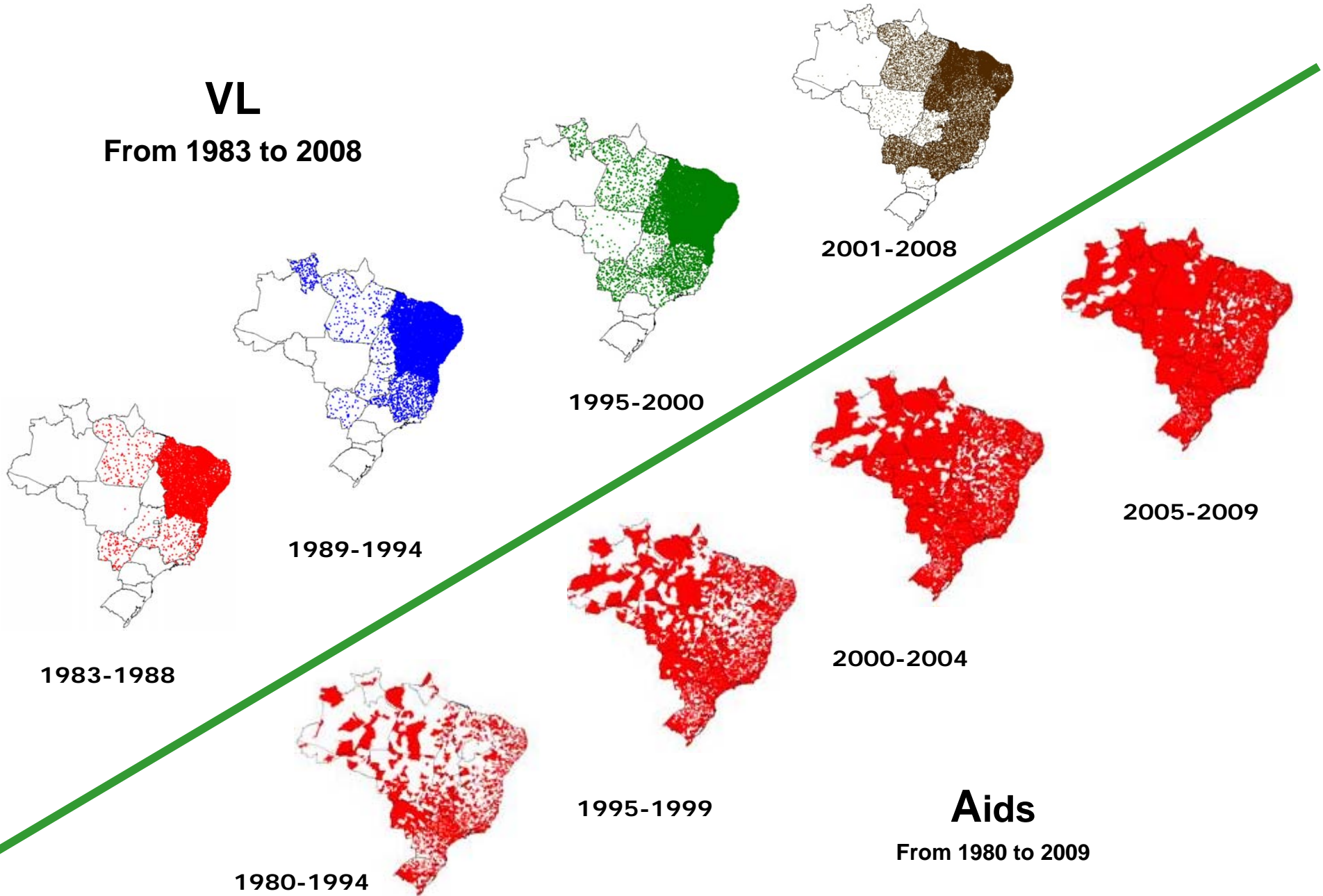
- Diagnosis of VL
  - Parasitological: Bone marrow aspiration with direct exam and culture;
  - Serological: Rapid test (rK39), ELISA or IFI;
    - In co-infected VL-HIV: Serology: 90% sensitivity
- Treatment
  - Pentavalent Antimonial (glucantime)
  - Amphotericin B
    - HIV- patients or with other immunosuppression
    - Pregnancy
    - Severe patients



# Visceral Leishmaniasis and Aids in Brazil

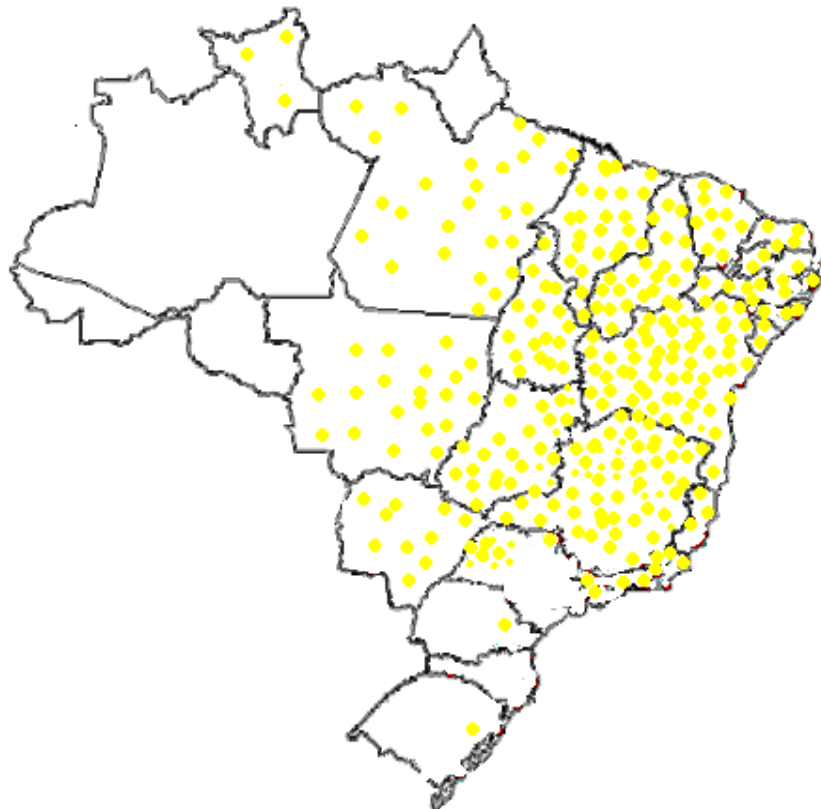
## VL

From 1983 to 2008

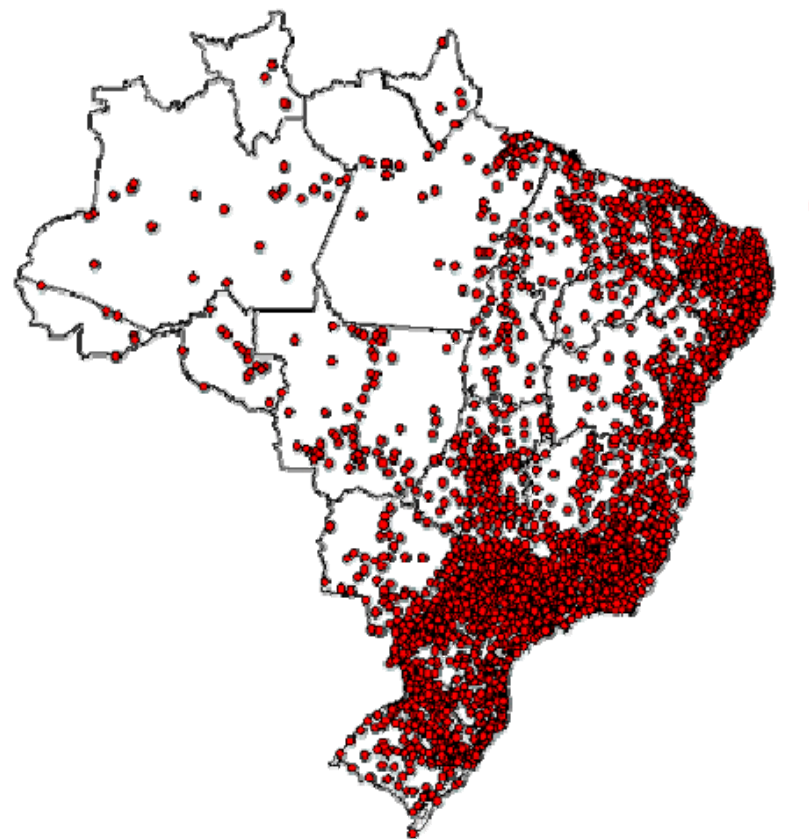


# Geographical Distribution of VL and HIV/Aids in Brazil - overlapping

VL

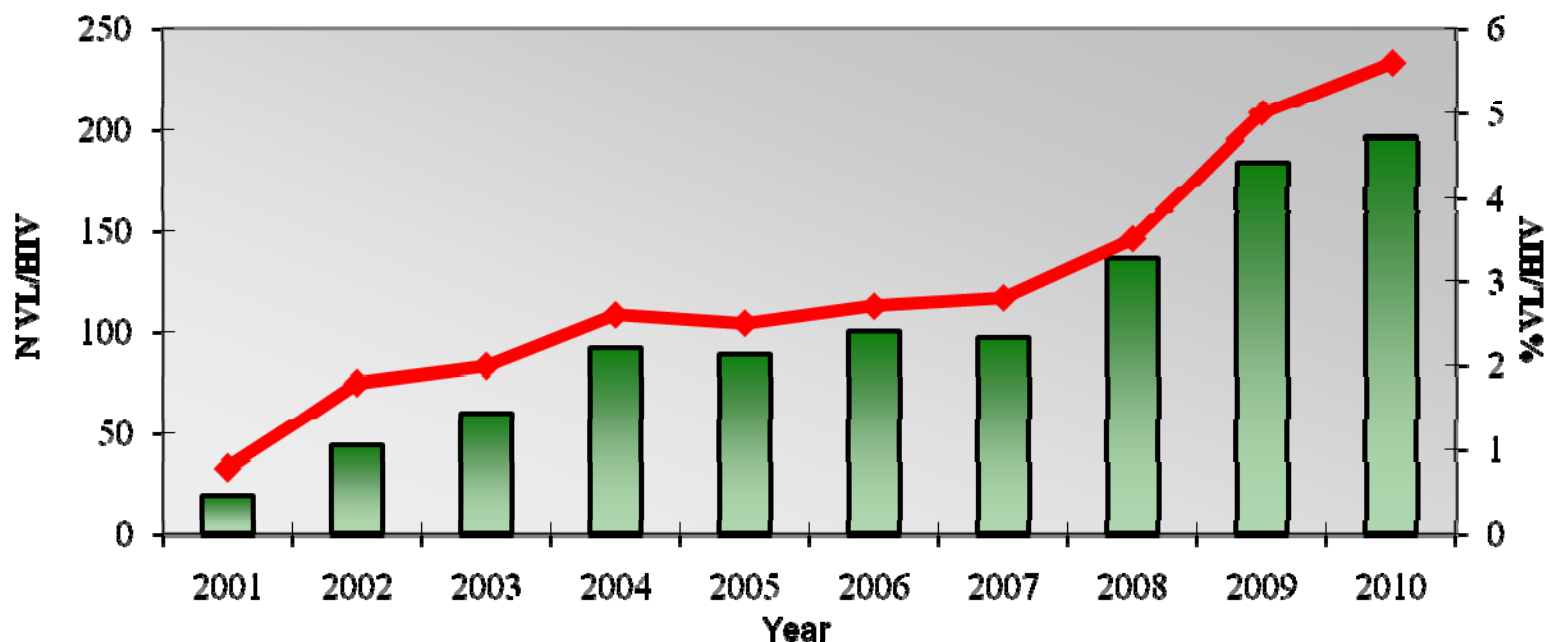


HIV/AIDS



Source: MS/SVS/PN DST and Aids/SINAN and MS /SVS,

# Number of VL-HIV co-infection cases reported in Brazil and % of co-infection among VL cases reported

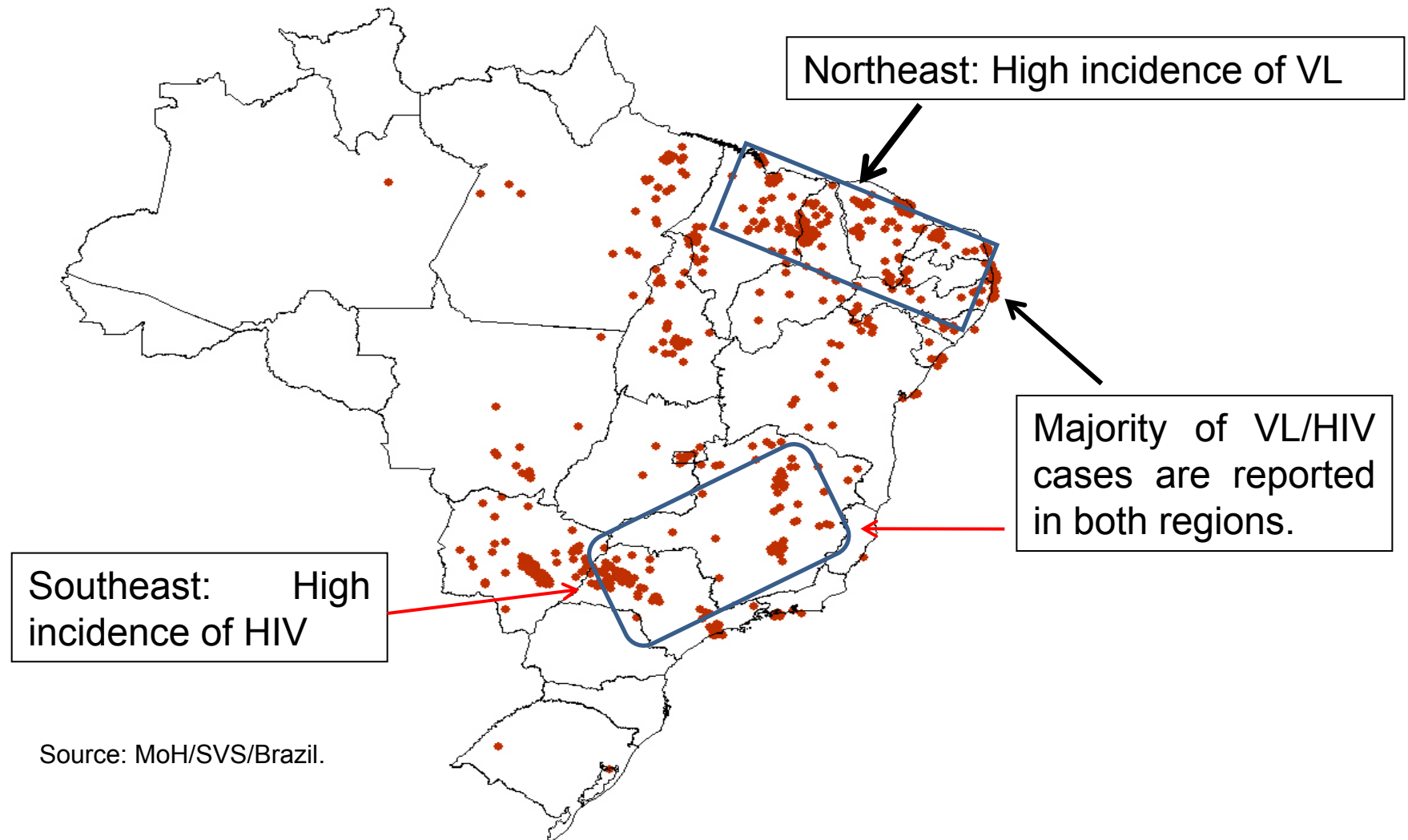


Source: MoH /SVS -Brazil.

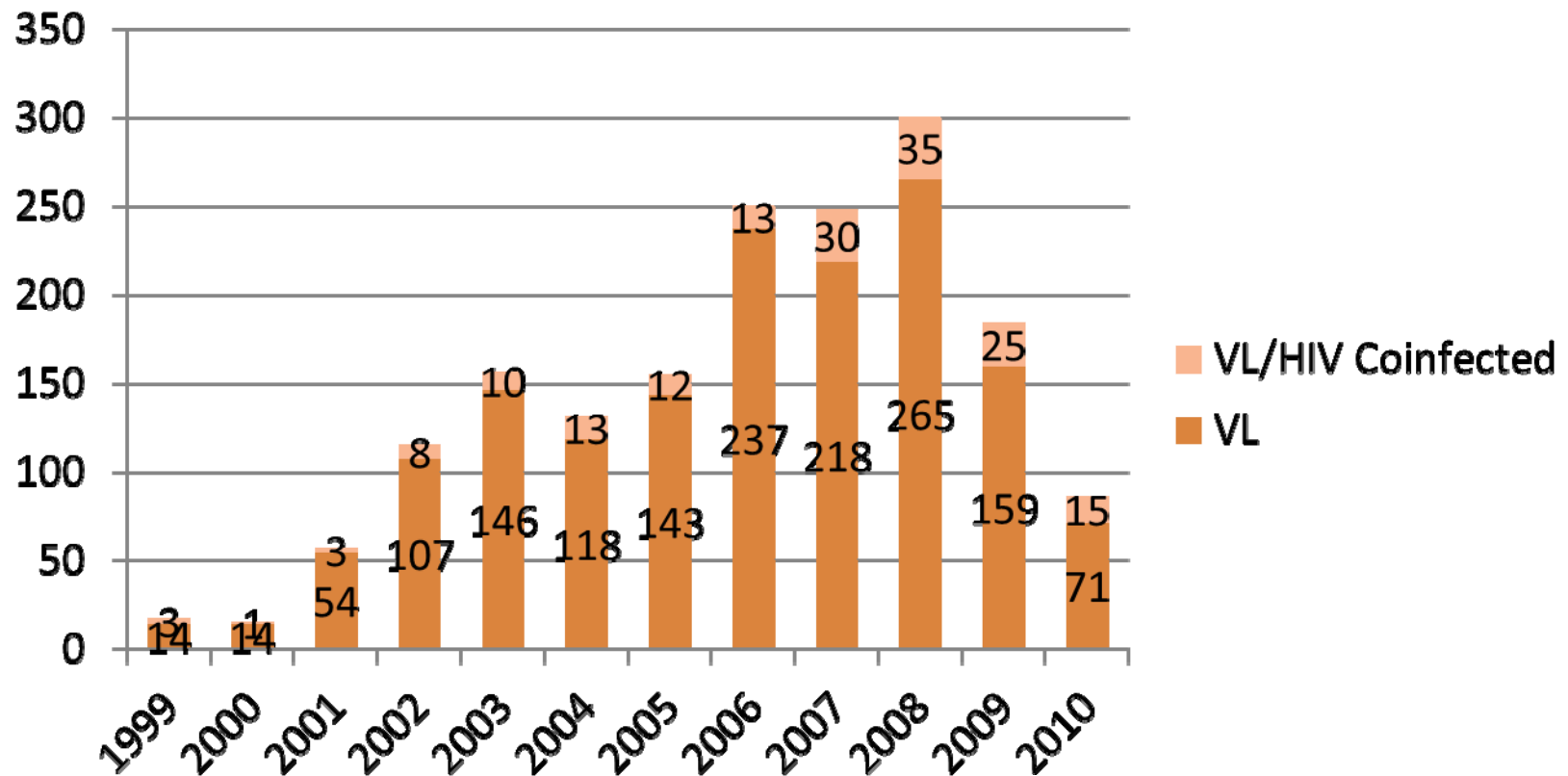
- In 2001, ~ 0.5% of VL cases were co-infections.
- Currently the rate of HIV-VL co-infection is in the order of 6.5%.
- 57% of patients have HIV diagnosis after VL manifestation.
- Recommendation from the MoH to offer HIV serology to all patients with VL.



# Spatial distribution of the VL-HIV co-infection cases reported in Brazil in the period 2001-2009.



# Number of VL and VL-HIV co-infection cases reported in the state of SP over the last decade



- VL and HIV-VL co-infection are increasing in the state of SP
- Despite the reduction of cases in the last 2 years, the proportion of HIV-VL continues to increase, in 2010=17.4%

Source: CVE/SES/SP MoH/SVS

# Sex and age distribution of VL-HIV cases reported in SP in 2001-2010

	N	(%)
Sex		
Male	120	71.42
Female	48	28.57
Age		
0 --10	6	3.55
11 -- 18	1	0.59
19 -- 49	131	77.51
≥50	28	16.56
Ignored	5	2.95

Source: CVE/SES/SP and MoH/SVS

- VL without HIV is a disease of childhood
- VL-HIV is a disease of adult males
- Vertical transmission of HIV is well control in Brazil

# Clinical Presentation of VL in co-infected patients

CLINICAL FINDINGS	N	(%)
Fever	141	83.43
Hepatomegaly	119	70.41
Splenomegaly	137	81.07
Cough	92	54.44
Weakness	144	85.21
Emaciation	141	83.43



Classical clinical manifestations are observed: fever, enlargement of liver and spleen, as for the immune-competent host.

Atypical manifestation of VL is rare.

# Lethality and treatment failure/relapse of VL and VL-HIV cases in the state of SP

Year	VL confirmed	Total Deaths	Total Lethal. (%)	VL/HIV Coinfected	Lethality VL/HIV (%)	Total Failures	Total Failures (%)	HIV Failures	HIV Failures (%)
1999	17	5	29,41	3	0	0	0,00	0	0,00
2000	15	0	0,00	1	0	0	0,00	0	0,00
2001	57	3	5,26	3	0	0	0,00	0	0,00
2002	115	13	11,30	8	25,00	0	0,00	0	0,00
2003	156	23	14,74	10	10,00	1	0,64	1	10,00
2004	131	13	9,92	13	30,77	1	0,76	1	7,69
2005	155	16	10,32	12	25,00	2	1,29	2	16,67
2006	250	10	4,00	13	15,38	3	1,20	3	23,08
2007	248	22	8,87	30	6,67	7	2,82	3	10,00
2008	300	24	8,00	35	20,00	15	5,00	7	20,00
2009	184	15	8,15	25	20,00	14	7,61	4	16,00
2010	86	4	4,65	15	20,00	8	9,30	2	13,33
<b>TOTAL</b>	<b>1714</b>	<b>148</b>	<b>8,63</b>	<b>168</b>	<b>17,26</b>	<b>51</b>	<b>2,98</b>	<b>23</b>	<b>13,69</b>

Source: CVE/SES/SP MoH/SVS

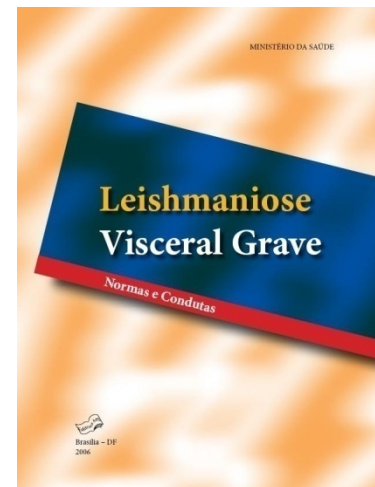
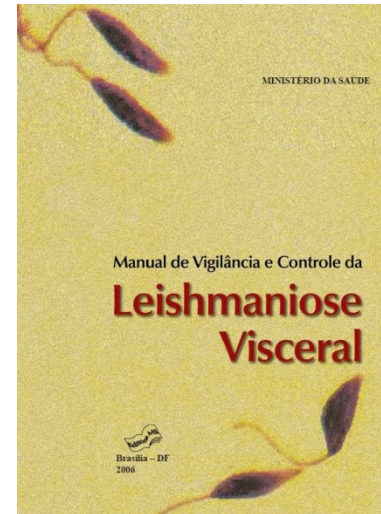
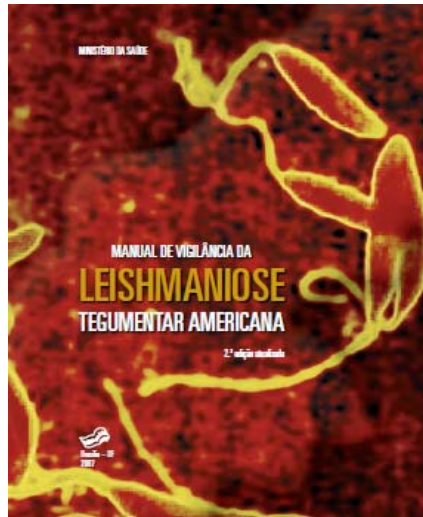
# Primary treatment of VL-HIV co-infection

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VL TREATMENT	Cure	Failure
Glucantime	44/ 66 (66.7%)	22/ 66 (33.3%)
Amphotericin B	49/82 (59.8%)	33/66 (40.2%)
		p=0.48



# Guidelines for Leishmaniasis and HIV-AIDS



# Conclusions

- Urbanization of VL is a public health problem, and control efforts have not proven successful in controlling its expansion
- VL and HIV are overlapping, with increasing proportion of HIV-VL co-infections
- Adult males are mostly affected, with usual clinical presentation
- High treatment failure/relapse and high lethality are the main challenges for case management

# Thank you

- Igor Thiago Borges
- Lizete Cruz
- Fabiana Alves

