OIE- Global Conference on Rabies Control:

ELIMINATION OF HUMAN RABIES TRANSMITED BY DOG IN THE AMERICAS: ACHIEVEMENTS

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PANAFTOSA-OPS/OMS

Incheon - Seoul - Republic of Korea
7 - 9 September 2011
### Epidemiological Context...

<table>
<thead>
<tr>
<th>Country/Subregion</th>
<th>Animal Species</th>
</tr>
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<tbody>
<tr>
<td>Canada</td>
<td>Skunks (34%) – Foxes (9%)</td>
</tr>
<tr>
<td></td>
<td>Non hematophagous bats (38%)</td>
</tr>
<tr>
<td></td>
<td>Total 2009 = 145 casos con DL</td>
</tr>
<tr>
<td>USA</td>
<td>Raccons (35%) - Skunks (24%)</td>
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<td></td>
<td>Foxes (7%)</td>
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<td>Non hematophagous bats (24%)</td>
</tr>
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<td>Total 2009 = 6,694 casos con DL</td>
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<tr>
<td>Mexico</td>
<td>Dogs (V1 - V2)</td>
</tr>
<tr>
<td></td>
<td>Hematophagous bats (V3)</td>
</tr>
<tr>
<td></td>
<td>Not hematophagous bats (V4)</td>
</tr>
<tr>
<td>Central America</td>
<td>Dogs (V1 - V2)</td>
</tr>
<tr>
<td></td>
<td>Hematophagous bats (V3)</td>
</tr>
<tr>
<td></td>
<td>Not hematophagous bats (V4)</td>
</tr>
<tr>
<td>Cuba - Haiti</td>
<td>Dogs (V1 - V2)</td>
</tr>
<tr>
<td></td>
<td>Hematophagous bats (V3)</td>
</tr>
<tr>
<td></td>
<td>Not hematophagous bats (V4)</td>
</tr>
<tr>
<td></td>
<td>Mangoeses (V1)</td>
</tr>
<tr>
<td>Andean A.</td>
<td>Dogs (V1 - V2)</td>
</tr>
<tr>
<td></td>
<td>Hematophagous bats (V3)</td>
</tr>
<tr>
<td></td>
<td>Not hematophagous bats (V4)</td>
</tr>
<tr>
<td></td>
<td>Urocyon cinereoargenteus (VNC)</td>
</tr>
<tr>
<td>Brazil</td>
<td>Dog (V1 - V2)</td>
</tr>
<tr>
<td></td>
<td>Hematophagous bats (V3)</td>
</tr>
<tr>
<td></td>
<td>Non hematophagous bats B. (V4) (VNC)</td>
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<tr>
<td></td>
<td>Marmoset (VNC)</td>
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<td>Crab eating foxes (VNC)</td>
</tr>
</tbody>
</table>
PHYLOGENETIC TREE OF RABIES VIRUSES

Venezuela V3, V5
Colombia V3
Brazil 1 V3
Peru-Brazil V3
Argentina V3
Brazil 2 V3
Bolivia V3
Brazil 3 V3
Mexico 1 V3
Mexico-Colombia V3
Mexico V11
Colombia V8/V3 – Peru V3
Mexico V8 atypical

Tadarida brasiliensis V9 North America
Tadarida brasiliensis V4 South America
Colonial bats North America
Other bats South America
Sagui monkey Brazil
Solitary bats North America
Terrestrial carnivores North America
Out group
USA: RABIES IN WILD ANIMALS, 1959-2009

Source: Centers for Disease Control and Prevention, November 2010
LAC: CONTEXT, 2007.....

- Population: **572 millions**
- In poverty **35.1%**
- In extreme poverty: **15.9%**

- **257 millions** (46%) without health care, public or private
- **685,000 children** without vaccination
- **17% parturition** done by personel not qualified
POLITICAL FRAMEWORK...

MANDATES

1983:
1a REDIPRA - III RIMSA – OPS/CD 31

2008 - 2009
XV RIMSA - OPS/CD 48/R13 CD 49/R19

2010:
13ª REDIPRA
COMMITMENTS....

- REDiPRA, Guayaquil 1983: Strategy and action plan for the elimination of urban rabies from the major urban centers in Latin America by the end of 1980’s

- PAHO, 1991: extension policies and strategies to isolated areas and small rural populations

- PAHO, 1992: emphasize the surveillance of wildlife rabies, particularly transmitted by bats

- PAHO, 2008: to eliminate dog-transmitted human rabies from hemisphere by 20102 (XV RIMSA – CD 48/R13)
• Timely post-exposure prophylaxis for people bitten. Access immunobiological

• Elimination of human rabies transmitted by dogs. Dog mass vaccination

• Active surveillance and prevention of wildlife rabies

• Social organization, education end information diffusion
LAC: SPATIAL DISTRIBUTION: 1999 - 2006

Rabia Humana Origen Perros
Año 1999
- 8 y +: 1
- 3 a 7: 2
- 2: 6
- 1: 19
- 0: 389

Rabia Humana Origen Perro
Año 2006
- 3 a 7: 2
- 2: 3
- 1: 8
- 0: 404
PAHO RESOLUTION (DC 49 2009): ELIMINATION OF HUMAN RABIES TRANSMITTED BY DOG....
Rabies in LAC: Goal

- To here

2010

High
Moderate
Low

2011-2012

To here

PAN AMERICAN HEALTH ORGANIZATION
WORLD HEALTH ORGANIZATION

48th DIRECTING COUNCIL
60th SESSION OF THE REGIONAL COMMITTEE

RESOLUTION
CD48.R13

15th INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON HEALTH AND AGRICULTURE (RIMSA): "AGRICULTURE AND HEALTH: ALLIANCE FOR EQUITY AND RURAL DEVELOPMENT IN THE AMERICAS"

(e) To execute and maintain the actions required to eliminate dog-transmitted human rabies from the hemisphere by 2012;
LAC: CAPACITY FOR RABIES ELIMINATION ....

Brasil - México

Ecuador  Nicaragua

Argentina - Colombia

Venezuela - Perú
DECLARATION OF RABIES FREE COUNTRY/TERRITORIES, VARIANTS 1 AND 2

Declared: Chile, Mexico, Peru, Costa Rica, Nicaragua, Uruguay
In Process: Argentina, Brazil-south, Colombia, Equador, Equador, Venezuela
Programmed: 

Map showing countries and territories in different color-coded categories.
KEY TO SUCCESS....

- Epidemiological Surveillance: A Network for rabies diagnosis laboratories
  > more than 100 laboratories

- Medical care to people exposed (PEP)
  > 1,000,000 people bitten annually
  > 500,000 patients prophylaxis post exposition
  > 2,000,000 vaccine doses applied (> C.C.)

- Canine Vaccination
  > 45,000,000 dogs vaccinated annually

- Education, community participation
CHALLENGE: WILD RABIES RE-EMERGENCE...

Source: SIREVERA/SIEPI - PANAFTOSA/OPS  August/2011
Secondary transmission of rabies in the Americas (Wild Cycle Urbanization?)

1° Brasil
2° Costa Rica
3° Colômbia
4° Equador
WILD RABIES SURVEILLANCE: SIMPLIFICATION OF ECOSYSTEMS
<table>
<thead>
<tr>
<th>Challenges</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country/Areas with rabies: less developed:</strong></td>
<td><strong>Strengthening National Progr. bi or multinational border:</strong></td>
</tr>
<tr>
<td>- Immunobiological deficiency</td>
<td>- Policies to combat poverty</td>
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<tr>
<td>- Low dog vaccination coverage</td>
<td>- Unfinished agenda in health</td>
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<tr>
<td>- Lack integration, coordination</td>
<td>- Local Development</td>
</tr>
<tr>
<td>- Weakening national programs</td>
<td>- Declaration countries / territories free (WHO-OIE)</td>
</tr>
<tr>
<td>- Low epidemiological surveillance</td>
<td>- Strengthening Field-laboratory surveillance</td>
</tr>
<tr>
<td>•Re-emergence wild rabies cycle</td>
<td>- Strengthening regional laboratory network</td>
</tr>
<tr>
<td></td>
<td>- Strengthening active surveillance field-laboratory</td>
</tr>
</tbody>
</table>

![Pan American Health Organization](image)