

## GLOBAL ALLIANCE FOR RABIES CONTROL

# www.rabiesalliance.org Supporting Global Rabies Elimination

Prof Louis Nel Executive Director, GARC and University of Pretoria Vrede en Lust, 25 October 2016

## Why Rabies?



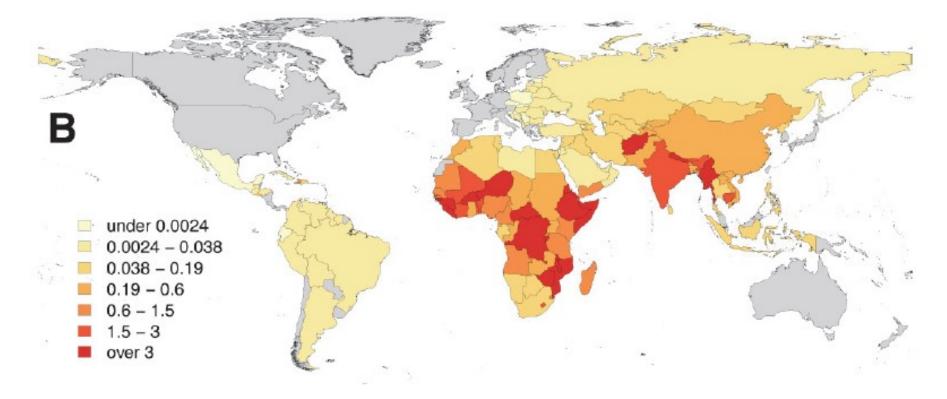
- Horrific disease of animals, humans
- Ancient but new. Known in some parts of the world for 1000's of years, became only establish in many other parts of the world in the last decades, where it is today most rampant – Africa, large parts of Asia.
- Fully preventable, completely unnecessary
- Elimination is possible and has been demonstrated in various parts of the world







# Per capita human death rates from canine rabies



#### Around 59,000 human deaths per year.

Hampson et al (2015) Estimating the global burden of endemic canine rabies.



## How big is the problem?

#### The absence of a figure is the absence of value

PLOS | NEGLECTED TROPICAL DISEASES

RESEARCH ARTICLE

#### Estimating the Global Burden of Endemic Canine Rabies

Katie Hampson<sup>1</sup>\*, Laurent Coudeville<sup>2</sup>, Tiziana Lembo<sup>1</sup>, Maganga Sambo<sup>3</sup>, Alexia Kieffer<sup>2</sup>, Michaël Attlan<sup>2</sup>, Jacques Barrat<sup>4</sup>, Jesse D. Blanton<sup>5</sup>, Deborah J. Briggs<sup>6</sup>, Sarah Cleaveland<sup>1</sup>, Peter Costa<sup>6</sup>, Conrad M. Freuling<sup>7</sup>, Elly Hiby<sup>8</sup>, Lea Knopf<sup>6</sup>, Fernando Leanes<sup>9</sup>, François-Xavier Meslin<sup>10</sup>, Artem Metlin<sup>11</sup>, Mary Elizabeth Miranda<sup>6</sup>, Thomas Müller<sup>7</sup>, Louis H. Nel<sup>12</sup>, Sergio Recuenco<sup>5</sup>, Charles E. Rupprecht<sup>6,13</sup>, Carolin Schumacher<sup>14</sup>, Louise Taylor<sup>6</sup>, Marco Antonio Natal Vigilato<sup>9</sup>, Jakob Zinsstag<sup>15</sup>, Jonathan Dushoff<sup>16</sup>, on behalf of the Global Alliance for Rabies Control Partners for Rabies Prevention

#### Globally: 59,000 deaths, 3.7 million DALYs, \$8.6 billion USD in losses every year

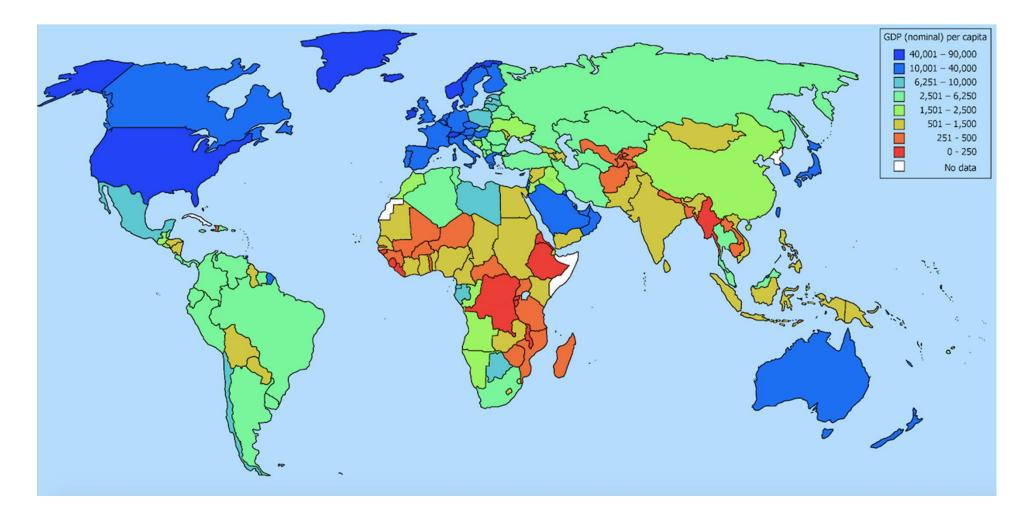
# Global burden of dog rabies





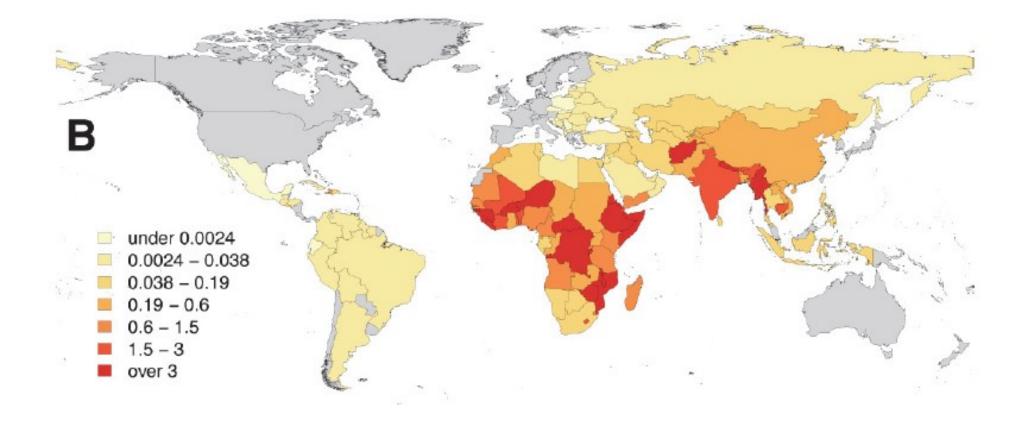


## Per capita nominal GDP

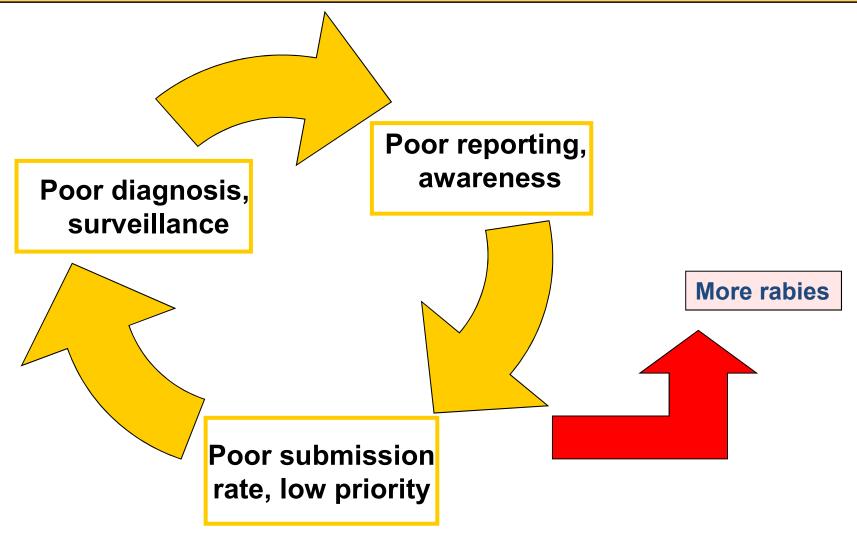


IMF, 2005

# Per capita human death rates from canine rabies



## Lab diagnosis, surveillance and rabies: The circle of neglect



#### Rabies

- Ancient!
- Most Fatal Disease!
- Completely Preventable

#### Why Neglected?

Veterinary neglect of free roaming dogs. Who is responsible?1. Dogs not economically vital2. Public health impact not appreciated

Rural communities: -Poverty -Remote location -Poor infrastructure -Negligible health care

Underreporting:

Laboratory diagnosis nonexistent and misdiagnosis common Global health agenda: Dog rabies in developing world

Less newsworthy than novel strains of influenza or coronaviruses etc.

#### Rabies:

Most Fatal Disease
Completely Preventable
Why Neglected?

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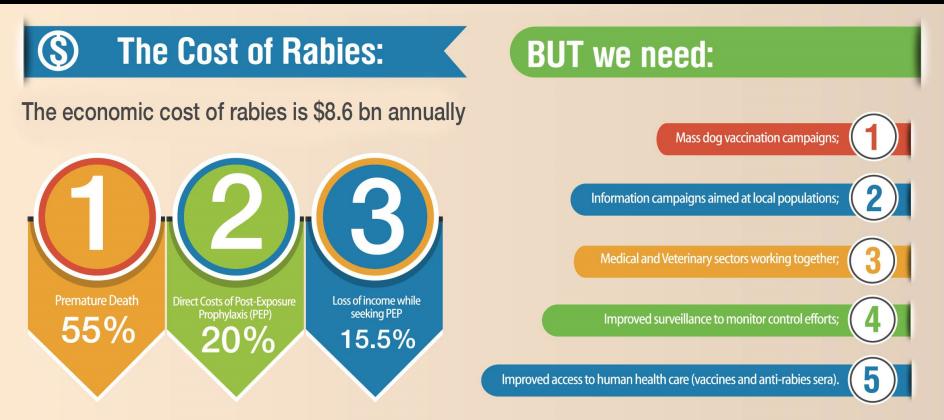
common

Global health agenda: Dog rabies in developing world

Less newsworthy than novel strains of influenza or coronaviruses etc.

Rural communities: -Poverty -Remote location -Poor infrastructure -Negligible health care

GNORE



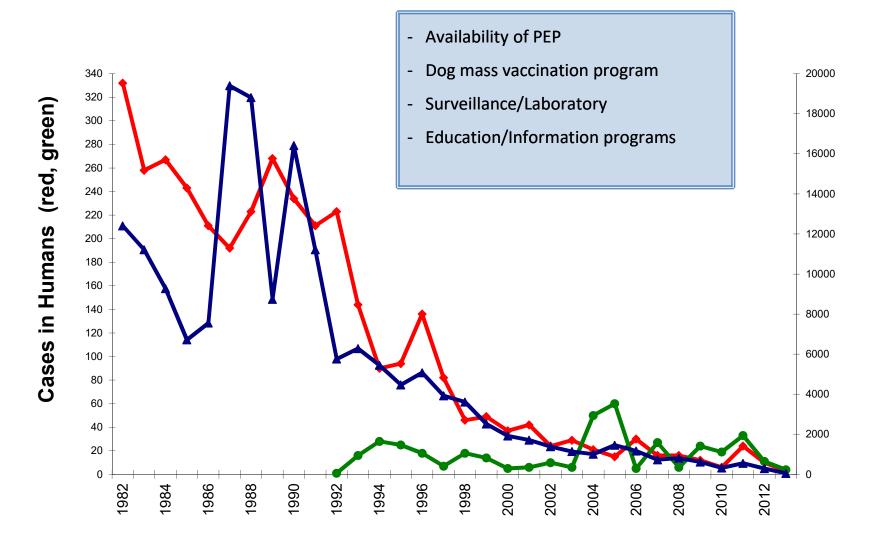
(source: Dr Katie Hampson, Glasgow University)



Investment in **dog vaccination** is the single most effective way of reducing the disease burden. At the moment, dog vaccination accounts for just **1.5% of rabies costs.** 

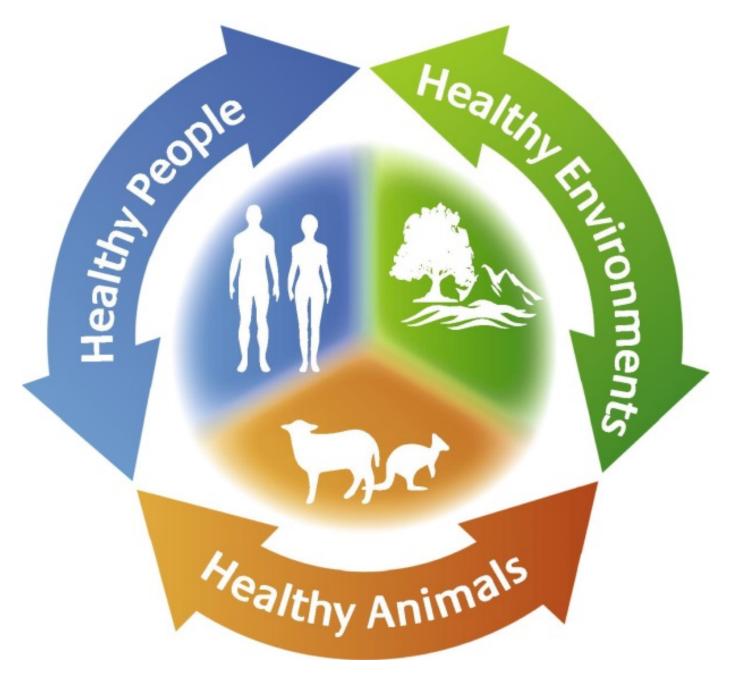


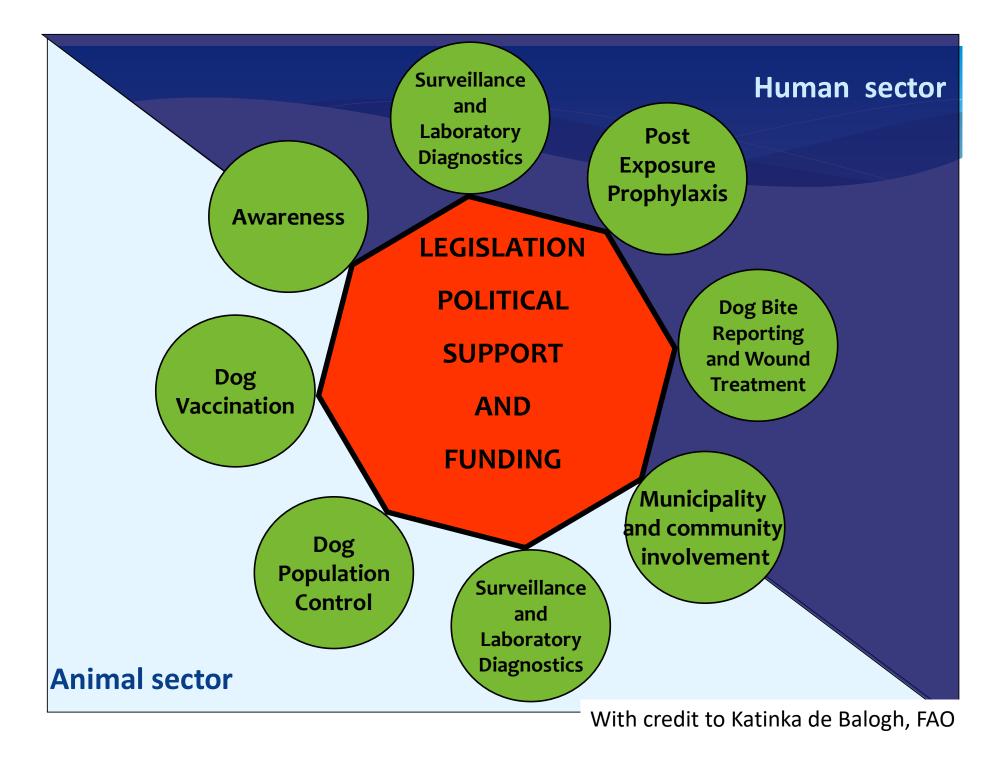
#### Rabies Cases across Latin America, 1982 – 2013 Graph drawn by PAHO, from SIRVERA data

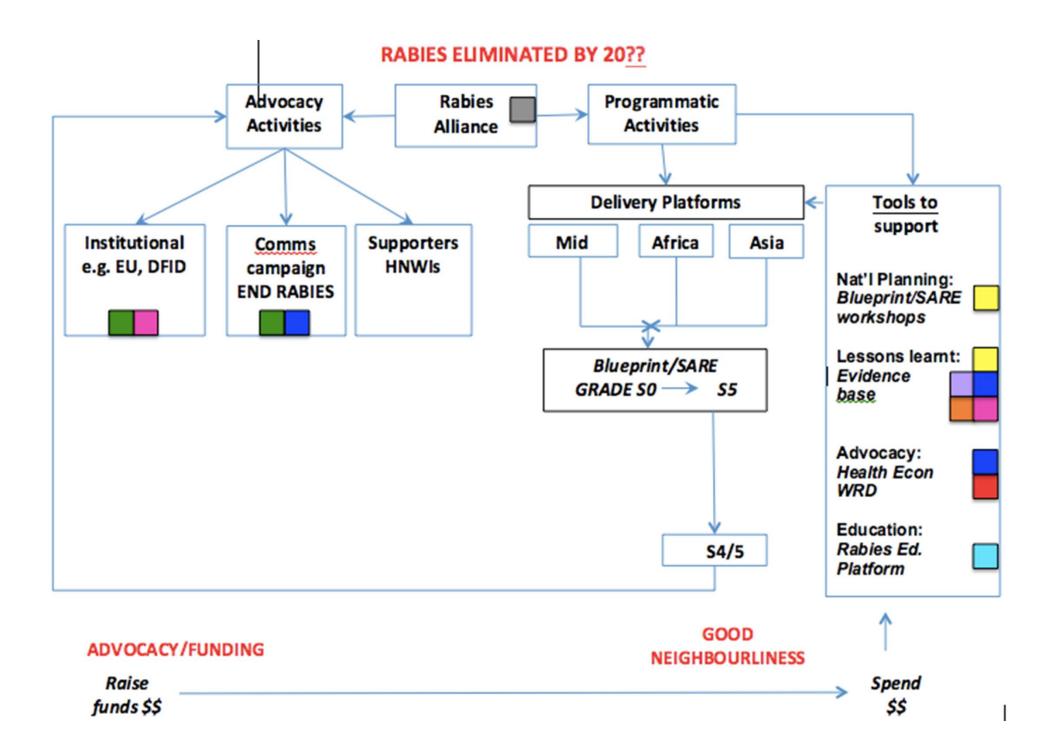


Cases in Dogs (blue)

## **The One Health Triad**





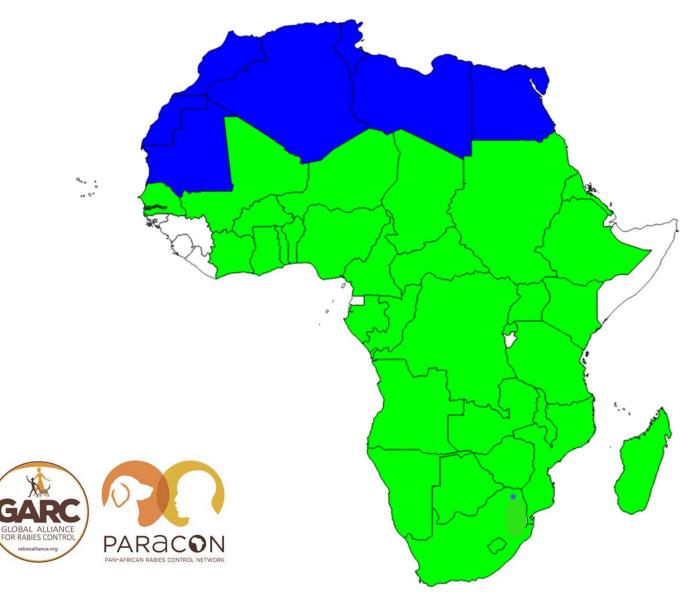


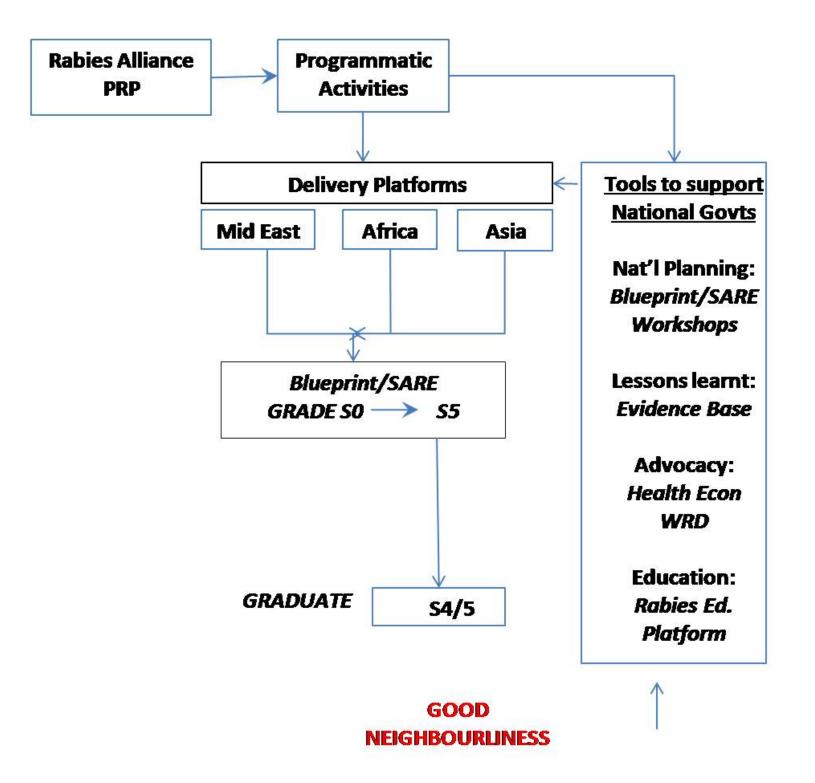
#### Pan African Rabies Control Network



**ABOUT US** 

### Pan African Rabies Control Network





- •2015: Workshop pre-assessment country reports
- •2015: 1<sup>st</sup> Blueprint-SARE workshop country assessment
- •Regions: Africa, Asia

Countries divided according to Blueprint-SARE stage SO-S5

Capacity building for Year 1 target countries

Year 2 target countries selected for capacity building Capacity building continues for Year 1 countries

- 2016: 2nd Blueprint-SARE workshop in each region
- Parallel sessions with countries grouped according to Blueprint-SARE stage

•2017: 3<sup>rd</sup> Blueprint-SARE workshop in each region

> Evaluation of target country progress along Blueprint-SARE scale Expansion of programme

• Tools and progress shared Advocacy activities



## www.RabiesBlueprint.org

#### rabiesblueprint

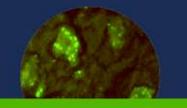
The Blueprint for Rabies Prevention and Control has been developed by global rabies experts to serve as a guide for countries that would like to prevent human rabies by eliminating animal rabies within their borders.

It provides access to all relevant international guidelines for rabies control and prevention, together with practical information, advice and case studies on how rabies control can be achieved.

#### What area of rabies are you most interested in?



Visit caninerabiesblueprint.org





Visit rabiessurveillanceblueprint.org



Fox rabies

Visit foxrabiesblueprint.org

FOR RABIES CONTRO



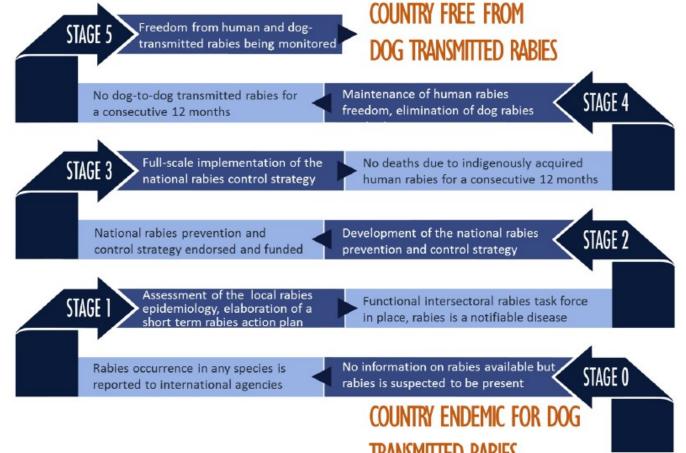
in dog populations



English

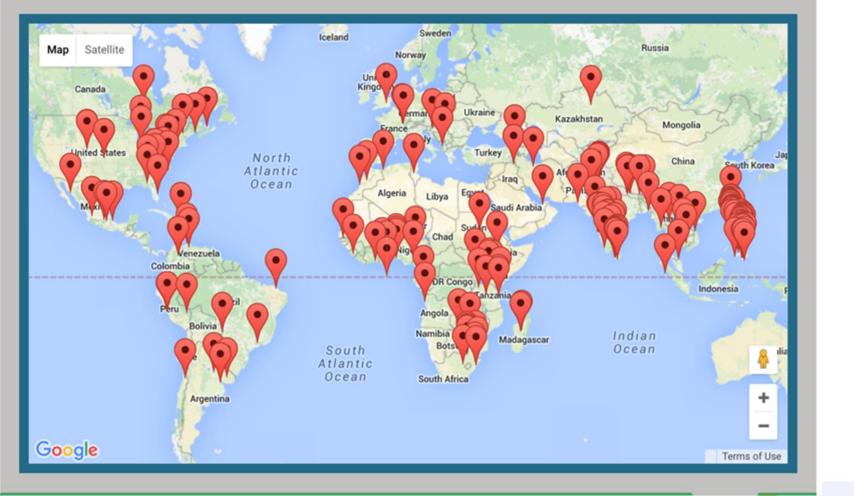
\*

CANINE RABIES -



TRANSMITTED RABIES

### WRD2016: Educate, Vaccinate, Eliminate



rabiesalliance.org/world-rabies-day/events/report-event





## **End Rabies Now Campaign**





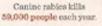








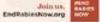
Vaccinating dogs can prevent human deaths.





Together we can eliminate human deaths from canine rabies by 2030.

#### ENDRABIESNOW





Global Alliance Rabies Control





Date	Time	Topic	Activity	Presenter
Tuesday,	08:00 - 08:30		Registration	
25 October	08:30-08:45	Welcoming address: GARC	Presentation	Louis Nel
2016	08:45-09:05	PARACON progress report	Presentation	Andre Coetzer
	09:05 - 09:15	Country representative	Presentation	Country
DAY 1		introduction – Lesotho		Representatives
	09:15-09:25	Country representative	Presentation	Country
Session 1		introduction – Mozambique		Representatives
	09:25 - 09:35	Country representative	Presentation	Country
		introduction – Swaziland		Representatives
	09:35 - 09:45	Country representative	Presentation	Country
		introduction – Zanzibar		Representatives
	09:45 - 09:55	Country representative	Presentation	Country
		introduction – Zimbabwe		Representatives
	09:55 - 10:10	Rabies Blueprint – Use in	Presentation	Andre Coetzer
		SARE		
	10:10 - 10:30		Discussion session	
	10:30 - 11:00		Coffee/Tea break	
Day 1	11:00 - 11:20	SARE Workshop Intro	Presentation	Terence Scott
	11:20 - 12:30		SARE Workshop:	
Session 2			Overview and Case	
			studies	

Animal Animal Rabies Control				
Day 1 Session 3 Chair:	13:30 - 15:30		SARE Workshop: SARE Output tool	Facilitators: Andre Coetzer & Terence Scott
	15:30 - 15:50		Coffee/Tea Break	
Day 1	15:50 - 16:20	GARC Education Platform: Overview	Presentation	Andre Coetzer
Session 4	16:20 - 16:35	Rabies Advocacy: End Rabies Now campaign	Presentation	Louis Nel
	16:35 - 16:55	World Animal Protection: Dog Population Management and the focus of WAP on veterinary neglect	Presentation	Nick De Souza
	16:55 – 17:05	World Rabies Day 2016: Educate, Vaccinate, Eliminate – Feedback session	Presentation	Andre Coetzer
	17:05 - 17:30		WRD Brainstorming and country feedback	
	18:30 -		Drinks followed by BBQ dinner	







Date	Time	Торіс	Activity	Presenter
Wednesday,	08:30 - 08:45	Importance of Data	Presentation	Terence Scott
26 October 2016	08:45 - 09:00	Introduction to the	Presentation	Andre Coetzer
		PARACON bulletin		& Terence Scott
DAY 2	09:00 - 10:00		PARACON bulletin	
			registration and	
Session 1			walkthrough	
	10:00 - 10:30		Coffee/Tea break	
DAY 2	10:30 - 12:15		PARACON bulletin	
			workshop: Data	
Session 2			entry, visualisation	
			and generating	
			reports	
	12:15 - 13:15		Lunch	
DAY 2	13:15 - 13:30	Versatility and	Presentation	Andre Coetzer
		implementation of the		
Session 3		PARACON bulletin		
	13:30 - 13:55	Recap of yesterday's SARE	Presentation	Terence Scott
		workshop experience		
	13:55 - 15:00		SARE Prioritization	
			Workshop	
	15:00 - 15:15		Time for delegates	
			to create	
			presentations	



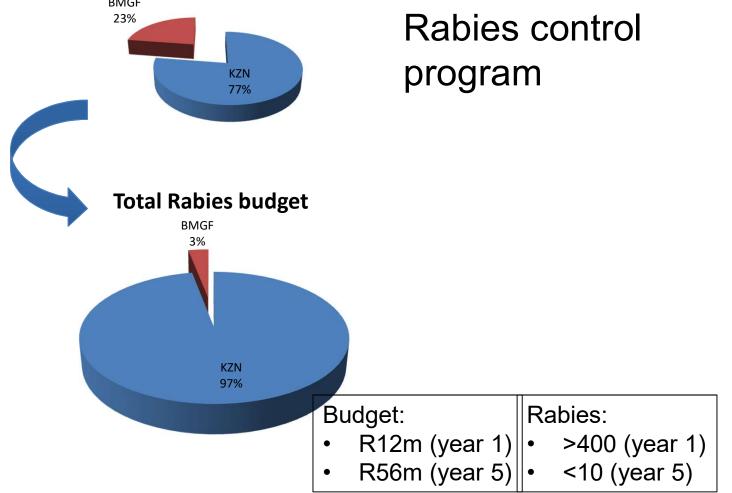


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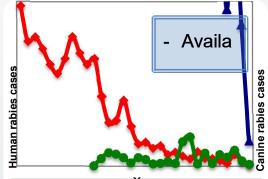
	15:15 - 15:35		Coffee/Tea break	
Day 2	15:35 - 15:55	Country priority activity	Presentation	Country
		analysis – Zimbabwe		representatives
Session 4	15:55 - 16:05	Country priority activity	Presentation	Country
		analysis – Zanzibar		representatives
	16:05 - 16:15	Country priority activity	Presentation	Country
		analysis – Swaziland		representatives
	16:15 - 16:25	Country priority activity	Presentation	Country
		analysis – Mozambique		representatives
	16:25 - 16:35	Country priority activity	Presentation	Country
		analysis – Lesotho		representatives
	16:35 - 16:55	Meeting Recap: Developing	Presentation	Andre Coetzer
		a National Strategy using		& Terence Scott
		available tools		
	16:55 - 17:30		Discussion session	
	17:30 - 17:45		Closing Remarks	
	18:30 -		Drinks followed by	
			BBQ dinner	

End of Workshop





## **DOG RABIES SHOULD BE HISTORY**



Casos Humanos transmitidos...

## Sijova Izinja Vaccinate Dogs

## Pan African Rabies Control Network

Louis Nel Global Alliance for Rabies Control (GARC) and University of Pretoria, South Africa





## Pasteur's Rabies vaccine, 1885

836

HARPER'S WEEKLY.

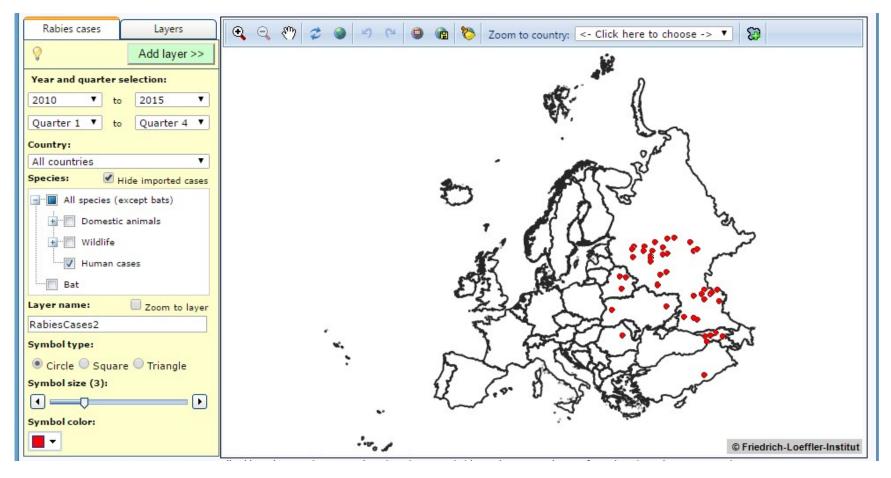
VOLUME XXIX, NO. 1518.



"An Inoculation for Hydrophobia-From L'Illustration," Harper's Weekly 29:1513 (December 19, 1885), p. 836. Bert Hansen Collection, New York



## Deaths from Rabies in Europe now

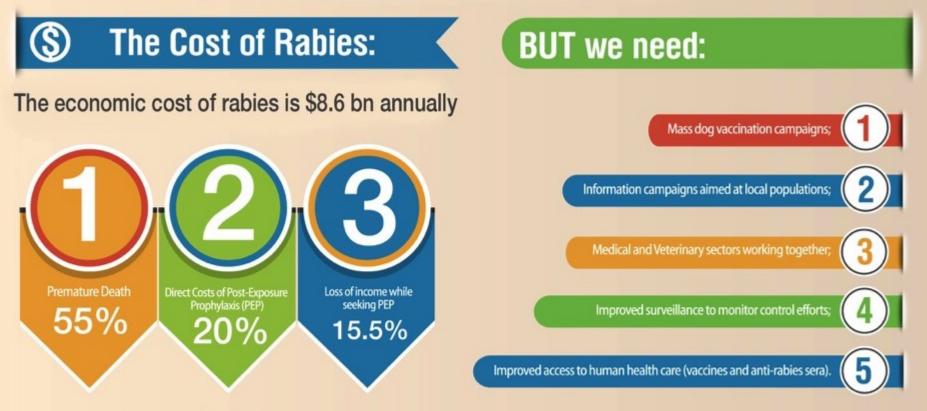


#### from 2010 to 2015 – 55 human deaths

source: Rabies Bulletin Europe

# Global burden of dog rabies





(source: Dr Katie Hampson, Glasgow University)



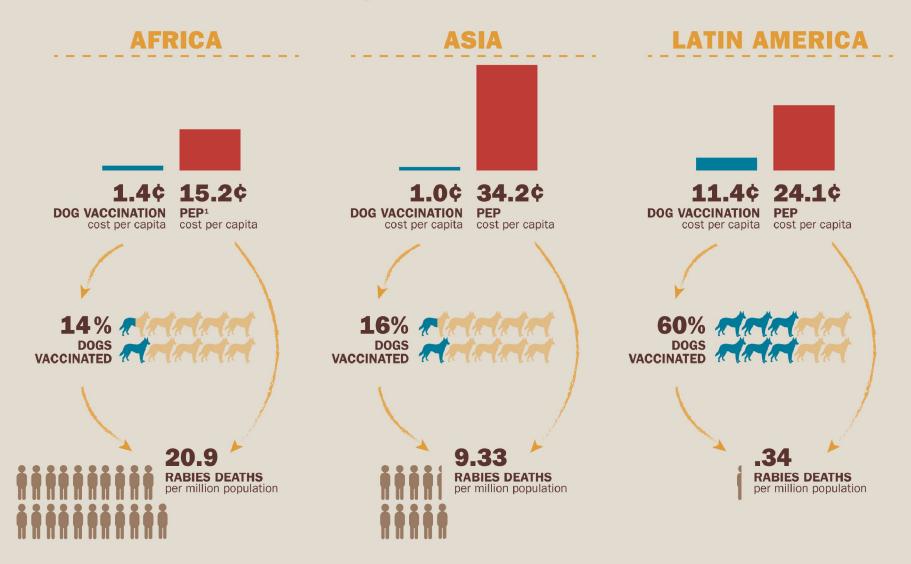
Investment in **dog vaccination** is the single most effective way of reducing the disease burden. At the moment, dog vaccination accounts for just **1.5% of rabies costs.** 



## GARC's aims

- To unite a community
- To start raising awareness
- To identify and fill the gaps in knowledge and tools for rabies management.
- To demonstrate what can be achieved
- To encourage applied research
- To build the case for international investment

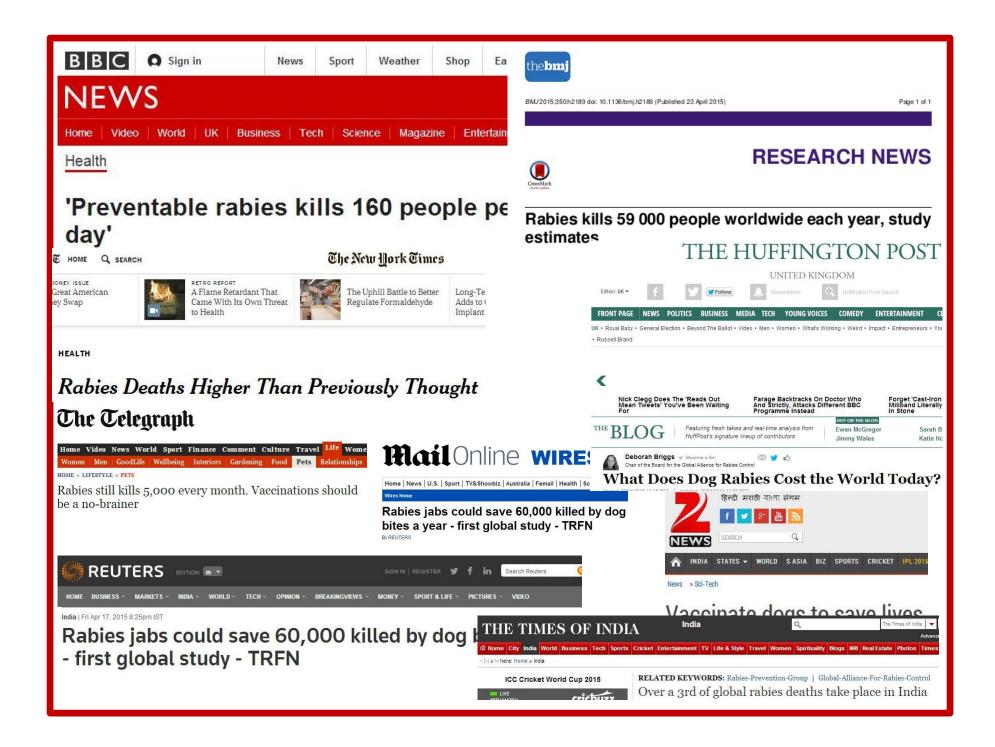
#### **Current Spending on Rabies Vaccination**



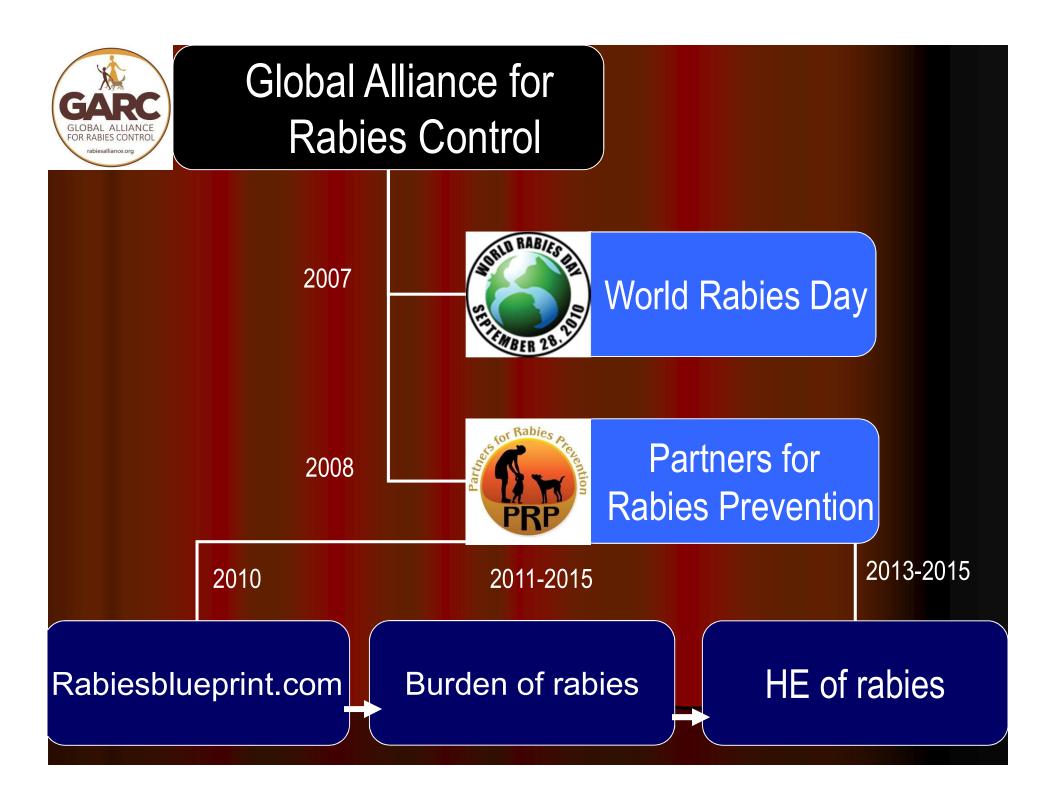
1 PEP - Post Exposure Prophylaxis is a course of vaccinations that protects a person against rabies after exposure to the virus. Costs are in US currency. **Source:** Estimating the Global Burden of Endemic Canine Rabies, K. Hampson et. al. PLoS Negl Trop Dis. 2015 May;9(5)

GLOBAL ALLIANCE FOR RABIES CONTROL PARTNERS FOR RABIES PREVENTION

rabiesalliance.org



# **IF YOU WANT TO** GO FAST, GO ALONE. **IF YOU WANT TO** GO FAR, GO TOGETHER. -AFRICAN PROVERB



#### ELIMINATE CANINE RABIES

Introduction

Roles and Responsibilities

Infrastructure, legislative framework, costs and funding

Communications plan

Operational activities

A stepwise approach to planning and evaluation

→ 6.1 Why a tool for stepwise rabies control?

→ 6.2 The Concept behind SARE

→ 6.3 Overarching principles for planning and evaluating

→ 6.4 Overview of the stages

→ 6.5 Stage 0

→ 6.6 Stage 1

→ 6.7 Stage 2

→ 6.8 Stage 3

→ 6.9 Stage 4

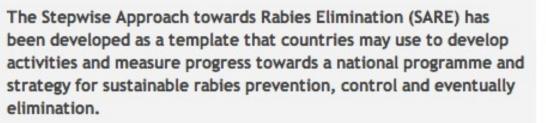
→ 6.10 Stage 5

LINKS

CONTRIBUTORS

Home page > ELIMINATE CANINE RABIES > A stepwise approach to planning and evaluation

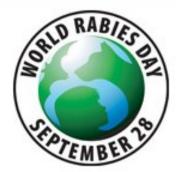
# A stepwise approach to planning and evaluation



See here for a PDF version of this section.

- 6.1 Why a tool for stepwise rabies control?
- 6.2 The Concept behind SARE
- 6.3 Overarching principles for planning and evaluating
- 6.4 Overview of the stages
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- 6.9 Stage 4
- 6.10 Stage 5



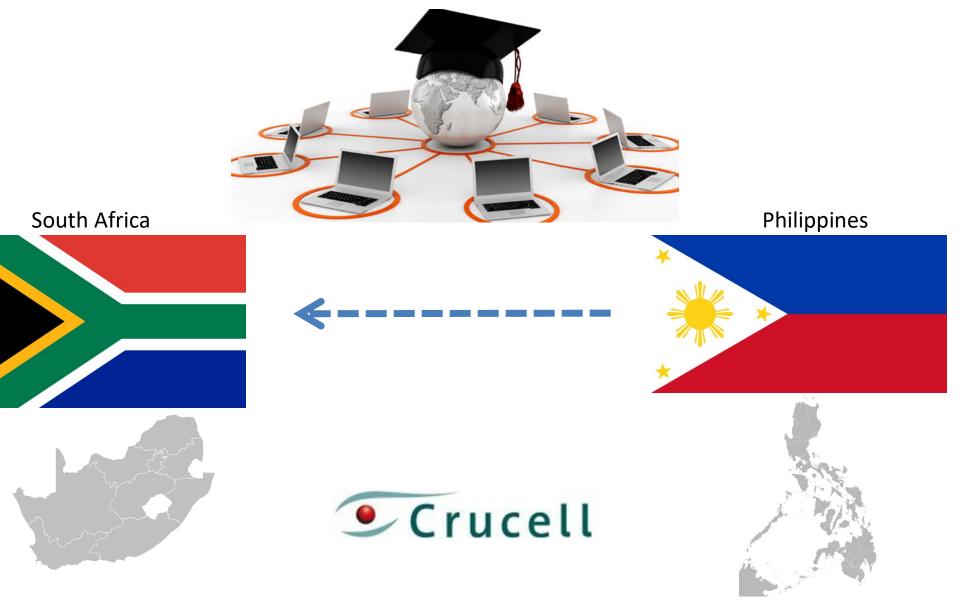


### Day 3 Thursday 11 June: Morning session

08:00 - 08:15	Potential for the Blueprint/SARE in western Africa	Presentation	Hervé Bourhy
08:15 - 08:30	Potential for the Blueprint/SARE in eastern Africa	Presentation	Sarah <u>Cleaveland</u>
08:30 - 08:45		Discussion	
08:45 -09:00	Education/Innovation: GARC/Netcare bite prevention booklet	Presentation	René <u>Grobler</u>
09:00 - 09:15	Education/Innovation: E-Learning and training exercises in West Africa	Presentation	Hervé Bourhy
09:15 - 09:30	Education/Innovation: GARC programmes (Philippines)	Presentation	Chari <u>Amparo</u>
09:30 - 09:45	GARC Education Programmes: The Rabies Educator Certificate	Presentation	Andre <u>Coetzer</u>

# **Rabies Educator certificate**





## WRD 2013 Tripartite statement



Mass dog vaccinations and public awareness key to breaking cycle of transmission



GLOBAL ALLIANCE

Livestock can become infected with rabies by dogs or wildlife resulting in economic losses and impacting food.

27 September 2013, Rome - The Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) and the World Health Organization (WHO) have issued the following joint statement on the occasion of World Rabies Day.

#### UNITED AGAINST RABIES

On World Rabies Day – 28 September – FAO, OIE and WHO unite in their goal to eliminate human rabies and control the

#### Day 3 Thursday 11 June: Afternoon session

11:45 - 12:45	WORKSHOP 3: GA	WORKSHOP 3: GARC Education Program (GEP) workshop		
12:45 - 14:15	Lunch	Lunch		
14:15 - 14:45	Completion of GE	Completion of GEP questionnaires and discussion		
14:45 - 15:00	Education and	Presentation	Emmanuel Mpolya	
	innovation: Mobile			
	phone technology			
15:00 - 15:15	Education and	Presentation	Terence Scott	
	innovation: Mobile			
	phone and Clicker			
	technology			
15:15 - 15:30		Discussion		
15:30 - 16:00		Coffee break		
16:00 - 16:45	WORKSHOP 4: WRD brainstorming and registration			
17:30 - 18:00	Rapporteur feedb	ack and discussion	Nicolette Wright and	
			Louise Taylor	
18:00 - 18:15	Summary and close	ing	Louis Nel	

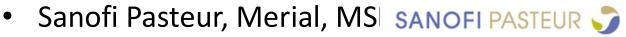


Donors and partners made this inaugural PARACON possible. Our sincere appreciation goes to:

• FAO, OIE, WHO



Food and Agriculture Organization of the United Nations World Organisation for Animal Health World Health Organization



- World Animal Protection
- UBS Optimus Foundation



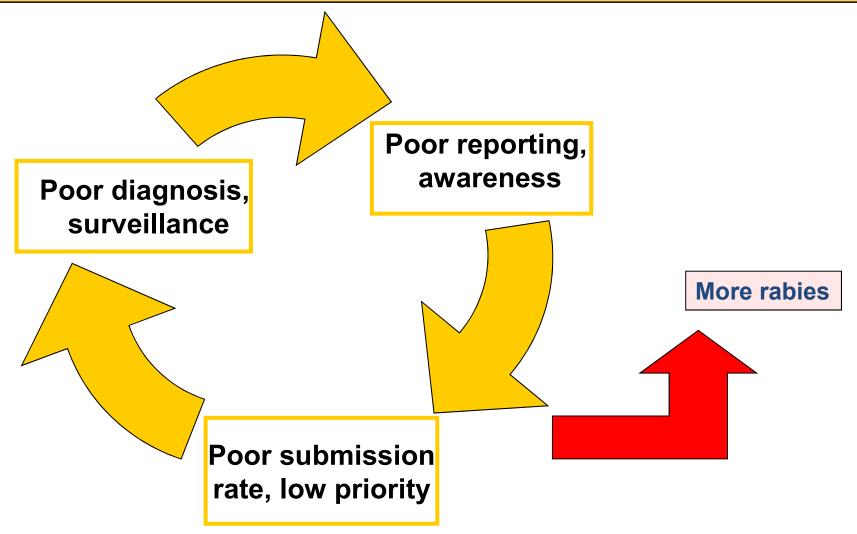


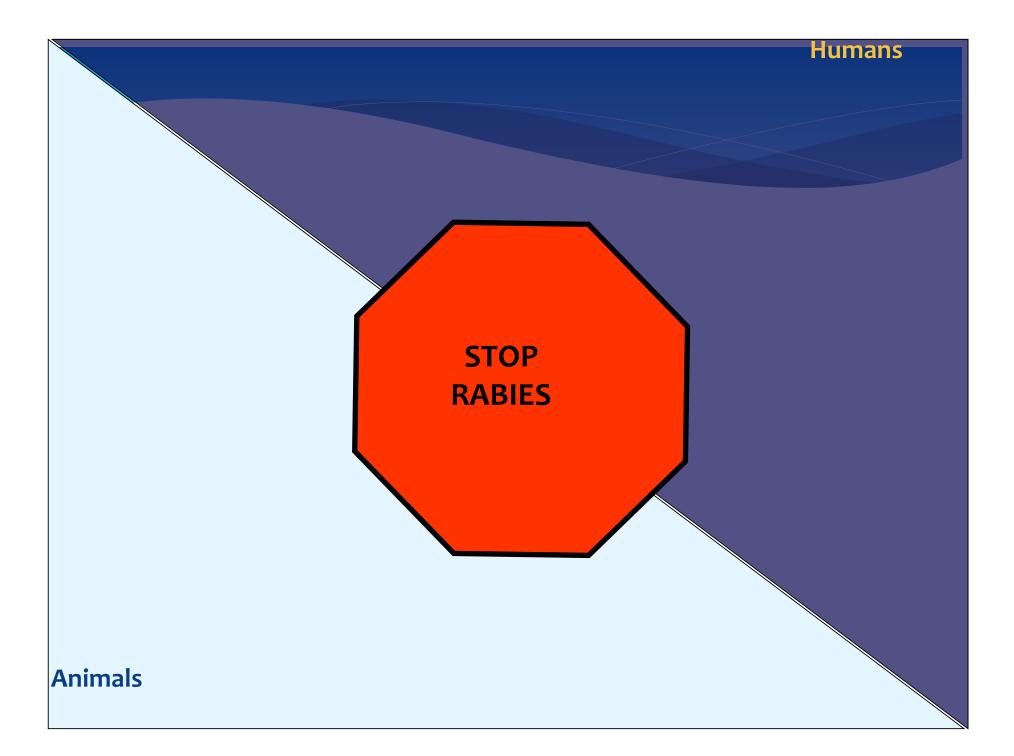
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# **IF YOU WANT TO** GO FAST, GO ALONE. **IF YOU WANT TO** GO FAR, GO TOGETHER. -AFRICAN PROVERB

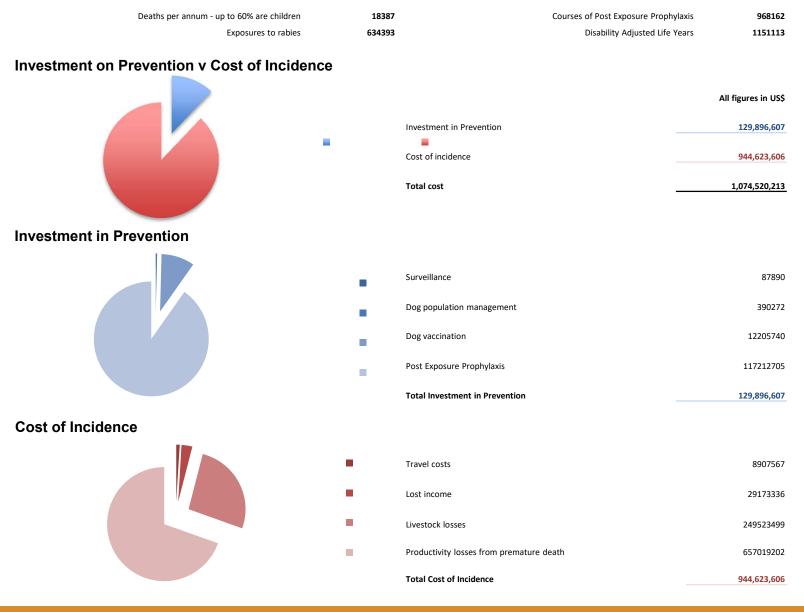
# Lab diagnosis, surveillance and rabies: The circle of neglect





# **Supporting Global Rabies Elimination**

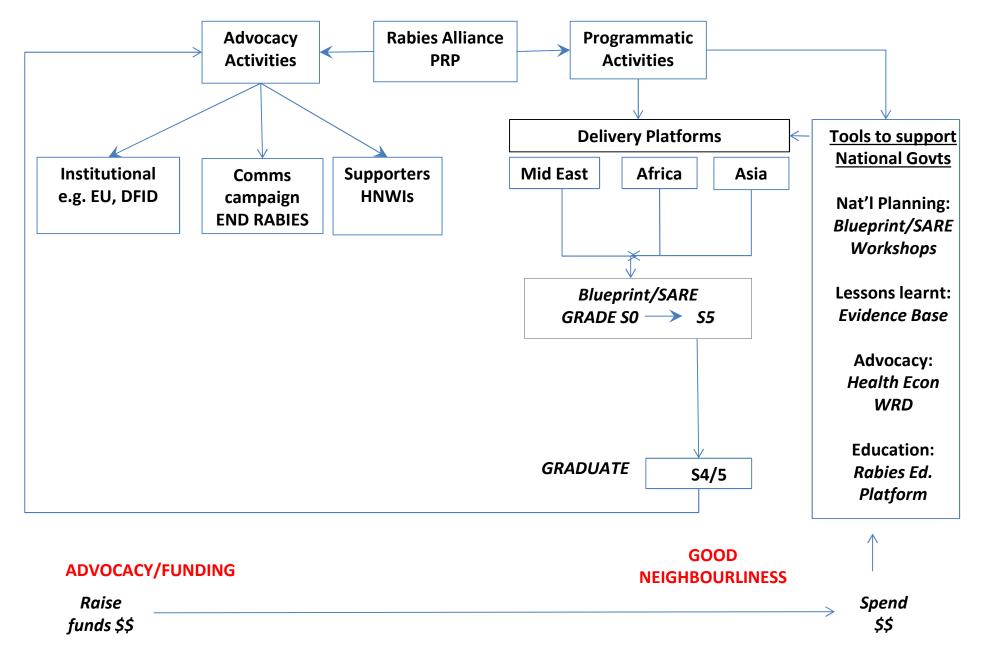
#### **Combined Burden of Rabies in PARACON Countries**



Source: Estimating the Global Burden of Endemic Canine Rabies

http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0003709

#### **RABIES ELIMINATED BY 2030?**





### Generating the evidence base: Disease burden



RESEARCH ARTICLE

#### Estimating the Global Burden of Endemic Canine Rabies

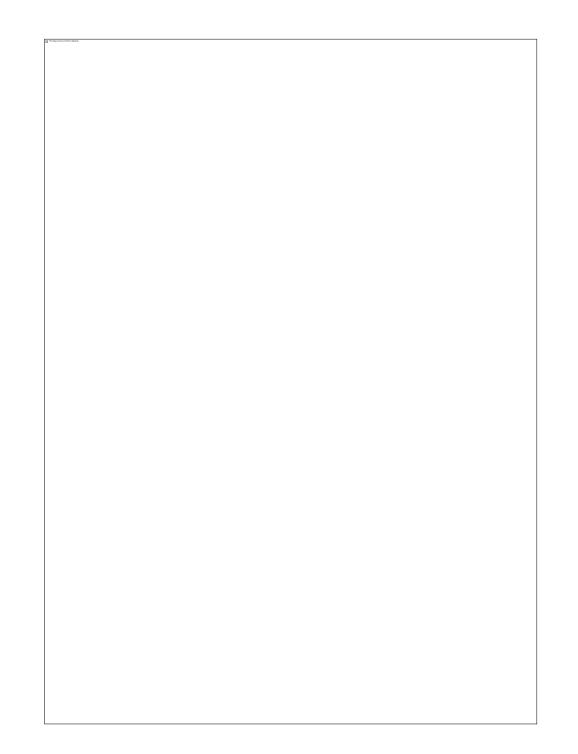
Katie Hampson<sup>1</sup>\*, Laurent Coudeville<sup>2</sup>, Tiziana Lembo<sup>1</sup>, Maganga Sambo<sup>3</sup>, Alexia Kieffer<sup>2</sup>, Michaël Attlan<sup>2</sup>, Jacques Barrat<sup>4</sup>, Jesse D. Blanton<sup>5</sup>, Deborah J. Briggs<sup>6</sup>, Sarah Cleaveland<sup>1</sup>, Peter Costa<sup>6</sup>, Conrad M. Freuling<sup>7</sup>, Elly Hiby<sup>8</sup>, Lea Knopf<sup>6</sup>, Fernando Leanes<sup>9</sup>, François-Xavier Meslin<sup>10</sup>, Artem Metlin<sup>11</sup>, Mary Elizabeth Miranda<sup>6</sup>, Thomas Müller<sup>7</sup>, Louis H. Nel<sup>12</sup>, Sergio Recuenco<sup>5</sup>, Charles E. Rupprecht<sup>6,13</sup>, Carolin Schumacher<sup>14</sup>, Louise Taylor<sup>6</sup>, Marco Antonio Natal Vigilato<sup>9</sup>, Jakob Zinsstag<sup>15</sup>, Jonathan Dushoff<sup>16</sup>, on behalf of the Global Alliance for Rabies Control Partners for Rabies Prevention

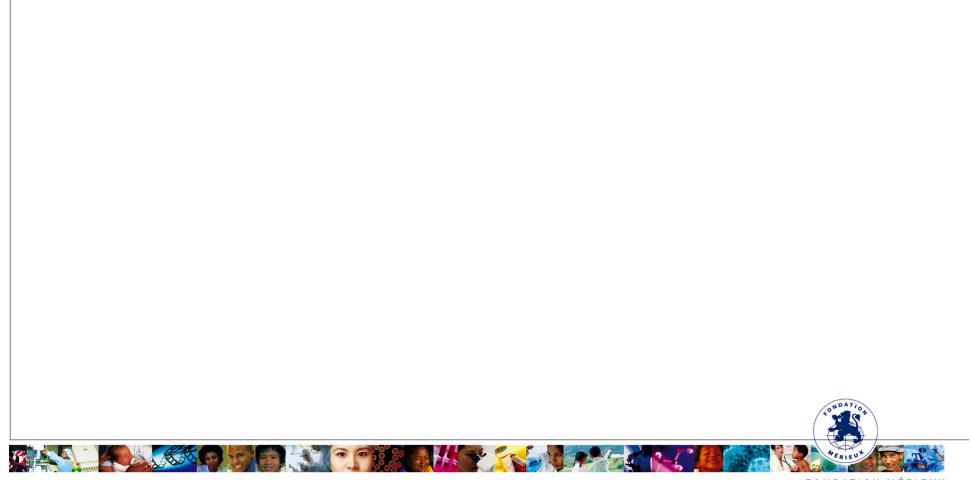


### Generating the evidence base: Health Economics

# **Evaluation of cost-benefit of rabies prevention and control**

### Feb 2015





FONDATION MÉRIEUX

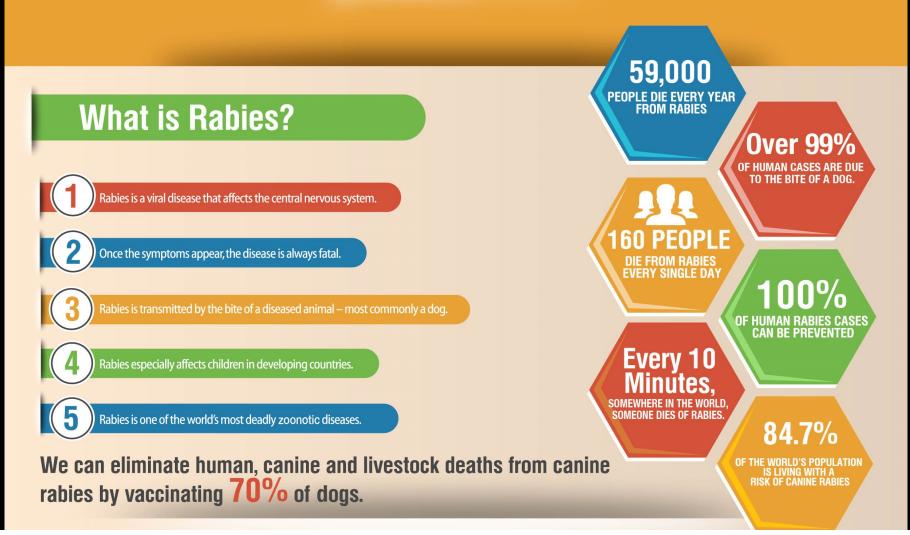
Paracon nations will consider the BP and SARE in their National strategies for rabies Control and elimination

Paracon nations will develop national strategies for rabies control and elimination Based o

## **The Global Burden of Endemic Canine Rabies**

A Major New Study from the Global Alliance for Rabies Control and its Partners for Rabies Prevention





# Perspective - Dr B. Mtei (OIE) at the occasion of SEARG 2011

"...brings me to the idea of FAO, OIE and WHO, we always talk of pathways (Rinderpest, FMD pathways).....

is it not time ... to start seriously thinking about a progressive rabies control pathway in Africa, where we ... can see progress being made in the control of this disease...

I believe WHO, OIE and FAO would be very much interested in participating in developing such ... progressive rabies control pathway ... and the countries can move ahead, rather than coming here every year and listening to the same story all over."