Introduction to the Rabies Blueprint

Global Alliance for Rabies Control

2007

World Rabies Day

2008

Partners for Rabies Prevention

2010

Rabiesblueprint.org

2011-2014

Burden of rabies

2013-2015

HE of rabies

www.RabiesBlueprint.org

A stepwise approach to planning and evaluation

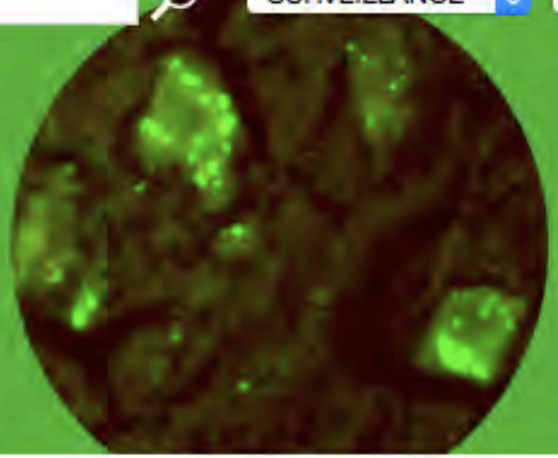
The Stepwise Approach towards Rabies Elimination (SARE) has been developed as a template that countries may use to develop activities and measure progress towards a national programme and strategy for sustainable rabies prevention, control and eventually elimination.

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
- 6.5 Stage 0
- 6.6 Stage 1
- 6.7 Stage 2
- 6.8 Stage 3
- 6.9 Stage 4
- 6.10 Stage 5

rabiessurveillanceblueprint.org

a blueprint for the surveillance of rabies in any species



SURVEILLANCE BLUEPRINT

Introduction

Rabies Surveillance

Minimum requirements for adequate rabies surveillance

Laboratory rabies diagnosis

Epidemiological analyses

Reporting, dissemination and communication

LINKS

Documents

CONTRIBUTORS

→ The contributors

Welcome to the Rabies Surveillance Blueprint

The First version of the Rabies Surveillance Blueprint is now complete

The Rabies Surveillance Blueprint has been developed by global rabies experts to serve as a guide for countries that would like to improve surveillance for rabies in any species.

The Blueprint brings together relevant information on rabies surveillance in an easily accessible format. It is not meant to replace existing material or national guidelines but rather is meant to serve as an easy to use guide to assist countries in understanding how to conduct rabies surveillance, as well as how to report and use the data generated to improve rabies control in any species.

PARTNER LINKS

GLOBAL ALLIANCE FOR RABIES CONTROL

WORLD RABIES DAY

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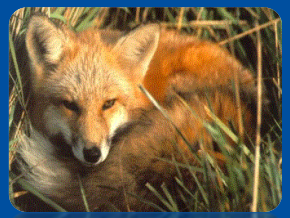
FLI
Bundesforschungsinstitut für Tiergesundheit
Federal Research Institute for Animal Health

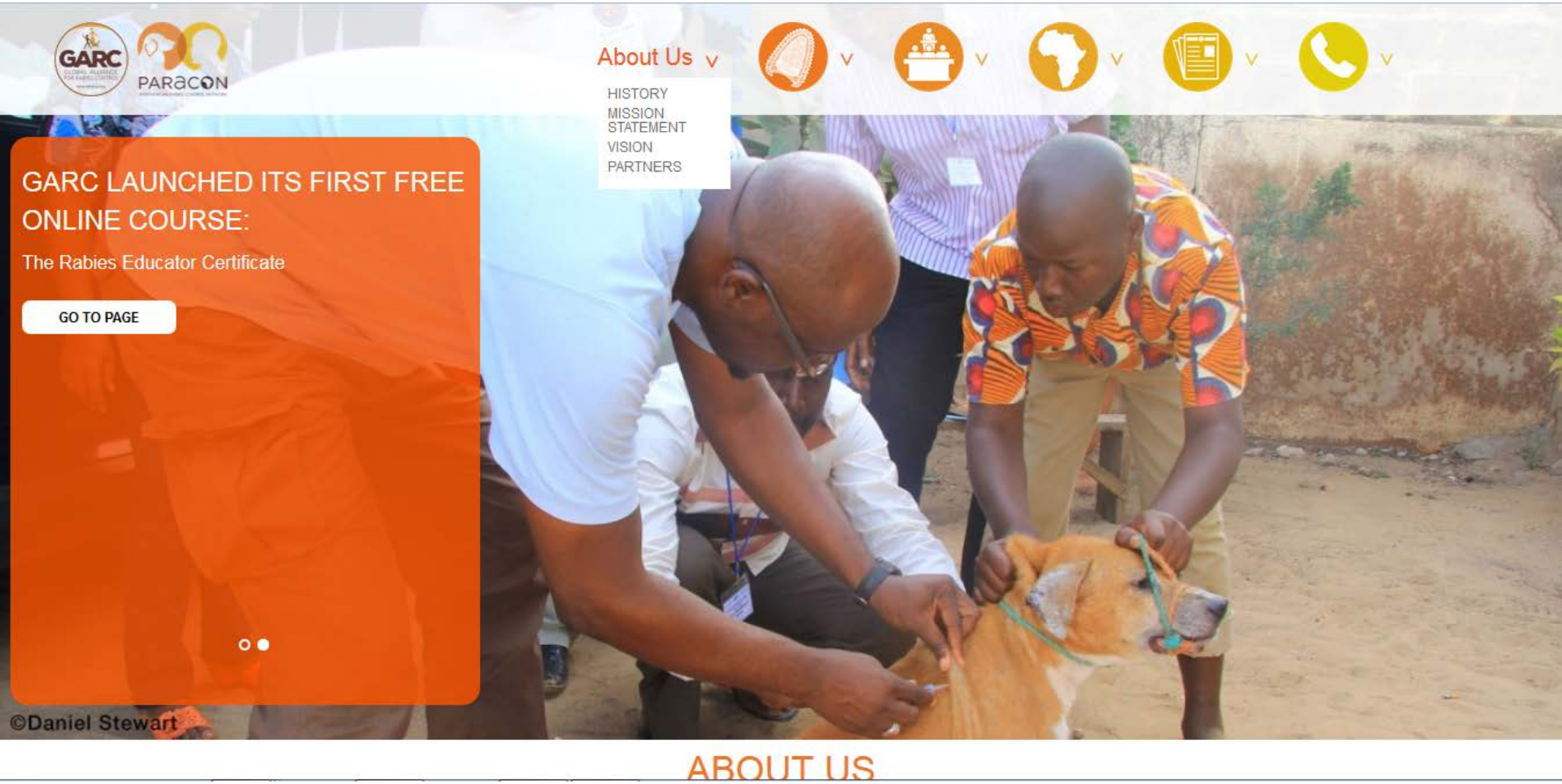
The rabies surveillance blueprint

A new information and learning module



Thomas Müller

Pan African Rabies Control Network

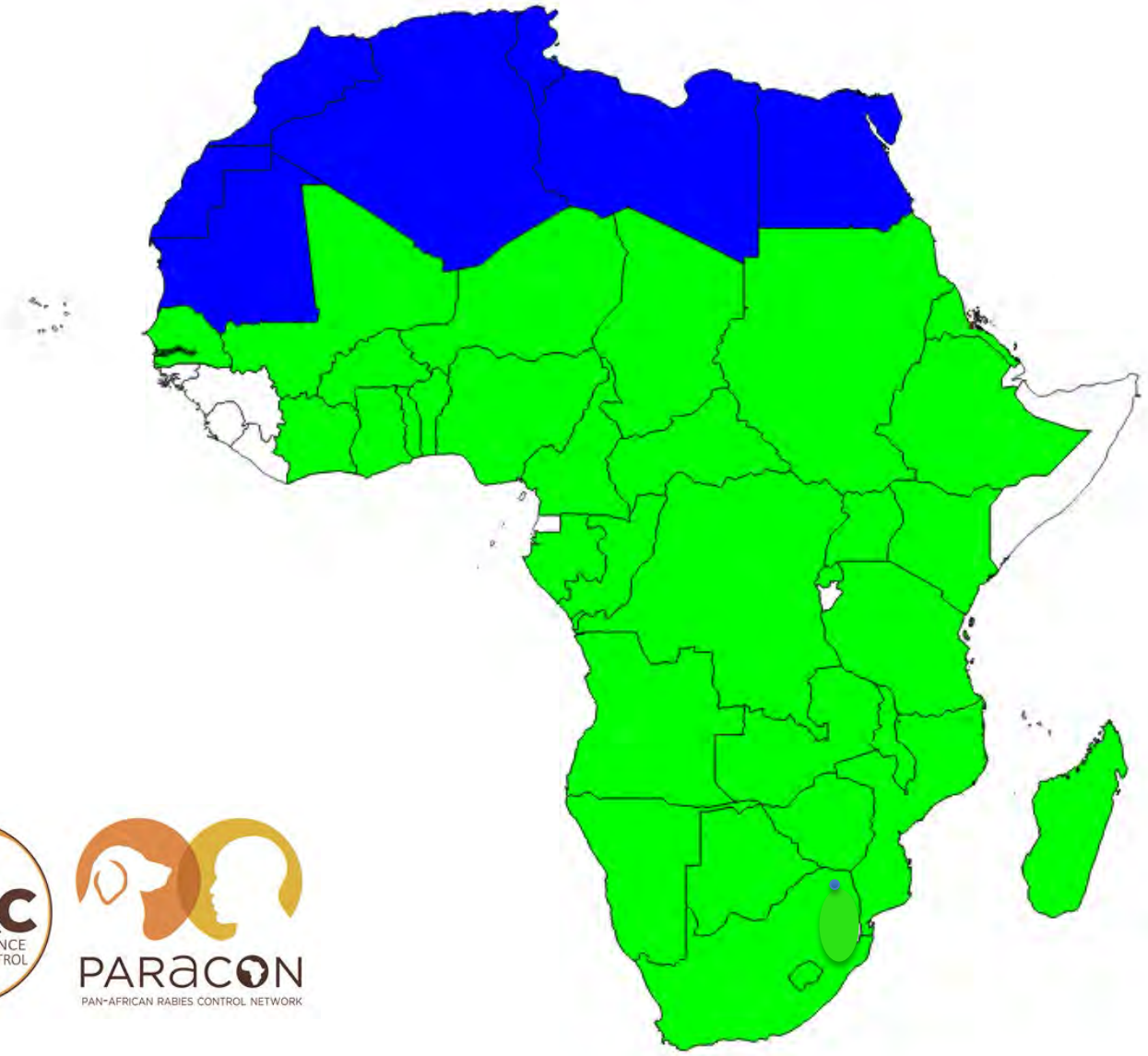


Day 1

Tuesday 9 June: Afternoon session

12:15 – 13:45		**Lunch**	
13:45 – 14:15	Canine Rabies Blueprint: Dynamics	Presentation	Louise Taylor
14:15 – 14:30	Surveillance Blueprint: Dynamics	Presentation	Thomas Müller
14:30 – 14:45	Rabies Blueprint: Human rabies in Africa; Update	Presentation	Lucille Blumberg
14:45 – 15:00	Rabies Blueprint: Human rabies in Africa; Diagnosis	Presentation	Jacqueline Weyer
15:00 – 15:15	Rabies Blueprint: Diagnosis	Presentation	Claude Sabeta
15:15 – 15:30	Animal rabies diagnostics: RESOLAB network	Presentation	Paola De Benedictis
15:30 – 15:45	DRIT: Case study	Presentation	Juliet Kabajani
15:45 – 16:45	**WORKSHOP 1: Individual analysis of the Blueprint & Coffee break**		
16:45 – 17:45	**Discussion & completion of the Blueprint questionnaire**		

Pan African Rabies Control Network



GARC
GLOBAL ALLIANCE FOR RABIES CONTROL
rabiesalliance.org

PARACON
PAN-AFRICAN RABIES CONTROL NETWORK

A Users Guide to The Blueprint for Canine Rabies Control

Louise Taylor, GARC

PARACON, June 7-9, Gauteng, South Africa

www.RabiesBlueprint.org

CanineRabiesBlueprint.org

- **Third version - fully revised and completed September 2014**
- **English and French online now, Spanish to follow**
  (thanks to all our translators and especially Jacques Barrat)

Overview of the Site

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3. Infrastructure, legislative framework, costs and funding	
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➔ 3.3.4. To what extent is rabies prevention and control a priority and has secure funding?
➔ 3.3.5. What sources of funding might be available for dog rabies control?
➔ 3.3.6. What
Home page › ELIMINATE CANINE RABIES › Infrastructure, legislative framework, costs and (...) › 3.3. Costs and Funding
3.3. Costs and Funding
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• 3.3.1. How much is a dog vaccination programme going to cost?
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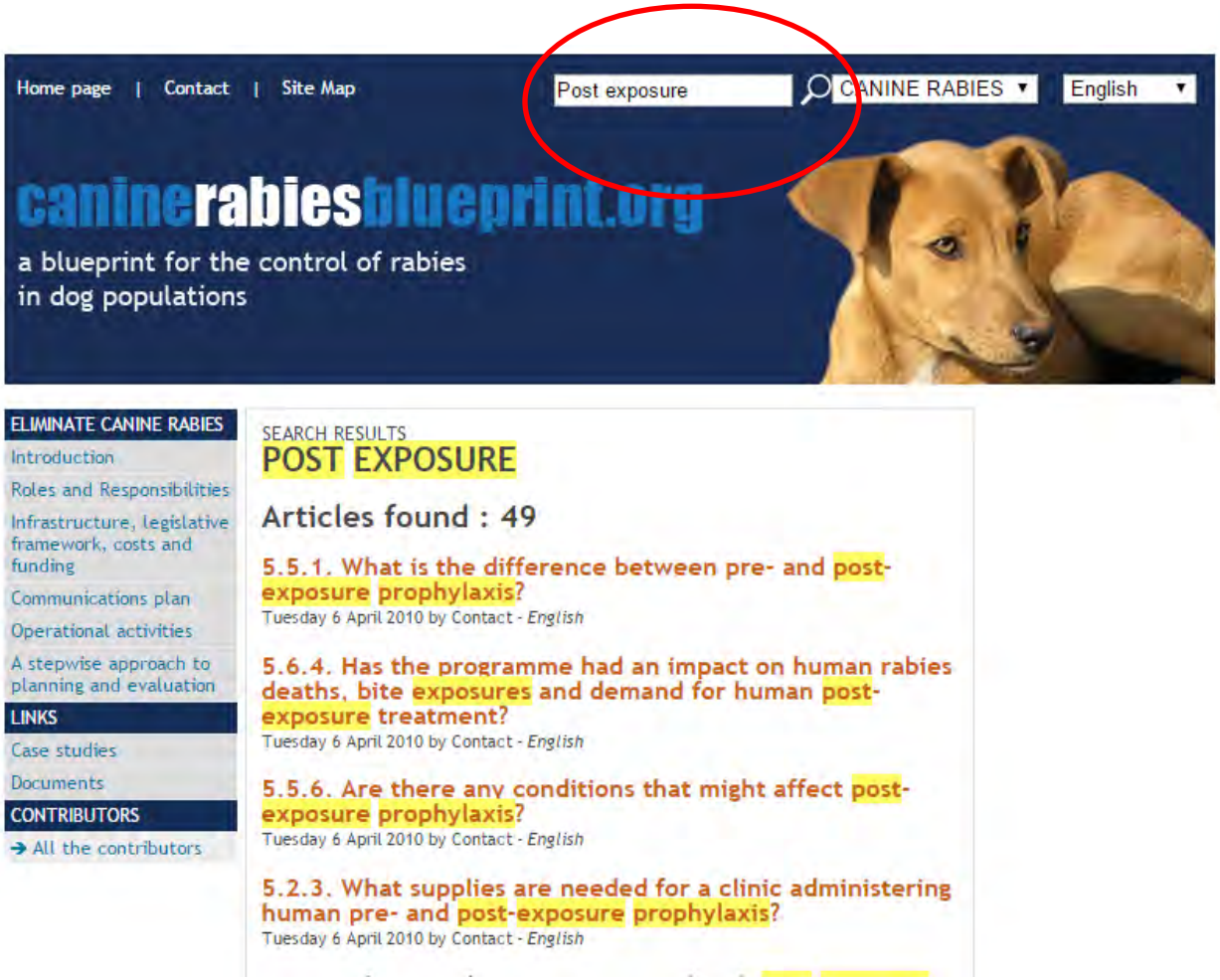
• 3.3.4. To what extent is rabies prevention and control a priority and has secure funding?
• 3.3.5. What sources of funding might be available for dog rabies control?
• 3.3.6. What resources are needed to set up a rabies control programme?
• 3.3.7. How is the budget determined?
Visit Alliance for Rabies Control website
FAO ECTAD Regional Unit W & C Africa Bamako
CONTACT
THE COMPONENTS OF A SUCCESSFUL CANINE RABIES CONTROL PROGRAMME
WORLD RABIES DAY SEPTEMBER 28

Searching and by component



Example of a regular page

ELIMINATE CANINE RABIES
Introduction
Roles and Responsibilities
Infrastructure, legislative framework, costs and funding
Communications plan
Operational activities
5.1. What do we need to know before we start planning a canine rabies control programme?
5.2. What do we need to buy?
5.3. Who do we need to train and in what?
5.4. What are we going to do - dog component?
➔ 5.4.1. What techniques are available to estimate the number of dogs?
➔ 5.4.2. Why is epidemiological surveillance important and what can we do to enhance it?
➔ 5.4.3. Are there specific signs in an animal that we can watch to confirm that it is rabid?
➔ 5.4.4. How do we dispose of animals that have died of rabies?
➔ 5.4.5. What methods

5.4.1. What techniques are available to estimate the number of dogs?

If information on the number of dogs present in the community is not available, it is recommended, but not required, that a dog population survey be conducted before implementing a canine rabies control programme. These surveys assist with more accurate campaign planning, assessing the needs of dog population management programmes, and evaluating the effectiveness of intervention. If the campaigns need to be implemented with some urgency, first rapid population estimates can be made, as described here, and additional surveys can be implemented post-vaccination (e.g. combined with surveys for estimation of vaccination coverage, described here).

The options for estimating the number of dogs to vaccinate are as follows:

- Expert opinion based on historical data of previous campaigns or on registration records if available.
- Expert opinion based on estimations made in other geographic areas/demographic settings.
- Commonly used census techniques:

- **Questionnaire surveys** can be used to establish the mean number of **owned dogs** per household and dog:human ratios. Since the total human population or number of households is generally known through national population censuses, an estimate of the owned dog population can then be extrapolated. These surveys can be conducted before, during or after campaigns (e.g. combined with post-vaccination surveys to estimate vaccination coverage, described here). Households for interview should be selected randomly. Additional information can be obtained on:

From the Communications section

ELIMINATE CANINE RABIES
Introduction
Roles and Responsibilities
Infrastructure, legislative framework, costs and funding
Communications plan
4.1. Importance of an effective communication plan
4.2. Developing a communication plan
→ 4.2.1. Assessing the science
→ 4.2.2. Defining the purpose of the communication
→ 4.2.3. Identifying and understanding who needs to be involved
→ 4.2.4. Developing messages
→ 4.2.5 Testing messages
→ 4.2.6. Choosing media and channels for messages
→ 4.2.7. Determining the best timing for delivering messages
→ 4.2.8. Launching the campaign
4.3. Evaluating the campaign and its impact

4.2.3. Identifying and understanding who needs to be involved

▸ **Who could be involved and who could be consulted?**

Consultation is necessary to decide on the intended audience and specific stakeholders. You need to know the characteristics of the people that you want to reach, such as their socio-demographic characteristics, their media or communication preferences and accessibility to rabies information sources.

Your messages will always depend on the people you are trying to convince, but there may be other groups who can influence them, both now and in the longer term. All these potential participants should be identified in the planning stages. One way of doing this is to conduct a stakeholder analysis in the community. . You can then learn more about the potential stakeholders and consult at all levels. This identifies the people you need to reach, the people who can help you reach them and how important they are to the success of your campaign. It can also serve as a basis for involving them in the messages and solutions, so that they become their messages and solutions. Click here for how to conduct a stakeholder analysis.

If you are working in a specific locality, and only have a general idea of the people you need to speak to, it may be useful to hold community consultation meetings to help identify the key people you need to involve.

Example of a documents page

CONTRIBUTORS

→ All the contributors

Guidelines on human prophylaxis

- WHO short guidelines:
http://www.who.int/rabies/PEP_Prophylaxis_guideline_15_11_2013.pdf?ua=1

WHO PEP Prophylaxis Guidelines 2013

- WHO human vaccination position paper - wer8532: 309 - 320 (August10):
http://www.who.int/wer/2010/wer8532

Human prophylaxis WHO position paper

- WHO Expert Consultation on Rabies, Second Report, 2013, see Section 8.3 Post-exposure prophylaxis
http://apps.who.int/iris/bitstream/10665/85346/1/9789240690943_eng.pdf

WHO Expert Consultation 2013

- The Immunological Basis for Immunization Series: Module 17: Rabies WHO, 2011:
http://whqlibdoc.who.int/publications/2011/9789241501088_eng.pdf

Bamako

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WORLD RABIES DAY SEPTEMBER 28

A Case Study

House-to-house rabies vaccination campaigns using schoolchildren in Istanbul, Turkey

In Turkey school children have been essential and enthusiastic participants in vaccination campaigns

In urban areas of Turkey, dog rabies mostly affects the underprivileged. People living in these areas are often reluctant to participate in activities associated with the local or national government. This results in their unwillingness to provide information on whether they own dogs and to make their dogs available for vaccination (fearing that they may be culled rather than vaccinated). It was therefore decided to use elementary public school children in selected areas to guide vaccination teams through these sites. Local children only attend school half-day and they are therefore available for the rest of the day in these settings. These children have a deep understanding of their areas and would generally know the location of houses with dogs. They would also be able to indicate whether free-roaming dogs had an owner and, if so, where the owner would live. They could accurately locate hiding spots of these dogs. These dogs could also be much more easily approached when children were part of the vaccination teams. Children were extremely willing to accompany the teams, but only one or two of them would be selected each day: most dogs would

Another Case Study

ELIMINATE CANINE RABIES

LINKS

Case studies

- Interministerial collaborations for Rabies Elimination
- Strategic Plan for the Elimination of Human Rabies in Kenya
- A puppet show on rabies prevention
- Pre-intervention community consultation in Tanzania
- OIE regional vaccine bank for Asia
- Legal arbitration process benefits control in Kisumu, Kenya
- Successful rabies control in KwaZulu Natal
- The establishment of community funds to support dog rabies control programmes in Bohol, Philippines
- An example of house-to-house vaccination
- An example of a laboratory twinning initiative between Germany and Turkey on rabies diagnostics

Home page » LINKS » Case studies

Strategic Plan for the Elimination of Human Rabies in Kenya

An inter-ministerial collaborative effort between the Kenyan Ministry of Agriculture, Livestock and Fisheries and the Ministry of Health's Zoonotic Disease Unit produced a rabies elimination strategy for Kenya that would eradicate human cases of rabies by 2030. The strategy, which was generated by government ministries as well as community stakeholders, was modeled after the Canine Rabies Blueprint and focuses on controlling dog-mediated rabies through comprehensive and sustained dog vaccination campaigns.

Zoonotic Disease Unit. "Strategic Plan for the Elimination of Human Rabies in Kenya 2014-2030." Nairobi, Ministry of Health and Ministry of Agriculture, Livestock and Fisheries. 2014. Retrieved at: http://zdukenya.org/programme-1/

Strategic Plan for the Elimination of Human Rabies in Kenya

previous page: Interministerial collaborations for Rabies Elimination

next page: A puppet show on rabies prevention

Visit Alliance for Rabies Control website

FAO ECTAD Regional Unit W & C Africa Bamako

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WORLD RABIES DAY SEPTEMBER 28

Tools for Advocacy

Communications plan
Operational activities
A stepwise approach to planning and evaluation
LINKS
CONTRIBUTORS
→ All the contributors

3.3.4. To what extent is rabies prevention and control a priority and has secure funding?

In the majority of rabies-endemic countries rabies is often not considered a priority because information on its local and global burden and impact is lacking. This has led to limited resources being allocated to rabies control.

However, rabies control is now accepted as a global health priority. It is now globally recognised that rabies greatly affects human and animal health sectors and has a large economic impact as shown in these studies. National and international policy makers should therefore be informed about the burden of rabies and the need for well-planned and sustained rabies control efforts and allocation of adequate resources.

In persuading policy makers to allocate funds to rabies control, arguments about cost-effectiveness of control interventions may be very powerful. Even without a goal of elimination, dog vaccination is a cost effective strategy, as demonstrated here for African settings. There are also studies demonstrating the cost-effectiveness of PEP, see here.

A toolkit in how to approach policy makers to make argument for better rabies control is available here.

Plans for the future

- Include all relevant resources for canine rabies control and update as necessary
- Link to the Rabies Educator certificate and other educational resources
- Incorporate feedback from meeting such as this
- Document how it has supported country efforts

Thanks to

- All the contributors of the information, documents and case studies in the Blueprint.
- To all of our translators and Translators without Borders, and Jacques Barrat for proofreading
- You for your attention!

We welcome feedback:

Blueprint@rabiesalliance.org

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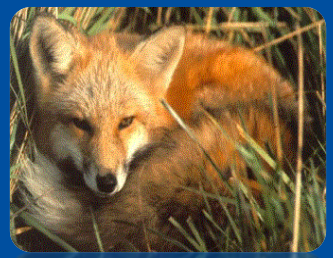
The rabies surveillance blueprint

A new information and learning module



Thomas Müller
Conrad Freuling

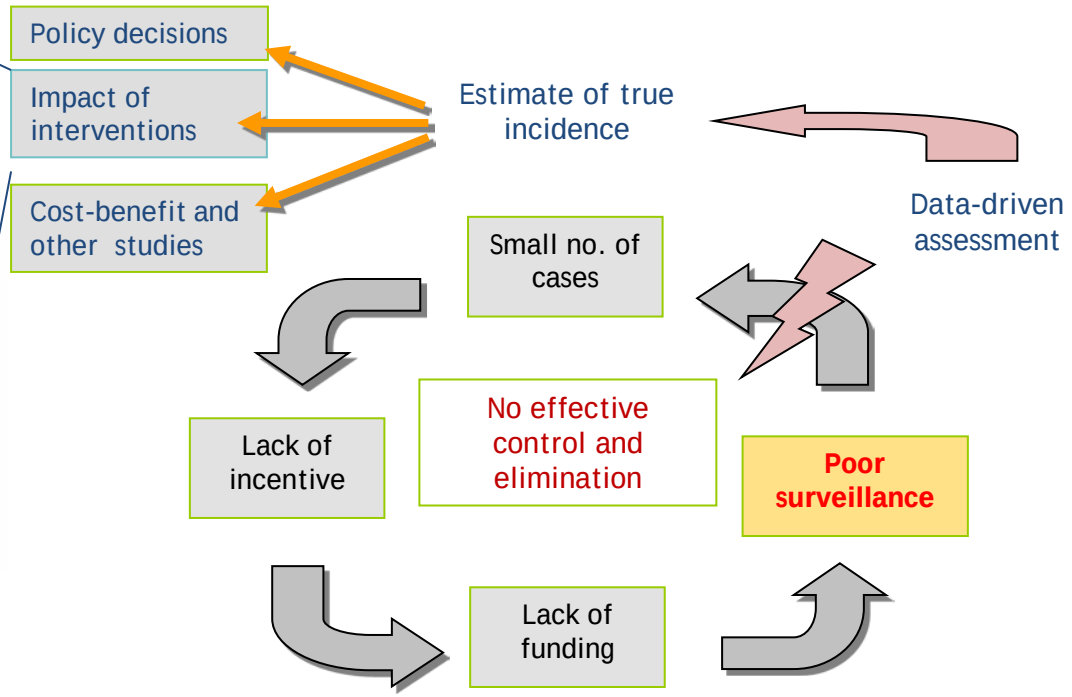
PARACON, Glenburg, South Africa, 9-11 June 2015

Rabies Surveillance

Key link

RABIES ELIMINATION PROGRAMME

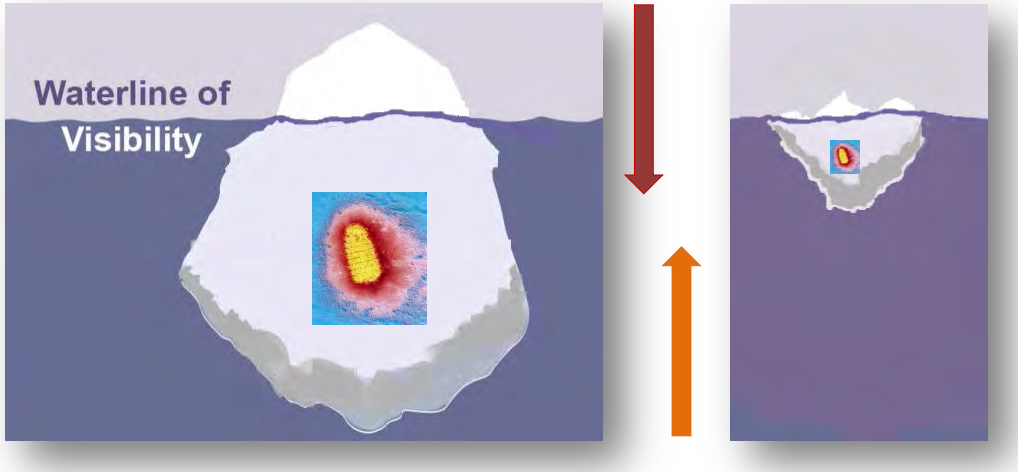
CIRCLE OF NEGLECT



Rabies Surveillance

The art here is to …

"make good decisions with limited data"



Probability of detection

= a function of prevalence, level of awareness & vigilance

Rabies Notifiability Survey

2011

Zoonoses AND PUBLIC HEALTH

ORIGINAL ARTICLE

Surveillance of Human Rabies by National Authorities – A Global Survey

L. H. Taylor and L. Knopf on behalf of the Partners for Rabies Prevention

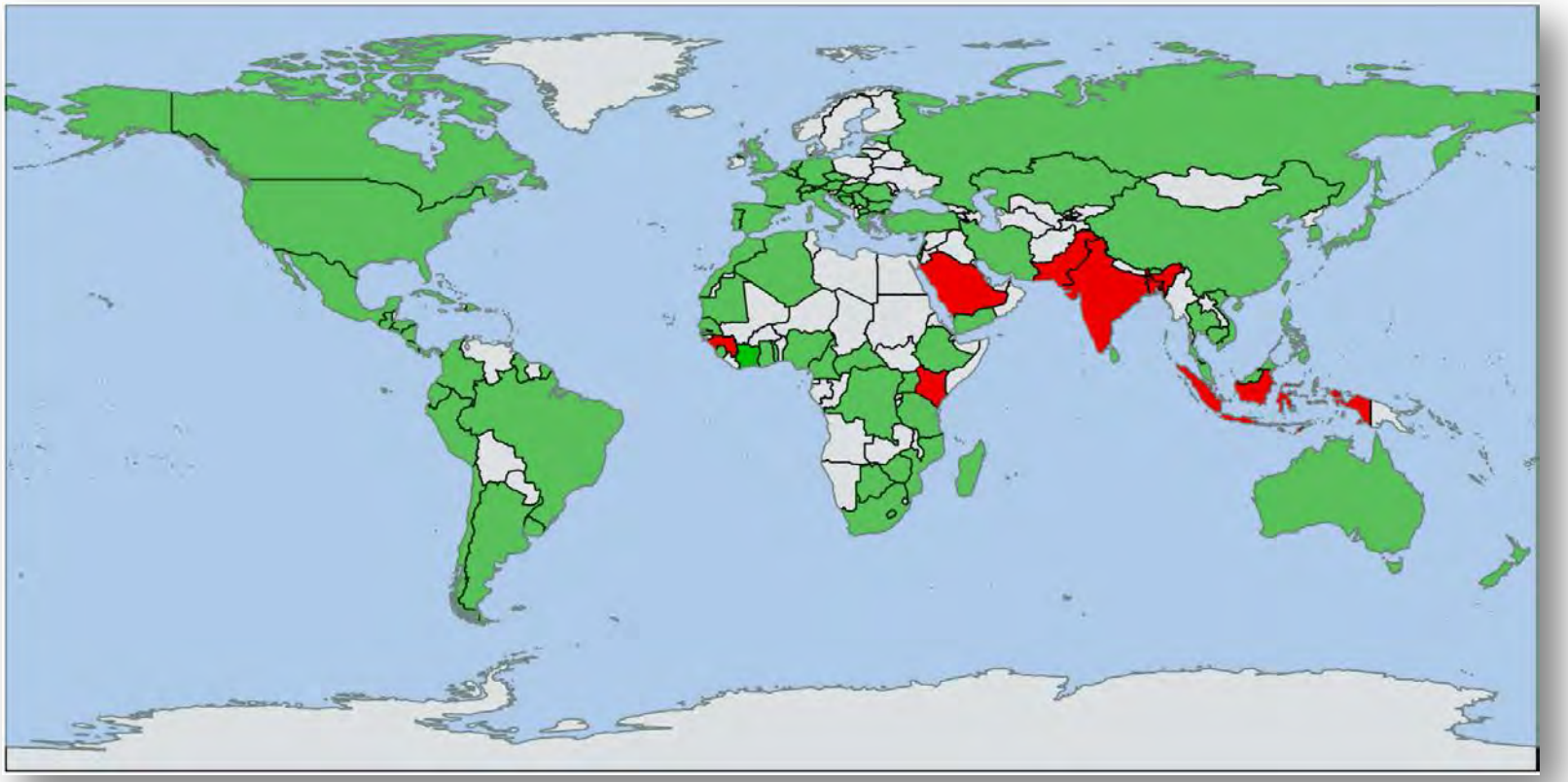
Global Alliance for Rabies Control, Manhattan, Kansas, USA

Impacts

- The first global survey of human rabies surveillance.
- Rabies was a notifiable disease in most countries, but surveillance systems were highly variable.
- Human rabies surveillance was deemed ineffective in many countries with high rabies burden.

Rabies Notifiability Survey

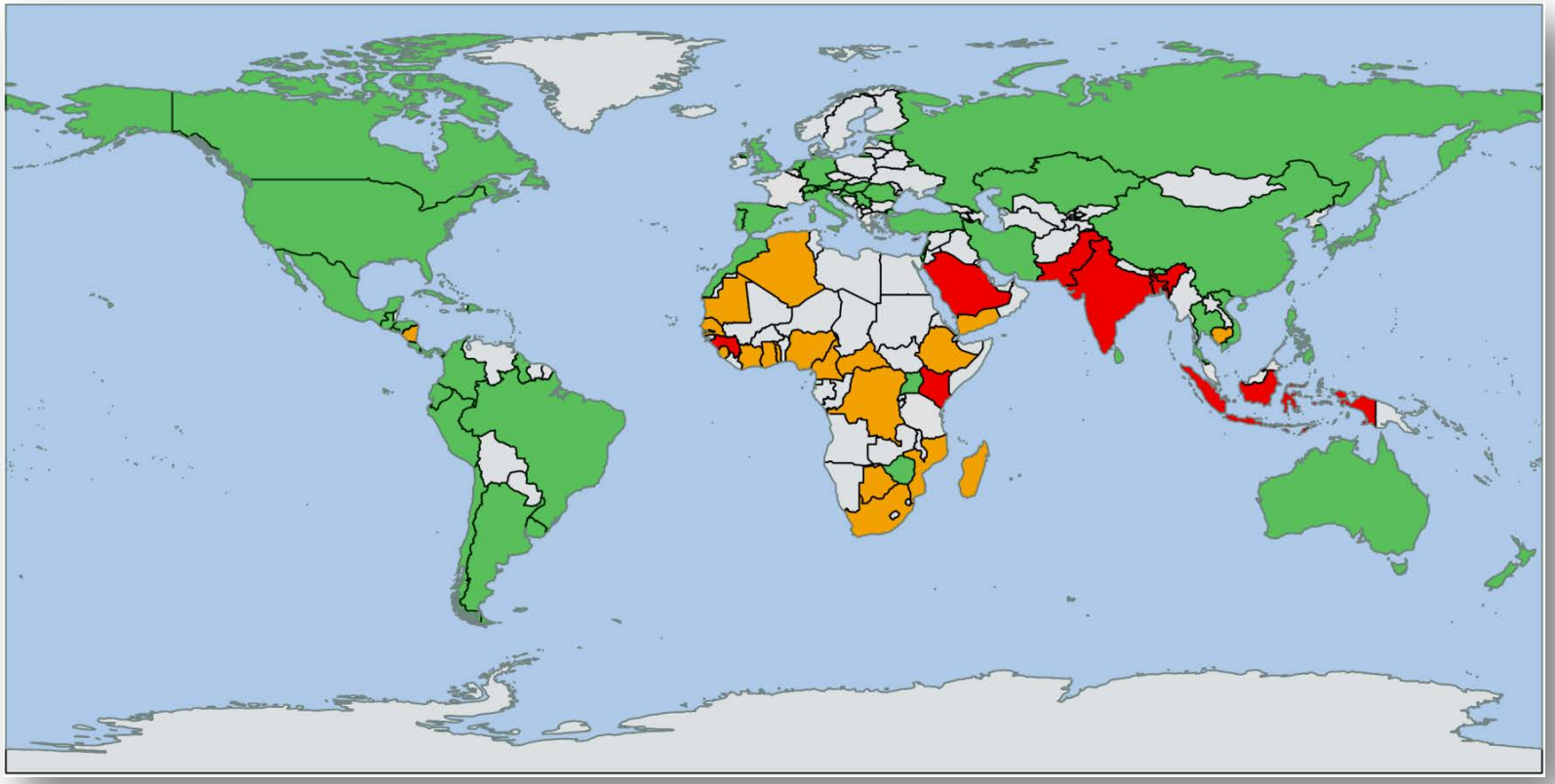
Human rabies



Green = Yes, Red = No, Grey = no data (Taylor et al. 2014)

Effectiveness of Rabies Surveillance

Human rabies



Red = Not notifiable, Green = effective, Orange = Ineffective, Grey = no data

Human and Animal Rabies Surveillance

Current status

- very heterogeneous across the world
- High degree of ineffectiveness (regions where burden is highest)
- Notifiability does not mean an effective surveillance is in place; it is only the first step to implement it
- Huge differences in quantitative & qualitative rabies surveillance data

Disease Surveillance

Definitions & guidelines (pros)

- Terrestrial Animal Health Code (2014) - Animal health surveillance
- Global infectious disease surveillance

  WHO Expert Consultation on Rabies 2013
- Risk-based disease surveillance
- Task Force on Animal Disease Surveillance

Disease Surveillance

Definitions & guidelines (cons)

- Scientist and responsible authorities often do not speak the same “language”
  - too generalized, “scientific”, abstract
  - people across the world often have different perceptions on the issue
  - different states of knowledge, and sometimes even misconceptions
- no detailed rabies tailored approach covering both human and animal related aspects yet

Global Rabies Surveillance

Current obstacles

- different definitions & focus
- different approaches
- different responsibilities
- regionally biased
- different levels of rabies diagnosis
- numerous reporting systems
- missing/different national databases
- different international databases

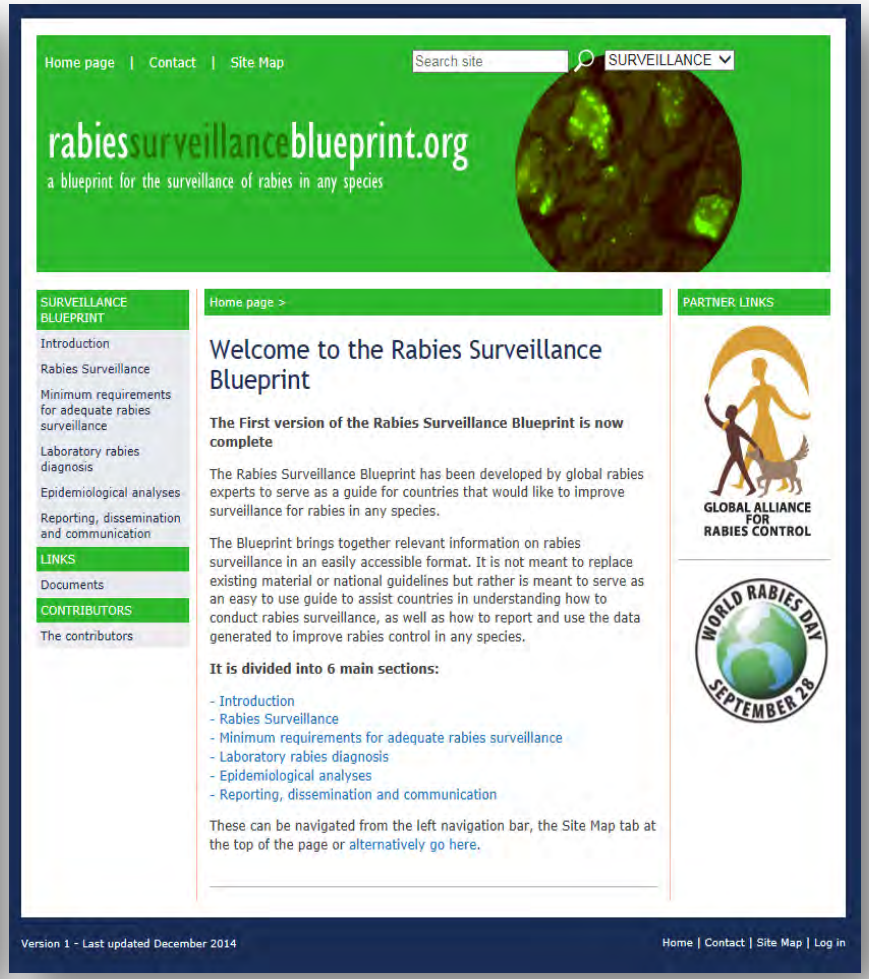
Global Rabies Surveillance

Do you as an expert know…

- what rabies surveillance actually means?
- the components rabies surveillance comprises of?
- what is required to make rabies surveillance adequate and efficient?
- if surveillance is the same as monitoring?
- which form of surveillance is best suited for rabies?
- who is responsible for implementation?
- what you can do to make the system work?

The Rabies Surveillance Blueprint

A new information and learning module



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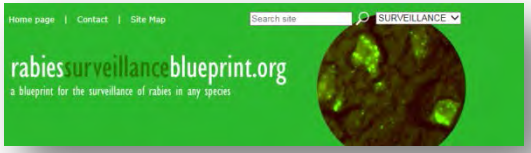
A new information and learning module



- Divided into six main sections
  - Introduction
  - Rabies surveillance
  - Minimum requirements for adequate rabies surveillance
  - Laboratory rabies diagnosis
  - Epidemiological analysis
  - Reporting, dissemination and communication

The Rabies Surveillance Blueprint

Answers to 78 questions

Introduction

The First version of the Rabies Surveillance Blueprint is now complete

The Rabies Surveillance Blueprint has been developed by global rabies experts to serve as a guide for countries that would like to improve surveillance for rabies in any species. It is part of the Blueprint for Rabies Prevention and Control and is not meant to replace existing material or national guidelines but rather serves as an easy to use guide to assist countries in understanding how to prevent and control rabies.

All articles published in this section:

1.1 What is the difference between infection and disease?
1.2. What is disease surveillance?
1.3 What is the difference between surveillance and monitoring?
1.4 Why is surveillance needed?
1.5. Why is surveillance important?
1.6 What is disease incidence?
1.7 What is needed to make surveillance reliable and effective?
1.8 What forms of surveillance are appropriate?
1.9 What is meant by adequate surveillance?

Rabies Surveillance

Trapped Mongoose - photo GARC

All articles published in this section:

2.1. **What do we need to know to establish adequate rabies surveillance?**
2.1.1 Why is rabies surveillance important?
2.1.2 The epidemiology of rabies
2.1.3 What is rabies surveillance?
2.1.4 What is rabies incidence?
2.1.5 What is passive rabies surveillance?
2.1.6 What is active rabies surveillance?
2.1.7 What is enhanced rabies surveillance?
2.1.8 Which form of surveillance is best suited for rabies?
2.1.9 Why can we not assess incidence using other data?
2.1.10 What other sources of epidemiological information are available?
2.1.11 Who is responsible for implementing rabies surveillance?

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2.3.5 What are indicator animals?
2.3.6 Why is testing of healthy animals of no value?
2.3.7 How should sampling be conducted?

Minimum requirements for adequate rabies surveillance

Necropsies - photo Friedrich Loeffler Institut

All articles published in this section:

3.1 What are minimum requirements for adequate rabies surveillance?
3.2 Why is legal enforcement necessary ?
3.3 Why is it necessary to conduct rabies surveillance in both humans and animals?
3.4 What personnel are needed for rabies surveillance?
3.5 What infrastructure is needed for rabies surveillance?
3.6 What samples should be obtained and who is responsible?
3.7 What precautions should be taken when taking samples?
3.8 How should animal samples or heads be stored until testing?
3.9 How should animal samples or heads be transported?
3.10 Who is going to submit the animals / samples to the laboratory?

The Rabies Surveillance Blueprint

Answers to 78 questions

Laboratory rabies diagnosis

Diagnostic determination - photo USDA

All articles published in this section:

4.1 **Centralized and decentralized diagnostic approaches**
- 4.1 Should there be a centralized or decentralized diagnostic approach?

4.2. **WHO Collaborating Centres for Rabies and OIE Reference Laboratories for Rabies**
- 4.2 Where are the WHO Collaborating Centres for Rabies and OIE Reference Laboratories for Rabies located?

4.3. **Laboratory tests for rabies diagnosis**
- 4.3 What laboratory tests should be applied for rabies diagnosis?

4.4 **Post mortem rabies diagnosis**
- 4.4.1 What are standard laboratory tests for post mortem rabies diagnosis?
- 4.4.2 What about other post mortem rabies diagnostic tests?
- 4.4.3 Is there need to apply confirmatory tests?
- 4.4.4 Is there a diagnostic hierarchy to follow?
- 4.4.5 What confirmatory test should be applied?

4.5 **Intra vitam rabies diagnosis in humans**
- 4.5 Intra vitam rabies diagnosis in humans

4.6 **Characterizing the virus**
- 4.6 Is it useful to characterize the virus?

4.7 **Baseline data and information required for effective rabies surveillance**
- 4.7 What minimum baseline data / information are required for effective rabies surveillance?

Epidemiological analyses

Rabies Database Map - photo Freidrich Loeffler Institut

All articles published in this section:

5.1 What do I do with the data / information collated?
5.2 Why is a national rabies database necessary?
5.3 Who is in charge of setting up and maintaining a database?
5.4 How do I set up a database?
5.5 Why conduct an epidemiological analysis?
5.6 Why map rabies cases and negatives?

Reporting, dissemination and communication

Rabies advisory - photo GARC

All articles published in this section:

6.1 Why is reporting of rabies data to national authorities & international bodies important?
6.2 Are there any other benefits of reporting, disseminating and communicating rabies data?
6.3 Why is transparency in rabies surveillance important?
6.4 What should be reported?
6.5 What equipment can be used for reporting, disseminating and communicating rabies data?
6.6 How often should rabies surveillance data be reported?
6.7 What international rabies databases exist?

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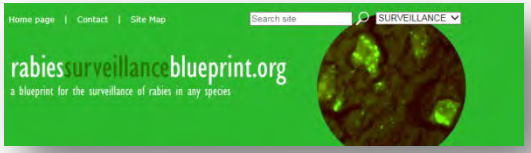
The Rabies Surveillance Blueprint

A new information and learning module

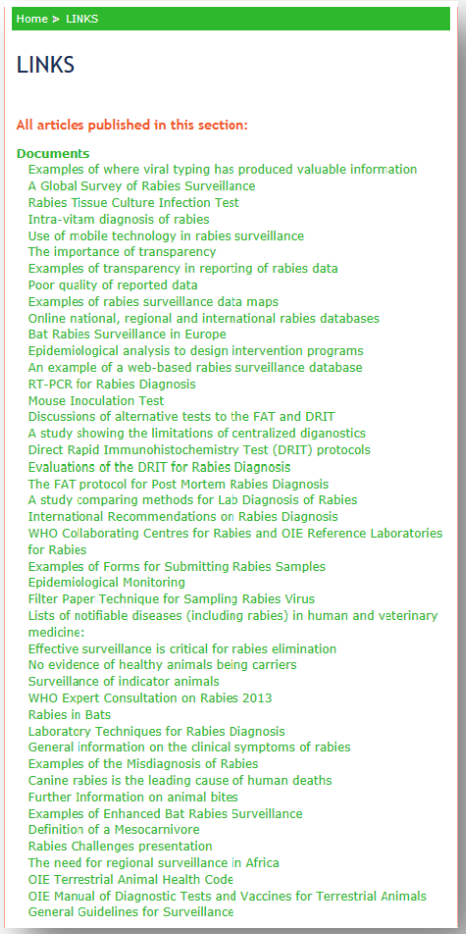


- brings together relevant information from
  - specific international health organizations
  - published data from the field
  - expert knowledge
- not meant to replace existing material or guidelines
- meant to serve as an easy to use guide

The Rabies Surveillance Blueprint

A new information and learning module

- clear and concise key messages
- In English and French
- endorsed by WHO
- links to specific documents and websites for more information if so required
- regular updates by PRP experts
- new or modified recommendations can be immediately included


Home » LINKS

LINKS

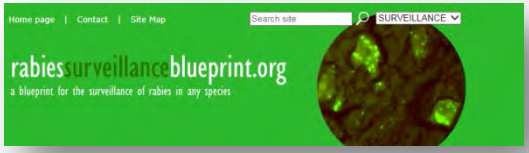
All articles published in this section:

Documents

- Examples of where viral typing has produced valuable information
- A Global Survey of Rabies Surveillance
- Rabies Tissue Culture Infection Test
- Intra-vitam diagnosis of rabies
- Use of mobile technology in rabies surveillance
- The importance of transparency
- Examples of transparency in reporting of rabies data
- Poor quality of reported data
- Examples of rabies surveillance data maps
- Online national, regional and international rabies databases
- Bat Rabies Surveillance in Europe
- Epidemiological analysis to design intervention programs
- An example of a web-based rabies surveillance database
- RT-PCR for Rabies Diagnosis
- Mouse Inoculation Test
- Discussions of alternative tests to the FAT and DRIT
- A study showing the limitations of centralized diganostics
- Direct Rapid Immunohistochemistry Test (DRIT) protocols
- Evaluations of the DRIT for Rabies Diagnosis
- The FAT protocol for Post Mortem Rabies Diagnosis
- A study comparing methods for Lab Diagnosis of Rabies
- International Recommendations on Rabies Diagnosis
- WHO Collaborating Centres for Rabies and OIE Reference Laboratories for Rabies
- Examples of Forms for Submitting Rabies Samples
- Epidemiological Monitoring
- Filter Paper Technique for Sampling Rabies Virus
- Lists of notifiable diseases (including rabies) in human and veterinary medicine:
- Effective surveillance is critical for rabies elimination
- No evidence of healthy animals being carriers
- Surveillance of indicator animals
- WHO Expert Consultation on Rabies 2013
- Rabies in Bats
- Laboratory Techniques for Rabies Diagnosis
- General information on the clinical symptoms of rabies
- Examples of the Misdiagnosis of Rabies
- Canine rabies is the leading cause of human deaths
- Further Information on animal bites
- Examples of Enhanced Bat Rabies Surveillance
- Definition of a Mesocarnivore
- Rabies Challenges presentation
- The need for regional surveillance in Africa
- OIE Terrestrial Animal Health Code
- OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals
- General Guidelines for Surveillance

The Rabies Surveillance Blueprint

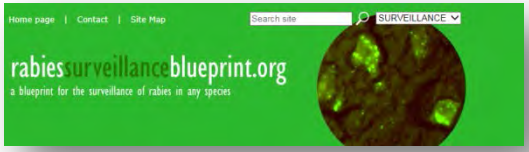
Further ideas



- refinement of document
- incorporating approved SOP for standard laboratory techniques in rabies diagnosis
- implement link to “RISKSUR”
- provision of exemplary organizational flow charts as templates for countries in need in Africa or Asia by giving them ideas how other countries in the world implemented structures, work flows and chain of commands to make rabies surveillance efficient

The Rabies Surveillance Blueprint

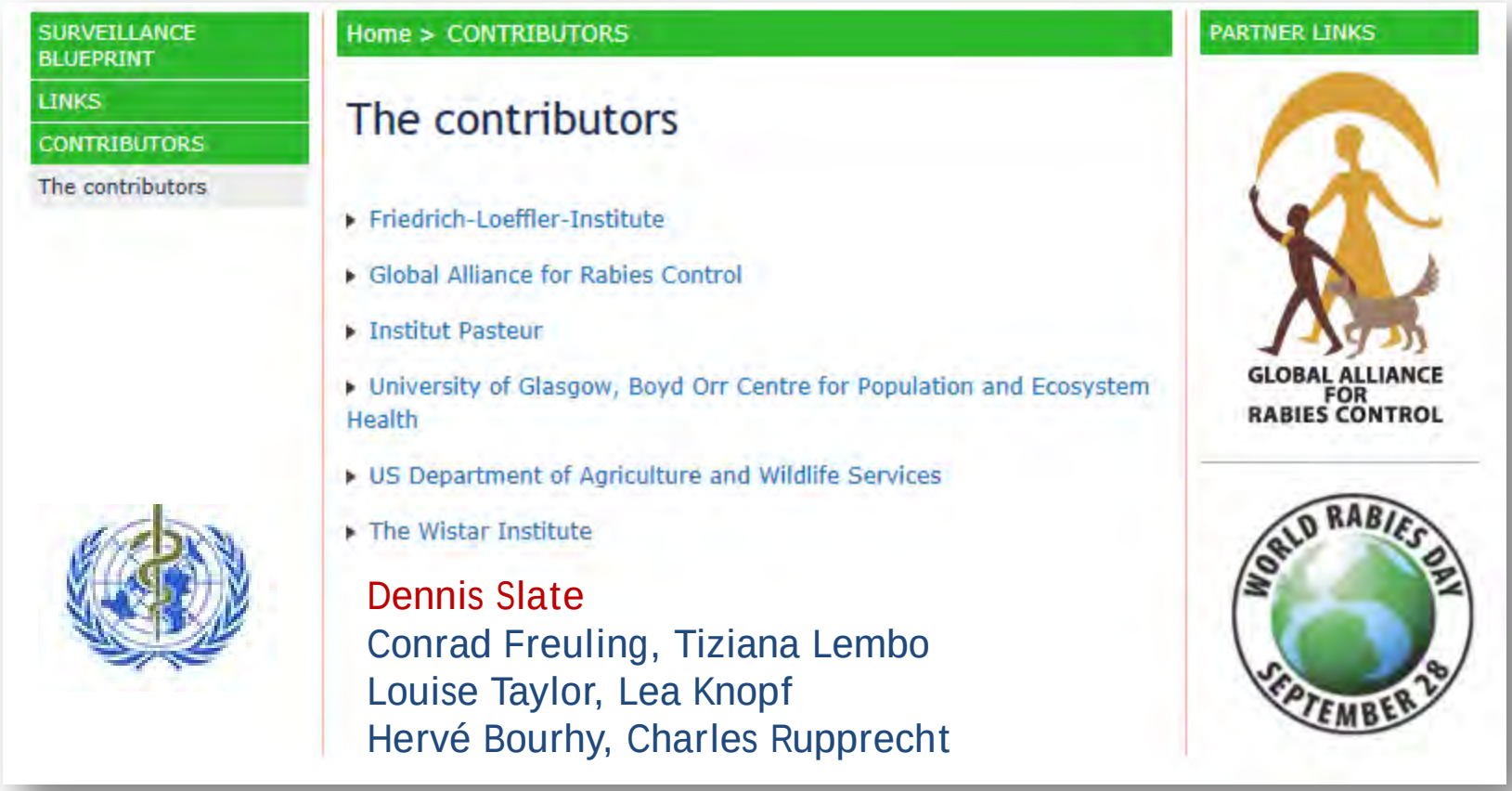
Lessons learnt



- Dealing with rabies is not the be-all and end-all
- Even a rabies expert can learn a lot about surveillance!

The Rabies Surveillance Blueprint

Acknowledgements



Dennis Slate
Conrad Freuling, Tiziana Lembo
Louise Taylor, Lea Knopf
Hervé Bourhy, Charles Rupprecht

Thank you!
Merci beaucoup!

FRIEDRICH-LOEFFLER-INSTITUT
FLI
Bundesforschungsinstitut für Tiergesundheit
Federal Research Institute for Animal Health

Preventing human rabies: messaging and measuring

- Highest fatality rate of all infectious diseases
  Preventable, not treatable
- Children < 10yrs most affected

Need to measure animal **and** human rabies burden:

- Under - estimate economic and human health impact
- Justify need for and costs of ‘Post Exposure Prophylaxis’
- Encourage dog vaccination and make a case for elimination of dog rabies

How?

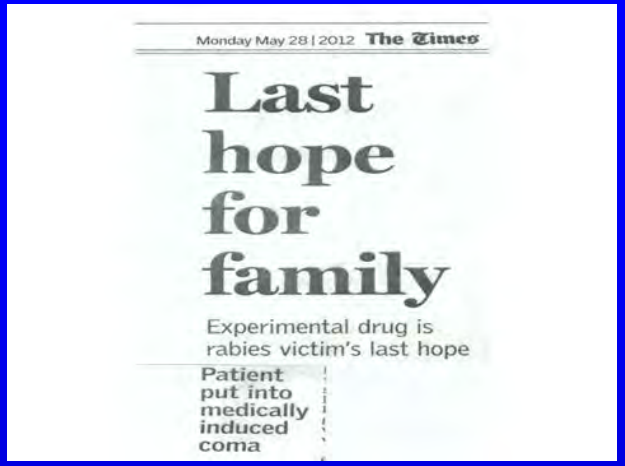
- Rabies DALYS versus other
- Epidemiological models: Estimated 75 000 deaths/year-Africa and Asia Hampson, Knobel et al MMWR
- Animal bite registers
- Quantity of rabies vaccine and RIG used

Surveillance:

Clinical surveillance: misdiagnosis
Laboratory confirmation: access to tissue samples difficult, limited human rabies diagnostic facilities

Rabies must be part of differential diagnosis in every case of encephalitis

Rabies Blueprint. com
GARC



Monday May 28 | 2012 The Times

Last hope for family

Experimental drug is rabies victim's last hope

Patient put into medically induced coma

Anderson, 29, who was also a top canoeist, died last week after machines keeping him alive were switched off.

He spent five weeks in the ICU at a Pietermaritzburg hospital before his death

The Citizen 13 June 2012

Rabies stories that capture the headlines

56 year old SA factory manager: ex Luanda, Angola

- Presented with fever, headache and weakness
- Admitted to JHB hospital with confusion and hallucinations – **seen by 2 specialist neurologists – diagnosis of encephalitis** ……. Investigations++++ **but not for rabies**

- Pre- travel consultation: yellow fever vaccination only

Rabies Encephalitis in Malaria-Endemic Area, Malawi, Africa

Macpherson Mallewa,*† Anthony R. Fooks,‡ Daniel Banda,† Patrick Chikungwa,§ Limangeni Mankhambo,† Elizabeth Molyneux,† Malcolm E. Molyneux,† and Tom Solomon*

In a malaria-endemic area of Africa, rabies was an important cause of fatal central nervous system infection, responsible for 14 (10.5%) of 133 cases. Four patients had unusual clinical manifestations, and rabies was only diagnosed postmortem. Three (11.5%) of 26 fatal cases originally attributed to cerebral malaria were due to rabies.

Outbreak of rabies, South Africa Limpopo 2005 - 31 human cases

Initial physician diagnosis: cerebral malaria, polio, meningitis, typhoid

EID 2007

28 year old Mpumalanga man

- Headache, fever, confusion, **hydrophobia,** bilateral weakness of limbs, depressed level of consciousness – **? Rabies**
- Sustained injury when intervened in fight between own dog (rabies unvaccinated) dog) and stray dog on farm previous December
- Cat scan, CSF – normal; repeated rabies tests neg (saliva, CSF, nuchal biopsy)

5 year old child, E Cape

- Admitted to hospital: depressed level of consciousness and **hypersalivation**
- Scar on limb
- Rabies negative on saliva

South East African Rabies Group (SEARG) Mozambique 2011

- Human rabies cases under – recognised/notified
- Very access to PEP
- Laboratory confirmation rare – diagnostic tests not available

HUMAN RABIES IS A **NEGLECTED DISEASE**

Rabies is a priority disease

- Country data essential
- Rabies must be notifiable
- Surveillance
- Confirmed and probable case reporting
- Diagnostic sample type- ‘thinking out the box’
- Access to laboratory diagnostics

Saving lives - Post Exposure Prophylaxis

- Intradermal vaccine: reduces costs and increases accessibility…… need to use vial within 8 hours, intradermal technique skills Hampson Plos 2011
- "Post-exposure Treatment of Rabies Infection: Can it be done without immunoglobulin?" Wilde CID 2005

- **NB: Wound care**

Teenager fights for life after rabies kills boy.... Daily Dispatch, 1st July 2005

- EAST LONDON - Rabies vaccine has been withdrawn and sent for tests after a Transkei teenager died of rabies and at least one more is seriously ill despite being vaccinated.

- "Rabies is a very dangerous disease, but once you have been vaccinated you are not supposed to get it, maybe something is wrong with the vaccine " said Health MEC

ONE HEALTH

World Rabies Day Sept 2011 South Africa

Source: Dr Kegakilwe, Veterinary Services Northern Cape