OIE initiatives to support Rabies elimination in Asia

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Outline

➢ Introduction

➢ Global and Regional Rabies virus infection situation and trend

➢ Some regional initiatives and activities on Rabies control

➢ Lessons learned and some proposals
What is the OIE?

- An intergovernmental organization created in 1924 to prevent the spread of animal diseases throughout the world.

- Creation of the Office International des Epizooties (OIE) in 1924.

- Headquarters in Paris (France).
- 5 Regional Representations.
- 8 Sub-Regional Representations & Sub-Regional Offices.
181 Member Countries in 2017

Certain countries belong to more than one region.
Reference Laboratories
Expert centres for animal diseases

267 (9 for rabies) Reference Laboratories covering 118 diseases in 38 countries as of September 2017

55 Collaborating Centres in 29 countries 49 diseases or topics

Asia

Prof. Changchun Tu
Changchun Veterinary Research Institute (CVRI), PR China

Dr Dong-Kun Yang
Animal and Plant Quarantine Agency, RoK
OIE International Standards on Rabies

**Vertical**
- Chapter 8.14 Infection with Rabies virus
- Chapter 5.11 Model intl movement Certificate
- Chapter 2.1.17 Rabies (Manual)

**Horizontal**
- Chapter 7.7 Stray dogs population control
- Chapter 1.1 Notification
- Chapter 1.4 Surveillance
Terrestrial Manual Chapter 2.1.17 (Version: May 2013)

- Ad hoc Group, May 2017
- ToR
  - Full revision
  - Update existing diagnostic tests
  - Include direct rapid immunohistochemistry test (dRIT)
  - Include PCR (Conventional and Real-time)
  - Update vaccine’s section
    - Injectable
    - Oral use (Wildlife, dog, baits)
Terrestrial Code Chapter 8.14. (OIE listed disease)

- Ad hoc Group, end 2017
- ToR
  - Dog-mediated rabies case definition
  - Freedom from dog-mediated rabies (Self-declaration)
  - Zoning
  - Considering the role of carnivores in the epidemiology of dog-mediated rabies
  - Surveillance articles

Stay tuned
The reports is prepared from the official country notifications submitted to OIE through WAHIS.

Includes data of 2016 till April 2017 and also takes into account previous years report for some analysis.

Reported distribution of infection with rabies virus in 2016 and early 2017

(data based on reports received up to 10 May 2017)
Rabies distribution map - 2017

Jan-Jun 2017

Jul-Dec 2017
Analysis of WAHIS data

What are the regional differences in terms of rabies occurrence, impact and control?

- Spearman’s rank correlation test to measure the evolution of the % over time &
- Linear Regression to evaluate the shape of the trend
Reservoir host range

- Rabies virus infection maintained in two epidemiological cycles – domestic and sylvatic
  - Domestic cycle – dogs are main reservoir host (predominates in Africa, Asia and Central and South America)
  - Sylvatic cycle predominates in northern hemisphere
- In some ecological contexts, wildlife plays key role in epidemiology of rabies, e.g. bats in Americas and wild canids in some specific geographical locations of Africa
- In Asia also, wildlife hosts play the role of reservoirs
- Out of 144 countries/territories submitting information of human rabies, 40% reported human rabies cases
Temporal dynamics of rabies infection in dogs (2005-2016)

- % of countries/territories notifying the disease in dogs declined during the past 12 years
  - Indicating an improvement in global situation which is consistent with eradication programme by several countries

- Significant regional differences observed
Percentage of the reporting countries that notified rabies present in dogs
(between 2005 and 2016)
(data based on reports received up to 10 May 2017)

% countries

\[ y = -0.0031x + 0.5055 \]
\[ R^2 = 0.7 \]

No. countries

Rabies present in dogs
Rabies absent in dogs
% Affected reporting countries with 95% CI

No significance in Africa, Asia and ME
Methodology

By Region

Annual reports

- 2015/2016

% reporting countries notifying rabies in
- Humans
- Dogs

Six-monthly reports

- 2005-2016

% reporting countries reporting vaccination of dogs per year

Relative risk
(cases notified in humans if cases notified in dogs)

Trend
(Spearman’s rank correlation test)
Results: Regional differences in the % countries notifying rabies in dogs

- **Africa**: 86% in humans, 89% in dogs
- **Americas**: 29% in humans, 36% in dogs
- **Asia**: 56% in humans, 69% in dogs
- **Europe**: 11% in humans, 36% in dogs
- **Middle East**: 42% in humans, 42% in dogs
- **Oceania**: 0% in both humans and dogs

The relative risk (RR) is 3.7.
Results: Median & trend of official vaccination of dogs (2005-2016)

Differences in terms of control strategies

- Africa: 69% — High % of countries reporting dog-mediated rabies
- Asia: 70% — Increasing trend
- Middle East: 57% — Lower % of countries reporting dog-mediated rabies
- Americas: 49% — No reported dog-mediated rabies
- Europe: 70% —
- Oceania: 0% —
OIE initiatives & activities on rabies control

Don't let Rabies kill this picture
Vaccinate dogs now

Rabies

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

NO MORE DEATHS FROM RABIES

Every fifteen minutes someone in the world dies from rabies. This is the sad reality of the situation even today. Every year, rabies kills nearly 60,000 people, mostly children in developing countries. Over 95% of human cases are caused by the bite of a rabies-infected dog. Yet the disease could be eliminated. Indeed, unlike many other diseases, we already have all the tools needed to eradicate it. Each new victim is therefore one too many.

What is rabies?

- Nearly 60,000 deaths per year worldwide
- 2/3 of the countries in the world are still affected
- Over 95% of human cases of rabies are due to dog bites

NEARLY 100% OF HUMAN RABIES CASES ARE PREVENTABLE

YOUR TURN TO GET INVOLVED
TAKE PART IN THE WORLD RABIES DAY

ERADICATE CANINE RABIES SO THAT NO MORE HUMAN CASES OCCUR

70%
Vaccinate at least 70% of dogs

$<10
A cost nearly 10 times lower than that of human prophylaxis

INTERNATIONAL ORGANISATIONS ARE MOBILISING

FAO OIE WHO
A shared FAO/OIE/WHO commitment
OIE Regional Virus Banks
The "Blueprint" for rabies prevention and control

PARTNERS FOR RABIES PREVENTION

GLOBAL ALLIANCE FOR RABIES CONTROL

Practices for Rabies Prevention

World Organisation for Animal Health - Protecting animals, Preserving our future |
The OIE Action Plan 2017-2018

- Disease control
  - Scientific & New Technologies Dept

- Awareness
  - Communication Unit

- Vaccine Bank, resource mobilisation
  - Finance Directorate

- Dog population management
  - Standards Dept

- Notification, self-declaration, etc
  - WAHID, Status Dept, etc
The OIE Technical Rabies Network

- **Under discussion**

- **Aim:** Enhancing the coordination of the OIE rabies-related activities across departments and across the OIE regions

- **Composition:** Chair, Secretariat, Members (HQ and RR-SRR)

- **Operate:** Regular meeting (physical & electronic - WebEx)

- **ToR to define activities**

- **Considering the expectations of our Members:**
  - How do you see the coordination?
  - What are your expectations?
  - How we can better support?
**Current Global Initiative**

**GLOBAL FRAMEWORK FOR THE ELIMINATION OF DOG-MEDIATED HUMAN RABIES**

**GLOBAL ELIMINATION OF DOG-MEDIATED HUMAN RABIES**

GLOBAL CONFERENCE
10–11 DECEMBER 2015
GENEVA, SWITZERLAND

**“Zero by 30”**
The goal of reaching zero human deaths from dog-mediated rabies by the year 2030

- **OIE Resolution N.26, 2016.** Consider the Global Framework to harmonize actions and to provide adaptable guidance to achieve the elimination of dog-mediated human rabies by 2030.
- **28 Sep 2017** Launch (executive summary) of the Global Strategic Plan for Rabies Elimination
OIE Rabies Vaccine Bank

- High quality vaccine with a lower cost
- Multiple donor involvement & regional approach

- Expanded to Asia and Africa
- Cost reduction per vaccine unit
- Timely dispatch during emergency
- Delivery according to country needs
  - Easy procurement and delivery systems (custom clearance)
  - Direct purchase or third party purchase
OIE Rabies Vaccine Bank
(Deliveries as of December 2015)

>4 million doses of rabies vaccines delivered as of December 2015

- Afghanistan: (200,000 doses; 2014)
- Bangladesh: (200,000 doses; 2013)
- Bhutan: (100,000 doses; 2013/2014)
- Cambodia: (50,000 doses; 2015)
- Indonesia: (300,000 doses; 2013/2016)
- Laos: (290,400 doses; 2012/2013/2014)
- Myanmar: (400,000 doses; 2013/2015)
- Nepal: (200,000 doses; 2013)
- Philippines: (1.12M doses; 2013/2014/2015)
- Sri Lanka: (300,400 doses; 2013)
- Vietnam: (872,000 doses; 2012/2013/2014)
Regional strategies and roadmap

Rabies activities in the **OIE RRAP** and **SRR SEA** are supported by the **OIE/JTF Project for Controlling Zoonoses in Asia and STANZ projects respectively (completed)**

**ASEAN**

- ASEAN Rabies Elimination Strategy: Ending Rabies Together by 2020 (Joint strategy)
  - All the ASEAN Member States (AMS) have adopted the ARES. The SRR has assisted 3 countries align/update their strategy along the ARES and the Global Rabies Framework – **Philippines, Cambodia and Myanmar.**
  - Other AMS also believed to have updated their strategy based on ARES - **Thailand, Vietnam. Malaysia and Indonesia.**
Regional strategies and roadmap

South Asia

- Elimination of dog-mediated human rabies by 2030 – Discussion initiated but not much progress yet
- Country specific actions, E.g.
  - Strategic Framework for Elimination of dog mediated human rabies deaths in Bhutan by 2023
  - Bangladesh and Sri Lanka has plans for rabies elimination target 2020
Regional Activities

• Regional Rabies Diagnosis Workshop in Changcun, China
  • 2014
  • 2017
  • Planned in 2018?

• Regional Training on Rabies Tokyo, Japan at NIAH – 05-08 August 2014

• Workshop on Relevant International Standards for Dog Rabies – 11-13 June 2014

• Follow up Workshop on Relevant International Standards for Dog Rabies Bangkok, Thailand 17-19 May 2016
Country specific capacity building activities: 2016-2017

- **Bhutan**: Effective rapid response to rabies outbreak in Eastern Bhutan

- **Myanmar**: Capacity Building for Rabies surveillance and diagnosis

- **Philippines**: Capacity building for rabies sero-surveillance for post vaccination monitoring

- **Indonesia (2016)**: Rabies diagnostic capacity building - Changchun Veterinary Research Institute, PR China, OIE Reference Laboratory for Rabies support to DIC Bukittingi lab — on the bench training on rabies diagnostic technique & methods (FAVN, PCR, RFFIT, DNA sequencing)
Supply of diagnostics kits, conjugates and reagents for diagnosis - Myanmar, Bhutan and Philippines

Training in laboratory diagnosis and vaccine monitoring - Philippines and Myanmar

On the bench training on rabies diagnostic technique & methods (FAVN, PCR, RFFIT, DNA sequencing) provided to Indonesia lab by experts visit from Changchun Lab

Vaccine supply to Bhutan - 10,000 doses

Mass dog catching equipment to Bhutan (Dan-Inject gun, blow pipe, and jabstick)
Dog catching equipment – Dan Inject rifle, blowpipe & jabstick

Dan Inject rifle

Blowpipe

Jabstick
Lessons learned and proposals

- The best way to tackle rabies is at its source including through mass dog vaccinations using good quality vaccines.
- Rabies control requires a multi-sectoral approach and is considered as a priority model to apply the One Health concept.
- Some REC goals, e.g. ASEAN’s rabies elimination 2020 or SAARC’s ‘zero by 30’ plan—but implementation status are variable.
- Various tools & guides available for use to help in rabies control: SARE, GDREP, Vax calculator, WHO’s and OIE vaccine bank facilities, Blue print for rabies.
- Many workshops and training have also been conducted.
- However, there is no concrete steps/measures taken by majority of the countries nor has UAR (Tripartite and GARC) come together to support the countries in a comprehensive way.
Lessons learned and proposals contd...

- Need for the UAR to play a more proactive role collectively in this Phase 1 of the Global Framework to assess the real country situation and identify and support intervention measures to be put in place
  - To stock take the ground realities of countries’ progress/preparations for ‘Zero by 30’ or rabies elimination
  - Identify status of application of various tools and guides available including success stories
  - Identify tangible roadmaps for strengthening/developing national rabies action plans and implementation of the plans incl. surveillance & diagnostics
  - Identify support to be provided to the countries and roles of the individual agency or UAR together in rabies control/elimination in the countries.

- Identify rabies champions in the countries to take lead

- Ensure Government buy in on the Global Framework and country specific policies and strategies and its implementation.

Therefore, proposes a UAR regional workshop on “Enhancing Progress Towards Rabies ‘Zero by 30’ in the Asia Pacific Region: Working Together at Country Level”
Lessons learned and proposal contd...

Possible country level support from OIE RRAP

- Technical support in diagnostic capacity building and related activities as a follow up of the trainings provided so far
  - Fielding expert from OIE Ref Lab, Changchun, China to the country lab for on the bench training to address issues on site
  - Diagnostic kit/reagent supplies or vaccine supplies

- Support can be provided to any lab from the two sectors depending on which sector takes lead but request to be submitted jointly as One Health approach

- Participants can discuss with relevant authorities once back in the countries and let OIE RRAP know before May end 2018

- Other country level activities if justifiable can also be supported – surveillance, vaccine, IEC, etc on case by case basis
Way forward

- To be more effective and at the same time causing least burden to the countries it should be joint and collaborative actions from the UAR
  ***
- To be successful and sustainable need to address through a OH Approach mechanism at country level
  ***
- Need to ensure Governments take ownership - providing political support and leadership
Way forward

- To be more effective and at the same time causing least burden to the countries it should be joint and collaborative actions from the UAR HIS.

If you want to go fast GO ALONE

If you want go far GO TOGETHER
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