Global cooperation in countering emerging animal and zoonotic diseases

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World Organisation for Animal Health
World Organisation for Animal Health (OIE)

- An intergovernmental organisation, founded in 1924
- 178 Members Countries
- Headquarters in Paris, France
  - 6 Regional offices
  - 6 Regional sub offices
Threats – OIE listed diseases

Public health
Animal health
Food security
Economics
Food safety
The growing importance of zoonotic animal pathogens

- 60% of human pathogens are zoonotic
- 75% of emerging diseases are zoonotic
- 80% of agents with potential bioterrorist use are zoonotic pathogens
Increasing opportunities for emerging diseases and vulnerability to them

- Globalisation
- Urbanisation
- Climate change
- Resistance to drugs
- Rising demand for food
- Synthetic biology
- Political instability
- Weak animal health care systems
Detection and international reporting
Possible origins of animal disease outbreaks

- Natural disease events
- Deliberate release (bioterrorism) – ideal bio weapons
- Breaches in laboratory bio-containment
- New and emerging diseases

“Disease detection and control for a natural, deliberate or accidental release of animal pathogen or emerging pathogen is virtually the same”
Animals are biosensors

Pathogens -- Toxins -- Radiation

• Environmental changes

• For human disease and zoonoses

• Domestic animal diseases for wildlife diseases

• For emerging infectious diseases

• Accidental or deliberate releases

• In research

Source: www.flickr.com/photos/studiomiguel/3946174063/
OIE – responsibility for transparency of the global animal disease situation

OIE Members must notify important disease events to OIE, including:

- OIE listed diseases (100+ of the most severe disease threats to human and animal health, and to economies worldwide)
- Emerging diseases
- Significant epidemiological events

OIE disseminates official reports from Members to all Members via an alert system and to the public via WAHID
International Health Regulations (IHR 2005)

a paradigm shift

From control of borders to containment at source
From diseases list (i.e. smallpox, cholera, plague and yellow fever) to all threats
From preset measures to adapted response

15 June 2007: Entry into force of IHR (2005)
2007 – 2009: Assessment, development of national plan
2009 – 2012: Implementation of national plan
(Core capacity requirements for surveillance and response)
The Global Early Warning System (GLEWS)

- Joint disease tracking by OIE, WHO, and FAO
- Combines and coordinates the alert and response mechanisms of OIE, FAO and WHO
- Assists in prediction, prevention and control of animal disease threats, including zoonoses
- Validation of rumours
International response
Network of expertise

To support surveillance and control world wide
Outbreak response

OIE network of expertise

- OIE Experts in
  » Ref. Laboratories
  » Collaborating Centres
- Technical support
- OIE expert missions
- OIE Reference Laboratory mandate ‘to place expert consultants at the disposal of the OIE’

Joint missions with FAO and WHO

- FAO-OIE Crisis Management Centre – Animal Health
  » Rapid response capability
Crisis Management Centre – Animal Health

Function

Deploys missions and develops tools to support veterinary services responding to disease emergencies.
Real example: pandemic H1N1

April ‘09: novel H1N1 virus with genes of avian, swine, and human origin causing infections in humans in North America with sustained human to human transmission

May ‘09: WHO warned of imminent publication of paper suggesting the virus has a laboratory origin

Within 24 hours key experts from WHO and OFFLU networks are mobilised to provide expert opinion in joint WHO-OFFLU telecon

Conclusion: the hypothesis is flawed and the paper does not present scientific evidence to suggest the virus has a laboratory origin
Protection
Veterinary services are global public goods

- poverty alleviation
- food security
- market access
- food safety
- protecting animal health
- protecting public health
- protecting animal welfare
- biological threat reduction
OIE Mechanisms

• Legally based disease reporting system
• International Standards (WTO backing)
  – Surveillance
  – Diagnosis and vaccine production
  – Trade measures to prevent spread of disease through trade
• Biosafety biosecurity
• Expertise
• Advocacy
Actions to strengthen Veterinary Services globally
The OIE-PVS Tool and Gap Analyses

Evaluate and improve the Performance of Veterinary Services

based on 46 core competencies

Improve compliance with OIE Standards

Follow-up:
- PVS monitoring
- Gap analyses
- Assistance with legislation
OIE Laboratory twinning

Aims

• Improve compliance with OIE standards
• Eventually for Candidates to apply for ‘reference’ status
• Extend the OIE network of expertise geographically
OIE Twinning: a valuable tool for regional development
Trevor Drew, Tony Fookes & Judy Stack
Veterinary Laboratories Agency, United Kingdom

What is “OIE Twinning”?
The World Organisation for Animal Health (OIE) Reference Laboratories (RL) and Collaborating Centres (CC) provide a global service, providing member states with expertise and diagnostic capacity concerning diseases important to trade and animal health.

OIE aims to enhance enforcement capability and development by establishing new RL elsewhere in the world.

A key objective is sustainable capacity building:
- Linking on-ramp and off-ramp OIE sites with a Coordinated Laboratory (CL).

Promoting and skills are exchanged allowing the CL to develop capacity and expertise in a disease or topic, that is a priority in its region.

Examples of planned activities under the scheme:
- The Chinese government in installing laboratories in two laboratories in China: a classical swine fever (CSF) laboratory.
- The OIE training program in Brazil for the development of CSF laboratories.
- The OIE training program in Argentina for the development of rabies laboratories.

Priority areas for CSF include:
- Improved diagnosis.
- Vaccine research, quality and efficacy.
- Epidemiology.
- Pathogenesis of disease, strain or virus.

Brucellosis
Brucellosis is currently under control thanks to cooperation with the UK Veterinary (AVM) and the United Kingdom, as well as the Netherlands and Italy. The aim is to eradicate the disease in the region in 2020.

Priority areas for Brucellosis include:
- Prevention of disease.
- Control and eradication.
- Eradication strategy.
- Vaccine development and use.
- Epidemiology.

Future Activities
Following the development of the OIE Twinning Project, the world is expected to see an increase in the number of laboratories and laboratories established in regions without such capacity.

http://www.oie.int/en/support-to-oie-members/laboratory-twinning/
1924
Destruction and sequestration of rinderpest - OIE and FAO Resolutions

• Members to maintain vigilance and awareness – surveillance and reporting

• Members to reduce number of institutions holding virus worldwide

• Members to destroy rinderpest containing material or transfer to approved biosecure storage facility

• OIE-FAO approval of facilities storing virus, monitor these facilities, and to approve research using rinderpest
Vaccine and virus - worry re containmation?
Questionnaire results
Work of RVC
Keith Hamilton; 27/06/2011
The OIE - a global partner in the promotion of animal health and food security