Prevention and Control of Animal Diseases

The BWC and Global Health
Oslo, Norway, 18-19 June 2009
World Organisation for Animal Health

Common name adopted by the International Committee on May 2003

- An intergovernmental Organisation
- Founded in 1924 by 28 countries
- Predates the U.N.
174 Members (June 2009)

GOALS

General objective: IMPROVE ANIMAL HEALTH WORLDWIDE

1. To ensure transparency on the global animal disease and zoonosis situation

2. To collect, analyse and disseminate veterinary scientific information

3. To provide expertise and encourage international solidarity in the control of animal diseases

4. Within its mandate under the WTO SPS Agreement, to safeguard world trade by publishing sanitary standards for international trade in animals and animal products

5. To improve the legal framework and resources of national Veterinary Services

6. To better guarantee the safety of food of animal origin and to promote animal welfare through a science-based approach
PARTNERS

- World Trade Organization – WTO
- United Nations:
  - FAO – WHO
  - Codex Alimentarius, IPPC
- World Bank
- Regional Organizations (economical/scientific/professional organisations)
-...

At present: around 40 agreements
Why are we worried about the prevention and control of major animal diseases and zoonosis?
Animal health systems are a Global Public Good

- Animal Diseases
- Zoonosis

- Veterinary Services

- Animal health
- Human health
- Poverty
- Food security
- Lack of trade
GLOBAL PUBLIC GOOD CONCEPT

- In the case of control and eradication of infectious diseases, the benefits are international and inter-generational in scope.

- Countries depend on each other:
  - Inadequate action by a single country can jeopardize others
  - Failure of one country may endanger the planet.
IMPACT OF ANIMAL DISEASES

High economic and social negative consequences

- Public Health
  - Zoonoses (rabies, AI, tub., bruc., anthrax..)
- Food safety: foodborne diseases
- Food security (production/Food supply chain)
- Market access
- Increase of poverty (DC, TC)
Figure 1: Economic Impact of Selected Infectious Diseases: Recent Livestock Disease Outbreaks and SARS
EXAMPLE OF FMD

Economic impact of Foot and Mouth Disease outbreaks in 2001 in UK:

- **direct** economic effects on agriculture, the food industry and the public sector: estimated at £3.1 billion

- direct costs to tourism, as a loss of expenditure: £2.7/£3.2 billion

- **indirect costs** to industries that supply agriculture, the food industries and tourist related business were estimated at £1.9 to £2.3 billion

(Source: Defra)
about…

- …60% of human pathogens are zoonotic
- …75% of emerging diseases are zoonotic
- …80% of pathogenic agents having a potential bioterrorist use are zoonotic

**Definition of Zoonosis** (OIE Terrestrial Code): means any disease or infection which is naturally transmissible from animals to humans.
“There is no where in the world from which we are remote and no one from whom we are disconnected.”

PNAS, 2004
Global Meat Trade is Highly Concentrated

LEGEND
- Blue: Pork
- Red: Beef
- Green: Poultry
CAUSES OF INFECTION

- **Incidental**
  ‘Normal’/expected

- **External**
  Uncontrolled/difficult to control
  - Wild animals, migratory birds
  - Illegal trade

- **Deliberate spread**
  Agroterrorism
BIOTERRORISM / WARFARE

- No bioterrorist use of animal pathogens documented so far
- Thin history of using biological warfare:
  - German use of glanders against Allied horses (WWI)
  - Japanese use of Yersinia pestis in China (WWII)
  - Soviet use of tularemia and glanders in Afghanistan
- Intentional contamination of food
  - Salmonella attack in Oregon in 1984 => 751 cases
- Anthrax letters in USA, 2001 => 22 cases, 5 deaths
- Hoax letter in NZ in 2005
  Sent to a newspaper claiming FMD virus released
What is needed to prevent and control animal diseases?
⇒ Mechanisms to control infectious animal diseases, whether occurring naturally or deliberately, remain identical.

⇒ « It is the efficiency with which we plan for and confront traditional and emerging diseases that will predict our ability and confidence in tackling intentional outbreaks, if, when, and where they occur ». (Martin Hugh-Jones; Sc.Tech.Rev. OIE 2006)
KEY ELEMENTS

Biosecurity

Surveillance

Laboratory diagnosis

Awareness

Early detection

Prompt reporting (transparency)

Rapid response

Rapid confirmation of suspects

Confinement and humane stamping out

Use of vaccination when available and if appropriate

Compensation

Inactivation of infectious agents

High quality of Veterinary Services
GOOD GOVERNANCE

⇒ Appropriate organisation (chain of command), human and financial resources, and legislation

⇒ Efficient (epidemiological) surveillance networks and territorial meshing covering the entire national territory

⇒ Compensation mechanisms

⇒ Strong collaboration with other competent authorities (essential for response capacity: police, military, local authorities...)

⇒ Preparedness (emergency plans, simulation exercises)
- Quality and evaluation of VS
- Listed diseases and procedures for notification
- Requirements for surveillance
- Requirements to define free status
- Conditions for safe importation
- Inactivation of pathogens
- Regionalisation/compartmentalisation
- Biosecurity
- …
- Reference tests for diagnosis
- Production & control of vaccines
The following diseases are included in the OIE List.

1. The following diseases are included within the category of multiple species diseases:
   - Anthrax
   - Avian influenza
   - Bluetongue
   - Brucellosis (Brucella abortus)
   - Brucellosis (Brucella melitensis)
   - Brucellosis (Brucella suis)
   - Crimean Congo haemorrhagic fever
   - Echinococcosis/hydatidosis
   - Epizootic haemorrhagic disease
   - Equine encephalomyelitis (Eastern)
   - Foot and mouth disease
   - Heartwater

In 2008: 93 diseases
26 multi species, 14 cattle, 11 sheep/goat, 11 equine, 7 swine, 14 avian, 2 lagomorph, 6 bee, 2 others

2. The following diseases are listed by the OIE:
   - Infectious haematopoietic necrosis
   - Infectious haematopoietic necrosis
   - Spotted fever of cats
   - Viral haemorrhagic septicemia
   - Infectious salmon anemia
   - Epizootic ulcerative syndrome
   - Gyrodactylosis (Gyrodactylus salaris)
   - Red sea bream ichthyolysis disease
   - Koi herpesvirus disease

In 2008: 30 diseases
9 fish, 7, molluscs, 12 crustaceans, 2 amphibians
REPORTING TO THE OIE

OIE Listed disease
- New Disease / Infection
- Unusual epidemiological event
- Emerging disease

Immediate notification
Follow-up reports
Final report

Six-monthly report on OIE Listed disease / infection absent or present

Annual report

WAHIS Database

Web interface
WAHID

Early warning
Monitoring
Disease introduction simulation exercises

This page is used to disseminate on the OIE website information received from Members on disease introduction simulation exercises taken.

These exercises are sent through the OIE-Info Distribution List before their implementation.

<table>
<thead>
<tr>
<th>Location</th>
<th>Disease</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>Rift Valley fever</td>
<td>18 to 20 November 2006</td>
</tr>
<tr>
<td>Australia</td>
<td>Classical swine fever</td>
<td>18 to 20 November 2008</td>
</tr>
<tr>
<td>Serbia</td>
<td>Avian influenza</td>
<td>10 to 15 November 2008</td>
</tr>
<tr>
<td>Australia</td>
<td>Avian influenza</td>
<td>11 and 12 November 2008</td>
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<tr>
<td>Turkey</td>
<td>Highly pathogenic avian influenza</td>
<td>3 to 7 November 2008</td>
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<tr>
<td>Australia</td>
<td>Foot and mouth disease</td>
<td>29 and 30 October 2008</td>
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<tr>
<td>Australia</td>
<td>Swine disease</td>
<td>21 and 22 October 2008</td>
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<tr>
<td>Chile</td>
<td>Avian influenza</td>
<td>14 to 16 October 2008</td>
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<tr>
<td>Spain</td>
<td>Foot and mouth disease</td>
<td>10 and 17 June 2008</td>
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<td>Panama</td>
<td>Foot and mouth disease</td>
<td>15 to 20 June 2008</td>
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<td>Nordic-Baltic countries</td>
<td>Bluetongue</td>
<td>13 to 16 May 2008</td>
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<td>Denmark</td>
<td>Classical swine fever</td>
<td>13 to 16 May 2008</td>
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<td>Jamaica</td>
<td>Highly pathogenic avian influenza</td>
<td>30 April to 1 May 2008</td>
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<td>Luxembourg</td>
<td>Foot and mouth disease</td>
<td>3 to 7 March 2008</td>
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<td>Peru</td>
<td>Avian influenza</td>
<td>20 and 21 February 2008</td>
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<td>Paraguay</td>
<td>Foot and mouth disease</td>
<td>25 to 29 February 2008</td>
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<td>Albania</td>
<td>Highly pathogenic avian influenza</td>
<td>30 and 31 January 2008</td>
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Answers:
International cooperation, Capacity building activities
OIE/FAO programme on Good Governance
(last updated in Sept. 2007)

Presented and endorsed at the:

- International conferences on avian influenza in Geneva in 2005, in Beijing in 2006


http://www.oie.int/downld/Good_Governance07/Good_vet_governance.pdf
THE WORLD ANIMAL HEALTH AND WELFARE FUND

• Created on 28 May 2004 by Resolution No. XVII of the OIE International Committee

• Established “for the purpose of projects of international public utility relating to the control of animal diseases, including those affecting humans and the promotion of animal welfare and animal production food safety”

• Advisory Committee chaired by the representative of the World Bank

• Participants (incl. Donors from Europe Region):
  • International Organizations: WTO, WHO, FAO and OIE
  • Key Donors: World Bank; European Commission; USA (USDA); UK; Japan; France, Canada (CIDA) Australia (AusAID)
  • Observer: Switzerland and the private sector (SSAFE Initiative)
OIE-PVS TOOL: OIE Tool for the Evaluation of Performance of VS

⇒ Aim: assess the level of compliance with OIE standards (qualitative assessment)

⇒ Voluntary process: country’s request

⇒ Mission carried out by OIE trained experts

⇒ Report released upon agreement of the country

PVS Evaluations - State of play (May09)

<table>
<thead>
<tr>
<th>OIE Regions</th>
<th>OIE Members</th>
<th>Country Requests received</th>
<th>PVS Missions done</th>
<th>Draft Reports received</th>
<th>Reports available (to Donors &amp; Partners)</th>
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<td>Africa</td>
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<td>12</td>
<td>8</td>
<td>7</td>
<td>2</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>174</strong></td>
<td><strong>94</strong></td>
<td><strong>84</strong></td>
<td><strong>78</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>
• Shift from a qualitative evaluation to a **quantitative** assessment of needs and priorities

• Identification of the gaps + Definition of needed activities to correct the gaps + Prioritization of the activities to be undertaken + Quantification of needed means

• National choices (organization of public veterinary services; sub-sector priorities) and development strategy for the livestock sector
Qualitative evaluation of the situation on 40 critical competencies

Specific Objectives of the Country

Prioritization of the critical competencies and of related gaps

PVS Gap Analysis

PVS Evaluation

PVS
LABORATORY TWINNINGS

Need for better access to scientific expertise for negotiations, certifications, justification of standard setting

⇒ Increasing lab. capacities (expertise and diagnostic) and improve geographical coverage

⇒ Projects between parent (OIE Reference Laboratory) and candidate labs (average 2 years)

⇒ 13 ongoing – 5 in the pipe
177 OIE Ref. Labs.,
32 Countries,
95 Diseases,
154 experts

List of OIE Reference Laboratories (2008):
http://www.oie.int/eng/OIE/organisation/en_listeLR.htm
Developed for AI by OIE

Concept to be extended to other disease

=> Emergency supply of quality vaccines
• Coordination with FAO through Regional OIE/FAO Animal Health Centres

⇒ OIE : Regional workshops and training seminars / good governance of veterinary services (OIE national delegates and focal points) + Support to national (regional) legislation projects

⇒ FAO : support to develop surveillance and control programmes for major epizootic diseases
INTERNATIONAL COOPERATION

- Strengthening Veterinary Services
- Paradigm shift in disease control by sound epidemiological knowledge
- Progressive control of disease
International Cooperation

GLEWS: OIE/FAO/WHO

- Sharing information
- Disease tracking
- Epidemiological analysis

⇒ Assistance to predict and prevent livestock animal diseases / zoonoses threats
⇒ Design of control strategies
⇒ Coordinated response
Engagement on the concept of OWOH

A global strategy for preventing and managing risks at the human-animal interface

Our global partners:
- FAO
- WHO
- UNICEF
- World Bank
- UNSIC

Contribution to One World, One Health*
A Strategic Framework for Reducing Risks of Infections Diseases at the Animal–Human–Ecosystems Interface

14 October 2008
Consultation Document
Produced by:
- OIE Standards
- Sanitary information
- Good governance/PVS document...
- Scientific and Technical Review, April 2006

=> www.oie.int
Thank you for your attention

Organisation mondiale
de la santé animale

World Organisation
for Animal Health

Organización Mundial
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