GLOBAL SITUATION OF EMERGING INFECTIOUS DISEASES

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WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

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Contents

1) The OIE and WAHIS
2) OIE-listed diseases and reasons for immediate notifications
3) Recent situation of avian influenza
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7) Emerging diseases
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General mandate of the OIE: to improve animal health worldwide

One of the OIE’s main objective

To ensure transparency in the global animal disease situation, including zoonosis
WAHIS

Prevention

Veterinarians

Public

Countries

Communication

Confirmation

Oficial Veterinary Services

Laboratories confirmation

Early detection

Farmer

Veterinarian

Hunter

Ranger

Veterinarian

Fisherman
Early warning system

Information from the Annual reports

Information for 117 OIE-listed diseases twice a year

Alert messages for exceptional epidemiological events & for emerging diseases

- Veterinary Services
- Vaccine production
- National laboratories
- Animal population
- Human cases of zoonoses
World Animal Health Information System (WAHIS)

Surveillance in domestic animals

Surveillance in wild animals

WAHIS Monitoring & Early warning systems
Verification process

VALIDATION & PUBLICATION ON WAHIS interface

Verification of consistency with Historical Information

Verification of Qualitative and Quantitative information

Verification of consistency in the Regional and Global context

Communication

WAHIS

Veterinary Services

Veterinary Services

Veterinary Services
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Criteria for the inclusion of diseases, infections and infestations in the OIE List

1. International spread and absent in at least one country
Criteria for the inclusion of diseases, infections and infestations in the OIE List

1. International spread and absent in at least one country

2. Severe consequences in Humans or domestic animals or wild animals

AND
Criteria for the inclusion of diseases, infections and infestations in the OIE List

1. International spread and absent in at least one country
2. Severe consequences in Humans or domestic animals or wild animals
3. Reliable means of detection and diagnosis

AND

AND

AND
Criteria for the inclusion of diseases, infections and infestations in the OIE List

117 OIE-Listed diseases in 2015
Disease alerts for OIE-Listed diseases

Article 1.1.3. of *Animal Health Codes*:

1. First occurrence
2. Re-occurrence
3. New strain
4. Sudden and unexpected change in the distribution or increase in incidence or virulence of, or morbidity or mortality
5. Occurrence in an unusual host species
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Importance of AI

**Economic impact**

**HPAI events**
(January 2014 to 25 May 2015)

- **35 countries**
- **67,826,615 susceptible**

**Public health consequences**

- **H5N1** (as of May 2015)
  - **16 countries**
  - **840 cases in humans**
  - **447 deaths**

- **H7N9** (as of February 2015)
  - **2 countries**
  - **602 cases in humans**
  - **227 deaths**
No. immediate notifications and virus subtypes for AI

Significant increase in 2014 and 2015

No. Immediate notifications

No. Virus subtypes

LPAI  HPAI

LPAI  HPAI
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H5

34 countries/territories affected
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H5

5 subtypes (H5N1, H5N2, H5N3, H5N6 and H5N8)
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H5

Countries/territories affected: H5N1 (9), H5N8 (5), H5N6 (4), H5N2 (2), H5N3 (2)
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H7

10 countries/territories affected
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H7

5 subtypes (H7N1, H7N2, H7N3, H7N7 and H7N9)
Distribution of infection with avian influenza viruses in 2014 and early 2015 – Subtype H7

Impact in Public Health:

- **H7N9** (as of February 2015)
  - 602 cases in humans
  - 227 deaths
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Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype A

Exceptional events:
China (People’s Rep. of)
Chinese Taipei
Russia
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype O

Exceptional events:
- China (People’s Rep. of)
- Korea (Dem. People’s. Rep. of)
- Korea (Rep. of)
- Mongolia
- Russia
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype Asia 1
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype C
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype SAT 1
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype SAT 2
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype SAT 3
Distribution of infection with foot and mouth disease in 2014 and early 2015: serotype not specified

Bangladesh

Legend:
- Present
- Suspected
- Not reported during this period
- No information

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Analysis of WAHIS data

Has the quality of information reported for FMD to the OIE through six-monthly reports improved between 2009 and 1st semester 2014?
Methodology

Categorisation applied for each reporting Member Country and semester, for the evaluation of the quality of information provided for FMD, separately for domestic animals and wildlife.

<table>
<thead>
<tr>
<th>FMD</th>
<th>No information</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMD present</td>
<td></td>
</tr>
<tr>
<td>Disease suspected but not confirmed</td>
<td></td>
</tr>
<tr>
<td>Disease confirmed but serotype(s) not specified</td>
<td></td>
</tr>
<tr>
<td>Disease confirmed but serotype(s) not specified and FMD free zone(s)</td>
<td></td>
</tr>
<tr>
<td>Disease confirmed and serotype(s) specified</td>
<td></td>
</tr>
<tr>
<td>Disease confirmed, serotype(s) specified and FMD free zone(s)</td>
<td></td>
</tr>
<tr>
<td>FMD absent</td>
<td></td>
</tr>
<tr>
<td>Disease reported absent or never reported</td>
<td></td>
</tr>
<tr>
<td>Disease reported absent or never reported and FMD free zone(s)</td>
<td></td>
</tr>
<tr>
<td>Member Country recognised as FMD free</td>
<td></td>
</tr>
</tbody>
</table>
Results - Median overall score for the quality of information reported for FMD

Median overall score for the quality of information reported for FMD is 87.5 out of 100.

Improving trend from 50 out of 100 in 2009 to 87.5 out of 100 in 2014.

The regression line is given by the equation: $y = 2,7273x + 48,409$ with $R^2 = 0,766$. 
Foot and mouth disease: conclusions

• Disease widespread with 37% of the countries/territories affected during the period but even more countries (45% of Members) having official recognition of disease-free status or free zone(s)

• Members encouraged to implement surveillance & transmit information to other countries through WAHIS

• Progress noted since 2009 but some countries still not submitting information or not providing information on the FMD serotypes involved
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Distribution of infection with peste des petits ruminants between 2005 and early 2015

No. of years of presence/suspicion of PPR
(2005-13 March 2015)

- PPR not reported
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
Distribution of infection with peste des petits ruminants in first semester 2007
Distribution of infection with peste des petits ruminants in second semester 2007

First occurrence in China (People’s Rep. of)
Distribution of infection with peste des petits ruminants in 2008
Distribution of infection with peste des petits ruminants in 2010

First occurrence in Bhutan
Distribution of infection with peste des petits ruminants in 2013
Distribution of infection with peste des petits ruminants in 2014
Distribution of infection with peste des petits ruminants between 2007 and 2014
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Distribution of rabies in 2014
Distribution of rabies in 2014

Exceptional event:
Reoccurrence in Chinese Taipei
## Number of cases in 2014

<table>
<thead>
<tr>
<th>Country</th>
<th>Buffaloes</th>
<th>Camelidae</th>
<th>Cats</th>
<th>Cattle</th>
<th>Dogs</th>
<th>Equidae</th>
<th>Sheep / goats</th>
<th>Swine</th>
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<td></td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Bhutan</td>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>16</td>
<td>3</td>
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<td>China</td>
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<td>India</td>
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<td>2149</td>
<td>2588</td>
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<td>2</td>
<td>4</td>
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<td>Mongolia</td>
<td>3</td>
<td>84</td>
<td>1</td>
<td>249</td>
<td>61</td>
<td>20</td>
<td>223</td>
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<td>Myanmar</td>
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<td>Nepal</td>
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<td>41</td>
<td>1</td>
<td>22</td>
<td>2</td>
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<td>Philippines</td>
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<td>627</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Sri Lanka</td>
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<td>56</td>
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<td>Tajikistan</td>
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<td>Thailand</td>
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<td>Turkmenistan</td>
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<td>11</td>
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<td></td>
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<tr>
<td>Vietnam</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>128</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>125</strong></td>
<td><strong>25</strong></td>
<td><strong>2609</strong></td>
<td><strong>3805</strong></td>
<td><strong>23</strong></td>
<td><strong>3503</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

### Domestic Wildlife

- **Canis lupus**
- **Melogale moschata**
- **Vulpes vulpes**
- **Felis manul**

- **78% domestic cases**
- **99% wildlife cases**

- **India**: 96 cases
- **Myanmar**: 113 cases
- **Vietnam**: 18 cases
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Emerging disease

New occurrence of a disease causing a significant impact on animal or public health resulting from:

• A change of a known pathogenic agent or its spread to a new geographic area or species (e.g. PED in Japan and Chinese Taipei);

or

• A previously unrecognised pathogenic agent or disease diagnosed for the first time (New disease in rainbow trout, virus Y in Norway)
ありがとうございます
Thank you for your kind attention!

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