OIE Standards Relevant to Neglected Zoonoses

FAO-APHCA/OIE/USDA Regional Workshop on Prevention and Control of Neglected Zoonoses in Asia
15-17 July, 2015, Obihiro, Japan

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Overview

- What is a Neglected Zoonotic Disease?
- The important role of the Veterinary Service.
- OIE standards for prevention and control of Neglected zoonotic diseases.
Neglected Zoonotic diseases

- ‘Zoonoses are diseases or infections naturally transmitted from animals to humans’
  (OIE and WHO definition)

- The transmission may be direct (e.g. rabies) or indirect (e.g. vectors, food, water, soil).

- ‘Neglected zoonotic diseases’ are those zoonotic diseases that affect mainly poor and marginalized populations in low-resource settings.
Neglected Zoonotic Diseases (NZD)

- Addressing NZD requires:
  - collaborative, cross-sectoral efforts of human and animal health systems and
  - a multidisciplinary approach that considers the complexities of the ecosystems where humans and animals coexist.

- Preventing and mitigating their occurrence in humans requires control and, where feasible, elimination of the diseases in their animal reservoirs.

- Therefore, Veterinary Services have an important role to play.
Veterinary Services in the front line

- Reducing poverty
- Food security
- Market access
- Animal welfare
- Protecting animal health
- Protecting public health
- Animal production food safety

a Global Public Good
World Health Organisation’s seven NZD OIE listed diseases:

- Anthrax*
- Bovine Tuberculosis *
- Brucellosis *
- Cystic echinococcosis/ hydatid disease *
- Rabies *
- Cysticercosis / neurocysticercosis *
- Zoonotic sleeping sickness or human African trypanosomiasis

* OIE listed disease, i.e. a disease that requires notification and reporting obligations to the OIE, by the Veterinary Authority.
Priority Zoonotic Diseases for OIE Member Countries

According to 2014 OIE General Session Technical Item 1: ‘Prioritisation of animal diseases of public health importance’

Brucellosis, bovine tuberculosis, rabies
the highest priority diseases of animal and public health concern for OIE Member Countries

Based on the presence of an official control programme:
- Rabies (Asia 79%) (Global 74%)
- Brucellosis (Asia 70%) (Global 64%)
- Tuberculosis (Asia 56%) (Global 58%)
Other important NZD in Asia

- APHCA/OIE Regional Workshop “Zoonoses, Food-borne Diseases and Antimicrobial Resistance in the Asia-Pacific Region” (Bhutan, 2013).

- ‘Recognised that salmonellosis, brucellosis, tuberculosis and food-borne parasites are the neglected zoonoses in Asia’.
OIE standards/ recommendations

- Food-borne parasites
  - Echinococcosus (OIE listed/ WHO NZD)
  - T. solium (OIE listed/ WHO NZD)
  - Trichinellosis (OIE listed)

- Salmonellosis
  - Brucellosis (OIE listed/ WHO NZD)
  - Tuberculosis (OIE listed/ WHO NZD)
  - Anthrax (OIE listed/ WHO NZD)
  - Rabies (OIE listed/ WHO NZD)
OIE core objectives

Promote veterinary services and encourage international solidarity in the control of animal diseases

Collect and publish veterinary scientific information, notably animal disease prevention and control methods

Sanitary safety of international trade in animals and their products under the mandate given by the WTO
OIE international standards

- standards for improving animal health and welfare and *veterinary public health* worldwide
WTO SPS Agreement

International Standard-Setting Organisations (the ‘3 sisters’)

- **food safety**
  - CODEX

- **animal health/zoonoses**
  - OIE

- **plant health**
  - IPPC

‘Harmonisation’ - WTO Members shall base their SPS measures on international standards, where they exist.
Eliminating potential hazards at the ‘farm level’ prior to the slaughter or primary processing of their products (meat, milk, eggs, etc.) that could be a source of risk for consumers.

- **Terrestrial Code** includes recommendations at the ‘farm level’
- includes some diseases that are subclinical in animals e.g. *Salmonella* in poultry
- Note: Codex addresses post-slaughter processing to consumption.
- Together OIE and Codex standards cover ‘farm to fork’.
Terrestrial Animal Health Code

- Infection with *Echinococcus granulosus* / *E. multilocularis*
- Infection with *Taenia solium*
- Infection with *Trichinella* spp.
- Infection with *Brucella abortus, melitensis, suis*
- Bovine tuberculosis (*M. bovis*)
- Anthrax
- Infection with *rabies virus*

Volume II. Disease specific chapters
## VOLUME II

Recommendations applicable to OIE Listed diseases and other diseases of importance to international trade

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Infection with *Echinococcus granulosus*
Infection with *Echinococcus granulosus*

- zoonotic parasitic infection of dogs, ungulates, macropod marsupials;
- *E.granulosus* most important in global distribution and public health impact;
- Human infection via accidental ingestion of *E.granulosus* eggs (passed into the environment in dog faeces)
  - infection of people caused serious morbidity (and death).
  - infection of livestock causes ill-thrift.
Ch 8.5. Infection with *Echinococcus granulosus*

- OIE listed disease (reportable);
- Ch 8.5. Infection with *Echinococcus granulosus*
- recommendations for prevention and control of *E.granulosus* in dogs and livestock;
- recommendations to minimise international spread;
- Collaboration between Veterinary Authority and Public Health Authority essential to prevent and control transmission in animals and humans.
Ch 8.6. Infection with *E. multilocularis*

- OIE listed disease (reportable).
- Zoonotic parasitic infection of domestic and wild (foxes) canids and rodents;
- Mainly in the Northern hemisphere (central/northern Europe, Asia, and North America)
Infection with *Taenia solium* (porcine cysticercosis)
Ch 15.3. Infection with *Taenia solium*

- OIE listed disease (reportable);
- zoonotic parasitic infection of pigs (Latin America, Asia, Africa);
- NEW chapter adopted May 2015;
- **Ch. 15.3. Infection with *Taenia solium***
- recommendations to reduce risk of infection in humans and pigs;
- minimise international spread;
- Collaboration between Veterinary Authority and Public Health Authority essential to prevent and control transmission in pigs and humans.
Infection with *Trichinella* spp.
Infection with *Trichinella spp.*

- OIE listed disease (reportable);
- Zoonotic parasitic infection of pigs and equids;
- Eating raw or undercooked infected meat may result human infections;
- Clinically inapparent infection in animals;
- Ch. 8.15. Infection with *Trichinella spp.*
- Recommendations to reduce risk of infection in pigs and humans;
- Minimise international spread;
- Collaboration between Veterinary Authority and Public Health Authority essential.
Salmonellosis

poultry, pigs, cattle
**Salmonella** in poultry

- most common food borne bacterial disease worldwide;
- contaminated poultry meat and eggs causes human infections.
- clinically inapparent infection in poultry;
- Ch 6.5. Prevention and detection and control of *Salmonella* in poultry;
- recommendations for control of all *Salmonella* in poultry; special attention to S. Enteritidis and S. Typhimurium;
- minimise international spread;
Salmonella in pigs and cattle

- Pigs / pig meat and cattle / beef meat can be a source of Salmonella infection in humans (S. Enteritidis and S. Typhimurium);
- Salmonella infection in pigs and cattle is mostly subclinical;
- New draft chapter ‘Prevention, detection and control of Salmonella in pig herds’ (Ch 6.X.) under development;
- New draft chapter ‘Prevention and control of Salmonella in commercial cattle production systems’ (Ch 6.X.) under development.
Collaboration with Codex Alimenatrius

- OIE and Codex collaborate in development of relevant standards;
- *e.g.* *Salmonella* in poultry, pigs and cattle; *Trichinella*;
- to ensure coverage of the whole food production continuum;
- OIE and Codex standards include cross references to each other’s relevant standards:
Bovine tuberculosis
Bovine tuberculosis

- OIE listed disease (reportable);
- zoonotic disease of bovids and cervids;
- Ch 11.5. Bovine tuberculosis
- Ch 11.6. Bovine tuberculosis of farmed cervidae
- recommendations to manage human and animal health risks associated with *M. bovis* infection in domestic bovines and farmed cervidae;
- minimise international spread;
- requirements for country/zone/herd free status;
- recommendations for safe importation; meat and meat products, milk and milk products etc.
Distribution of bovine tuberculosis in 2014 and early 2015

53% of OIE reporting countries affected

Legend:
- Present in domestic animals and wildlife
- Present in domestic animals
- Present in wildlife
- Suspected
- Not reported during this period
- No information
Distribution of bovine tuberculosis in 2014 and early 2015
Bovine tuberculosis is a **notifiable disease** for 93% of the countries;

General surveillance is applied by 77% of these countries;

Control of wildlife reservoirs only applied in 8% of these countries.
Future developments

- a multi-species/multi-agent approach;
- i.e. revised chapter on ‘Infection with *M. tuberculosis complex*’ (*M. bovis, M. tuberculosis and M. caprae*) (bovids, cervids, goats);

Because many different domestic and wild animal species belonging to diverse mammalian taxonomic groupings are known to be susceptible to infection with members of *M. tuberculosis* complex.
Infection with *B. abortus*, *B. melitensis* and *B. suis*
Infection with *B. abortus*, *B. melitensis* and *B. suis*

- OIE listed pathogens (reportable);
- zoonotic disease of bovids, sheep, goats, pigs, camels, cervids;
- Ch 8.4. Infection with *B. abortus*, *B. melitensis* and *B. suis*;
- recommendations to manage human and animal health risks associated with *Brucella* spp. infection in domestic and captive wild animal populations;
- minimise international spread;
- requirements for country/zone/herd free status;
- safe commodities, eg skeletal muscle meat;
- recommendations for safe importation; meat and meat products, milk and milk products etc.
Distribution of infection with *Brucella abortus* in 2014 and early 2015

50% of reporting countries/territories affected
Distribution of infection with *Brucella abortus* in 2014 and early 2015
Infection with rabies virus

- Global campaign to eradicate
- In collaboration with partners
OIE International Standards on Rabies

**Vertical**
- Ch 8.12. Infection with Rabies virus
- Ch 1.13. Rabies (Diagnostics)

**Horizontal**
- Ch 7.7. Stray dogs population control
- Ch 1.1. Notification
- Ch 1.4. Surveillance
Other OIE Strategies for Rabies Control

• OIE Vaccine Bank
• Awareness Raising – World Rabies Day
• Communication – OIE conferences, seminars, meetings
Anthrax
Anthrax

- OIE listed pathogens (reportable);
- zoonotic disease of ruminants, equids and pigs;
- Ch 8.1. Anthrax;
- recommendations to manage human and animal health risks associated with *Bacillus anthracis*;
- minimise international spread;
- safe commodities, eg semen and embryos;
- recommendations for safe importation; live animals, meat and meat products, milk and milk products etc.
Chapters on internationally agreed diagnostic laboratory methods and requirements for vaccine production
Reference Laboratories
Expert Centres for animal diseases

247 Reference Laboratories in 38 countries
117 diseases
To address health risks at the Human-Animal-Ecosystem Interface

Identified the need for common actions

Three ‘flagship’ priorities:

- Rabies
- Antimicrobial resistance (AMR)
- Zoonotic influenzas
Thank you for your attention!