

The role of the OIE in information exchange and the control of animal diseases, including zoonoses

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Summary

The growing importance of animal diseases and zoonoses at a time when globalisation has increased movements of people, animals and animal products across the globe, has strengthened the role of the World Organisation for Animal Health (OIE) in animal disease control. The OIE's mandate since its establishment in 1924 has been to facilitate the exchange of public health, animal health and scientific information, and to further the control and eradication of animal diseases. The OIE is recognised by the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures as the international reference organisation for animal diseases and zoonoses, especially for standard setting. The standards adopted by the World Assembly of OIE Delegates on veterinary public health and animal health feature in the OIE *Terrestrial Animal Health Code*, the *Aquatic Animal Health Code*, the *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* and the *Manual of Diagnostic Tests for Aquatic Animals*. The OIE is also a reference organisation for the exchange of public and animal health information among Member Countries, through an information, reporting and warning system based on transparent communication between countries.

The OIE provides scientific expertise in ascertaining countries' status with regard to notifiable diseases, enabling them to secure official recognition as being free from foot and mouth disease, African horse sickness, contagious bovine pleuropneumonia and bovine spongiform encephalopathy. The OIE also contributes its scientific expertise to stakeholder training on the surveillance and control of animal diseases and zoonoses and to the evaluation of the performance of Veterinary Services, to enhance their work as the cornerstone of their countries' disease control efforts.

Keywords

Agreement on the Application of Sanitary and Phytosanitary Measures – Animal disease – Animal health information – Notification – OIE – Surveillance – Terrestrial Animal Health Code – Transparency – World Organisation for Animal Health – Zoonosis.

Introduction

World Veterinary Year in 2011 commemorated the 250th anniversary of the veterinary profession: in 1761 the world's first veterinary school opened in Lyons (France) against the backdrop of a Europe ravaged by epizootics, especially

rinderpest. World Veterinary Year was also the landmark year when the World Assembly of OIE Delegates, at its annual General Session in Paris on 25 May 2011, officially announced that rinderpest had been eradicated from the world. This event marked the culmination of several centuries of rinderpest control and serves as a benchmark for the eradication of many other animal diseases, including zoonoses.

Efforts to control animal diseases date back a very long time, especially in the case of rinderpest, which decimated cattle herds for many centuries, especially in Europe. After being eradicated from Western Europe, the disease returned with a vengeance in 1920. A herd of infected zebu cattle from India, bound for Brazil, stopped at the port of Antwerp and reintroduced rinderpest into Belgium, causing multiple outbreaks. Drastic control measures brought the epizootic under control in five months.

This episode heightened awareness of the vulnerability of countries to human and animal diseases. Diseases have no boundaries and have the potential to re-emerge rapidly as a result of international trade. International willingness to cooperate in animal disease control grew following this rinderpest episode. It led to an International Conference for the Study of Epizootics in Paris in May 1921, held at the initiative of France and attended by 42 countries. The conference culminated in an International Agreement for the creation of an International Office of Epizootics (*Office International des Epizooties* [OIE]) in Paris on 25 January 1924. The agreement was signed by 28 founding countries (Argentina, Belgium, Brazil, Bulgaria, Czechoslovakia [now the Czech Republic and Slovakia], Denmark, Egypt, Finland, France, Greece, Guatemala, Hungary, Italy, Luxembourg, Morocco, Mexico, Monaco, the Netherlands, Peru, Poland, Portugal, Romania, Siam [now Thailand], Spain, Sweden, Switzerland, Tunisia and the United Kingdom), representing key players in Africa, South America and Europe (excluding Austria and Germany). Asia was less well represented and the countries of North America were absent from the initial negotiations (4, 10).

The OIE's mandate was threefold, as defined in the Organisation's 1924 Organic Statutes (11):

- 'to promote and co-ordinate all experimental and other research work concerning the pathology or prophylaxis of contagious diseases of livestock for which international collaboration is deemed desirable;
- to collect and bring to the attention of the Governments or their sanitary services, all facts and documents of general interest concerning the spread of epizootic diseases and the means used to control them;
- to examine international draft agreements regarding animal sanitary measures and to provide signatory Governments with the means of supervising their enforcement.'

In 1924, the list of diseases notifiable to the OIE numbered nine: rinderpest, foot and mouth disease (FMD), contagious bovine pleuropneumonia (CBPP), anthrax, sheep pox, rabies, glanders, dourine and swine fever. Three of these listed diseases were zoonoses (rabies, glanders and anthrax).

Since then the list has grown considerably and, in 2012, the number of diseases notifiable to the OIE totalled 116, including the nine diseases on the original list (14, 22).

In 2003, the OIE was renamed the World Organisation for Animal Health, while retaining its original acronym. After 88 years in operation, the OIE now has 178 Member Countries and its original mandate has expanded to include the following new responsibilities for improving animal health, veterinary public health and animal welfare, and enhancing the role of animals in the world (11):

- animal disease control: standards, technical support and expertise, scientific information, vaccine banks, animal health emergency management
- standard-setting and expertise as a reference organisation for international trade under the World Trade Organization (WTO) Agreement of the Application of Sanitary and Phytosanitary Measures (SPS Agreement)
- animal health information: transparency, reporting and information network, country animal health status
- animal identification and traceability
- evaluation of Member Countries' Veterinary Services
- food safety: reducing the risks involved in the production of foodstuffs of animal origin (5)
- animal welfare and protection.

In a context of constantly emerging new diseases, growing global demand for protein and increasing international flows of people and goods, the OIE has a leading role to play in information-sharing and the control of animal diseases, including zoonoses.

The Uruguay Round and recognition of the OIE as an international reference organisation

Background

The Uruguay Round of multilateral trade negotiations took place between 1986 and 1994, culminating in the signing of 60 international trade agreements in Marrakesh on 15 April 1994. Their entry into force marked the establishment of the WTO in Geneva in January 1995.

The aim was to adapt the political system of the time to create a truly international organisation for trade. It was the

biggest reform of world trade since the General Agreement on Tariffs and Trade (GATT), which was reviewed for the occasion, resulting in agreements on: the general principles of trade (trade in goods, services, intellectual property); supplementary agreements for specific sectors (including agriculture and health regulations for agricultural products); dispute settlement; and trade policy reviews (36).

Agreement on the Application of Sanitary and Phytosanitary Measures

The Uruguay Round agreements consist of a set of texts, including the SPS Agreement (revised recommendations of the 1947 GATT agreement on trade in animals and animal and plant products).

The SPS Agreement applies to: international veterinary certification; plant and animal quarantine; the official animal health status of countries; the prevention of disease spread; prevention of contaminants and veterinary drug residues in food and beverages; and other health precautions to be taken when importing animals or animal products.

It therefore concerns all international standards for protecting:

- humans and animals from food-related health hazards
- humans from diseases transmissible by animals (or plants)
- animals and plants from infections and diseases.

The WTO ensures that the objectives of the SPS Agreement are achieved by means of:

- assessments of the risk of importing goods, in order to help countries to determine an acceptable level of risk and so define an appropriate level of protection
- detailed recommendations for countries on the protection standards required for the chosen level of protection
- recognition of the right of countries to define supplementary contingency and prevention measures if current scientific knowledge fails to ensure a product's safety.

This provides countries with a double guarantee for international trade in animals and animal products. For exporting countries, it helps to prevent importing countries from imposing unjustified restrictions on their products that would become barriers to international trade (countries are free to set their own standards based on their desired level of public and animal health protection, but they must provide scientific evidence of the usefulness of any restriction). For importing countries, it provides a guarantee that standards

on imported products are appropriate and sufficient to safeguard their public and animal health status (36).

OIE mandate relating to the SPS Agreement

The WTO has designated a number of international organisations as reference bodies for setting the international standards referred to in the SPS Agreement, each specialising in a specific area (36).

The OIE was appointed the international reference organisation for developing and promoting standards, recommendations and guidelines on animal health and zoonoses, including trade in live animals and animal products (28).

The official text of the SPS Agreement makes repeated reference to the OIE's key role in setting such standards (36). For example:

Preamble: 'Desiring to further the use of harmonized sanitary and phytosanitary measures between Members, on the basis of international standards, guidelines and recommendations developed by the relevant international organizations, including the Codex Alimentarius Commission, the International Office of Epizootics, and the relevant international and regional organizations operating within the framework of the International Plant Protection Convention, without requiring Members to change their appropriate level of protection of human, animal or plant life or health;'

Article 3, paragraph 4. Harmonization: 'Members shall play a full part, within the limits of their resources, in the relevant international organizations and their subsidiary bodies, in particular the Codex Alimentarius Commission, the International Office of Epizootics, and the international and regional organizations operating within the framework of the International Plant Protection Convention, to promote within these organizations the development and periodic review of standards, guidelines and recommendations with respect to all aspects of sanitary and phytosanitary measures;'

The role assigned to the OIE is stated clearly in **Annex A, paragraph 3b. International standards, guidelines and recommendations:** 'for animal health and zoonoses, the standards, guidelines and recommendations developed under the auspices of the International Office of Epizootics;'

The SPS Agreement places emphasis on a key principle that has been part of the OIE's mandate since its inception, in **Article 7. Transparency:** 'Members shall notify changes in their sanitary or phytosanitary measures.'

Lastly, the WTO SPS Agreement requires countries to introduce risk analysis procedures, as specified in

Article 5: 'Members shall ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations'.

The OIE, a reference organisation for international trade and the control of animal diseases and zoonoses through its standards and expertise

Objectives and implementation of the OIE *Codes*

The 2012 version of the *Terrestrial Animal Health Code* (*Terrestrial Code*) is the 21st edition (29).

Both the *Terrestrial Code* and the *Aquatic Animal Health Code* (*Aquatic Code*) are supervised by a Commission of renowned scientific experts, appointed by the World Assembly of Delegates for a three-year term: the Terrestrial Animal Health Standards Commission and the Aquatic Animal Health Standards Commission. The Terrestrial Animal Health Standards Commission is responsible for updating the *Terrestrial Code* annually to ensure that it reflects current scientific knowledge on animal diseases and zoonoses, and for proposing additional standards for approval by the World Assembly of OIE Delegates (10).

The Aquatic Animal Health Standards Commission has the same responsibilities for diseases of aquatic animals (fish, molluscs, crustaceans and amphibians).

The two Commissions work closely to harmonise the two *Codes*. They are assisted by working groups and *ad hoc* groups of renowned scientists and experts from OIE Reference Centres, who prepare recommendations for updates, amendments and new standards needed to bring the *Code* up to date, and propose them to the OIE Specialist Commissions (9, 13).

General organisation of the *Codes*

The organisation of the two *Codes* is similar, with a first section featuring general provisions on trade in animals and animal products applicable to all diseases, followed by a second section on specific standards applicable to each disease on a list of diseases notifiable to the OIE (OIE List) (15, 22).

The OIE List includes diseases with a global range and possible zoonotic potential that spread easily in naïve populations, and/or emerging diseases with zoonotic potential or that spread rapidly (15, 16, 22, 23).

Importance of the *Codes* for international trade

The OIE *Codes* cover several fields of application in international trade in animals and animal products (28).

Risk analysis, a fundamental component of disease control, determines the risk of diseases associated with the importation of animals and animal products. The OIE *Codes* contain recommendations on the risk analysis methodology and stages (analysis of Veterinary Services, evaluation of the zoning and compartmentalisation system and surveillance system), transparency in risk communication to stakeholders, and risk management methods (12).

The OIE *Codes* also contain general recommendations on animal disease diagnosis, surveillance and notification, in order to limit the spread of diseases through national and international trade. These principles call for transparent and speedy communication of science-based information, together with adequate Veterinary Services competent in veterinary public health.

The *Codes* also contain general recommendations on zoning and compartmentalisation, as well as on general hygiene in livestock production and related activities.

Lastly, there is a section specifying regulatory requirements for international trade. These regulations cover international veterinary certification, the responsibilities of importing and exporting countries for trade in goods, and animal health measures required for importation.

The OIE *Terrestrial* and *Aquatic Manuals*: recognised by the SPS Agreement as reference manuals for diagnostic tests, vaccination and laboratory standards

The main objective of the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* and the *Manual of Diagnostic Tests for Aquatic Animals* is the international harmonisation of methods for the control and surveillance of major animal diseases (12, 31, 32).

The *Manuals*, the latest versions of which were adopted by the World Assembly of OIE Delegates in May 2012, are reviewed and updated regularly by scientific experts in *ad hoc* groups, under the supervision of OIE Commissions. The Biological Standards Commission is responsible for producing the *Terrestrial Manual* (31). The Aquatic Animal

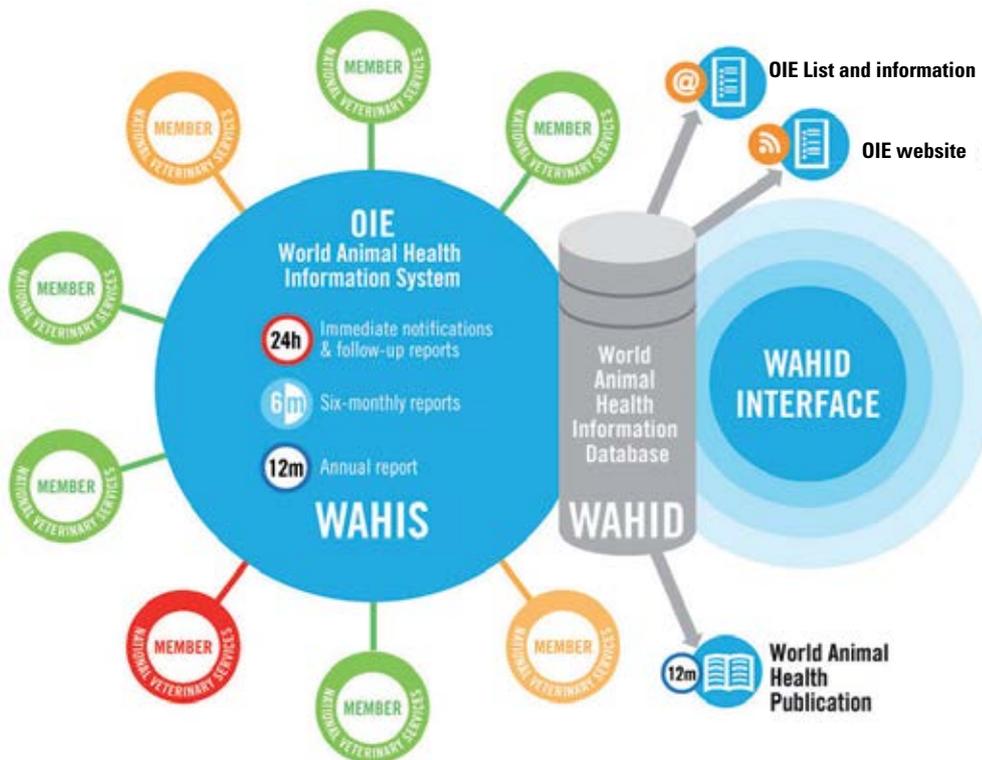


Fig. 1
Schematic representation of the operation of the World Animal Health Information System (WAHIS) and Database (WAHID)

Health Standards Commission is responsible for producing the *Aquatic Manual*, which focuses on aquatic animal diseases (32).

Part 1 of the *Manuals* includes all the general standards on the operation of laboratories (quality, biosecurity, biosafety), diagnostic procedures and, in the case of the *Terrestrial Manual*, vaccine production. Part 2 contains a set of specific recommendations on procedures for diagnosing each disease on the OIE List and, in the case of the *Terrestrial Manual*, for vaccine production.

The OIE provides expertise for evaluating Veterinary Services to aid the implementation of effective programmes for controlling animal diseases, including zoonoses

As the OIE considers good governance of Veterinary Services to be a global public good, improving Member Countries' Veterinary Services and bringing them into compliance with international standards is an investment priority.

To this end, the OIE has developed the Performance of Veterinary Services (PVS) Pathway. The Pathway is a strategy for evaluating and enhancing the performance of Veterinary Services that includes tools for evaluation and analysis by appointed experts: the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool) and

the PVS Gap Analysis Tool, which produces a five-year plan defining priorities and needs for the improvement of national Veterinary Services. Good governance of Veterinary Services, the main points of which are detailed in the *Codes*, is key to improving animal and public health worldwide and to compliance with international standards under the SPS Agreement (8). Indeed, Veterinary Services play a leading role in the control of animal diseases and zoonoses by setting up surveillance and emergency action plans in advance.

By 20 July 2012, 118 Member Countries had submitted applications for PVS evaluations, and PVS missions to evaluate Veterinary Services had been conducted in 111 of these countries (source: OIE).

At the meeting of G20 Agriculture Ministers on 23 and 24 June 2011, the Ministers acknowledged the vital nature of animal disease control programmes, in particular those implemented through Veterinary Services and international organisations: 'As far as public health, animal health and plant health are concerned, we stress the importance of strengthening international and regional networks, international standard-setting taking into account national and regional differences, information, surveillance and traceability systems, good governance and official services, since they ensure an early detection and a rapid response to biological threats, facilitate trade flows and contribute to global food security. The authors encourage international

organizations, especially the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the World Organisation for Animal Health (OIE), the Codex Alimentarius Commission (Codex), the International Plant Protection Convention (IPPC) and WTO to continue their efforts towards enhancing interagency cooperation' (1).

The OIE, reference organisation for information-sharing among Member Countries on animal diseases and zoonoses

Transparent information: an obligation for Member Countries and the OIE

Rapid and transparent reporting by Member Countries of information on their public and animal health status and any measures taken to control animal diseases and zoonoses is an obligation for both Member Countries and the OIE (7, 14, 22). This obligation is enshrined in the Organic Statutes of the OIE, and non-compliance by any Member Country or the OIE would constitute an infringement of the Organic Statutes (11).

Speedy and accurate reporting enables notifiable diseases to be controlled effectively and is key to a country's international credibility, which might be lost if it fails to observe the transparency requirement (7, 12).

To facilitate such reporting, the OIE relies on national Delegates appointed by their governments who, in many cases, are their country's Chief Veterinary Officer. They inform the OIE of their country's animal health situation and identify National Focal Points for each of the OIE's fields of activity in their country. National Focal Points are experts responsible for reporting to the Delegate on their particular field of activity, in order to facilitate the transmission of data from Member Countries to the OIE, particularly in a crisis-management context (7).

To bridge any transparency gaps, the OIE uses both official information sources (the Delegates of Member Countries) and non-official sources verified by its experts (7).

The World Animal Health Information System, an effective information, reporting and warning system

Resolution XXXI, adopted by the International Committee of the OIE (now the OIE World Assembly of Delegates),

triggered the establishment of the World Animal Health Information System (WAHIS) and its accompanying database (WAHID), which have been in use since 1 January 2005 (6, 7, 12, 14, 22).

Member Countries send public and animal health information to the OIE via the Internet using the WAHIS interface. The OIE then analyses the information before publishing it on the WAHID public data platform (6).

Member Countries are required to provide the OIE with several types of report (12, 22):

- immediate notifications within 24 hours of the occurrence of a disease or epidemiological event, followed by weekly follow-up reports on the country's situation
- six-monthly reports detailing the country's situation regarding all the diseases on the OIE List
- annual reports providing supplementary information on the organisation of Veterinary Services and animal production in Member Countries, as well as a review of their annual animal health situation.

National surveillance systems: the cornerstone of animal health and scientific information

According to the OIE, the surveillance of animal diseases, including zoonoses, is aimed at 'demonstrating the absence of disease or infection, determining the presence or distribution of disease, while also detecting as early as possible exotic or emerging diseases' (24). It is a very important disease-detection and monitoring tool, as well as a support tool for disease control, risk analysis and the determination of disease-free status.

The OIE *Codes* contain quality standards and principles relating to the surveillance of Member Countries' public and animal health situation. The objective of each surveillance programme must be defined beforehand because it will influence the choice of surveillance method (17, 21, 24).

A surveillance programme must be underpinned by competent, high-quality Veterinary Services and effective cooperation based on trust between the public sector (national Veterinary Services) and private sector (veterinarians and veterinary para-professionals). Their daily contact with livestock means that private veterinarians are best placed to detect outbreaks of diseases on the OIE List (8, 17, 21, 24, 30). The OIE therefore recommends supporting private veterinarians by providing them with education and training.

The system of communication between the various stakeholders in a surveillance programme should be

based on the principles of transparency, speedy response to an animal disease or zoonosis outbreak, consistency and accuracy, and should help to enhance stakeholder knowledge and awareness of the role of Veterinary Services and the importance of animal disease control (17, 21, 24, 30).

Encouraging information-sharing to prevent epizootics

Numerous studies by the World Bank, FAO and the OIE have demonstrated that, in economic terms, it is much cheaper to fund epizootic prevention systems than it is to pay the costs of an actual epizootic (2).

Every country is therefore encouraged to clarify its national objectives for epizootic prevention, using a risk assessment to define national programmes for reporting animal health information and for disease prevention, early detection and rapid control.

To this end, the OIE supports Member Countries in raising awareness of the importance of transparency by organising regular information seminars for their Delegates and training seminars for National Focal Points.

The OIE, reference organisation for scientific information and expertise on animal diseases and zoonoses through its Reference Centres

Its network of Reference Centres accredited and approved by the World Assembly of Delegates enables the OIE to draw upon the expertise of eminent scientists in all the fields in which it operates (6, 31, 32). Details of the number of Reference Centres can be found in Table I.

**Table I
OIE Reference Laboratories and Collaborating Centres (May 2012)**

	Reference Laboratories	Collaborating Centres	Total
Number	236	41	277
Countries	37	22	59
Diseases/subjects	112	38	150
Experts	176	–	–

The OIE has two types of Reference Centre:

- Reference Laboratories: reference centres headed by an OIE expert whose role is to monitor all scientific issues relating to a specific disease (surveillance, control, training) (13)
- Collaborating Centres: reference centres in a designated animal health field responsible for providing expertise in this specialisation for all diseases on the OIE List (standards, training, etc.) (13).

OIE Collaborating Centres and Reference Laboratories play a key role in: using and promoting OIE-recommended diagnostic tests; promoting vaccination procedures and vaccine production; analysing and interpreting epidemiological data provided by Member Countries; setting new OIE international standards; and providing Member Countries with expertise on animal health and zoonoses.

The OIE also fosters twinning programmes between its Reference Centres and other laboratories in order to expand the network of Reference Centres and competent bodies, especially in the least developed countries. Lastly, the OIE encourages its Reference Centres to hold training courses for all stakeholders in the animal production chain to improve responsiveness in the field to animal disease or zoonosis outbreaks (3, 13).

OIE Reference Centres are also a key source of animal health information because they have a duty to notify immediately both the OIE and the country concerned whenever there is a positive diagnosis of a disease on the OIE List (7).

International cooperation and the OIE’s contribution to the One Health concept

The OIE worked closely with the League of Nations (which supported its establishment in 1924) and, since 1945, it has continued to work closely with its successor organisation, the United Nations. However, the OIE is a totally independent organisation. It signed its first cooperation agreement with FAO in 1953 and with WHO in 1960.

Cooperation agreements between international organisations

One Health is a very old concept that has been redefined in the light of the recent upsurge in zoonoses (highly pathogenic avian influenza H5N1, severe acute respiratory syndrome). It stresses the importance of cooperation

between the different fields of science (including human medicine, veterinary medicine and epidemiology) to improve human and animal health and environmental quality.

The international organisations concerned have decided to contribute their specific expertise to the One Health concept through a variety of collaborative programmes, as follows.

In April 2010, the directors general of the OIE, FAO and WHO published a tripartite concept note entitled, 'The FAO-OIE-WHO collaboration: sharing responsibilities and coordinating global activities to address health risks at the animal–human–ecosystem interfaces'. The concept note summarises the organisations' current activities and defines each organisation's future role, as well as processes for harmonising the standards of the three organisations (3, 7).

On 20 April 2010, WHO and the OIE published the legal basis for the notification of animal diseases (OIE responsibility) and human diseases (WHO responsibility) (7).

In addition, the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs), which was the subject of an agreement by FAO and the OIE in 2004, supports enhanced cooperation for the control of transboundary animal diseases by building capacity at the local level and developing programmes to control specific diseases (3, 34).

The FAO and OIE have also developed a network of expertise on animal influenza (OFFLU) as part of their joint strategic plan to control highly pathogenic avian influenza viruses (33). The WHO Global Influenza Programme (GIP) and OFFLU develop joint technical and scientific projects and promote exchanges of information (3).

Lastly, the OIE's contribution to Codex Alimentarius Commission committees and task forces fosters the harmonisation of international standards on animal foodstuff safety and veterinary public health (3). In turn, the Codex Alimentarius Commission participates in OIE work to optimise information-sharing on ongoing work in the two institutions and to avoid omissions or inconsistencies between their respective standards.

Implementation of a joint network for early risk detection: the Global Early Warning System

The OIE, FAO and WHO set up a joint Global Early Warning System for major animal diseases, including zoonoses (GLEWS), as part of a tripartite agreement concluded in July 2006 to detect existing and emerging public and animal health risks at the animal–human–ecosystems interface.

The aim of the GLEWS platform, which is based on the three organisations' existing tools, is to facilitate prevention and control measures through the early detection and assessment

of hazards, and to report such hazards rapidly worldwide. While most of the diseases covered by GLEWS are zoonotic, some non-zoonotic diseases are also included, such as FMD, swine fevers and peste des petits ruminants (35).

The focus on zoonoses in the One Health concept should not obscure the importance of non-zoonotic animal diseases

International organisations and Member Countries tend to focus their actions and resources on the control of zoonoses, which pose a direct threat to human health.

While the indirect consequences of purely animal diseases are less well publicised, they can be devastating. In the event of an epizootic disease (still worse an enzootic one), production losses can be substantial (mortality, stamping-out policy), and non-fatal diseases cause productivity losses, particularly in the dairy and egg industries. Such losses, often compounded by an embargo on risk commodities, result in major economic losses for the country concerned.

In countries where the livestock sector accounts for the biggest share of gross domestic product – which tend to be the least developed ones – non-zoonotic animal diseases are a major obstacle to national development, local trade and the entry of these countries into the international market in animals and animal products, keeping livestock producers in poverty (2, 7).

Lastly, a properly functioning livestock sector is a prerequisite for ensuring a sufficient dietary intake of good quality proteins and amino acids, which is essential to human development.

As the control of non-zoonotic animal diseases fosters global economic development, the OIE continues its efforts to control both zoonotic and non-zoonotic diseases.

The OIE and recognition of a country's status with regard to animal diseases and zoonoses

Procedure for the official recognition of a Member Country's risk status as regards bovine spongiform encephalopathy and of their disease-free status as regards FMD, African horse sickness and CBPP

In May 1994, the World Assembly of OIE Delegates requested the OIE Foot and Mouth Disease and Other Epizootics Commission (now the Scientific Commission

for Animal Diseases) to develop a procedure for official recognition by the OIE of the FMD-free status of Member Countries. Since then, the procedure has been extended to include official recognition of a country's freedom from African horse sickness and CBPP, as well as its risk status for bovine spongiform encephalopathy (25). In May 2013 the procedure was extended yet again and countries can now also be recognised by the OIE World Assembly as being free from peste des petits ruminants and classical swine fever.

Official recognition of a Member Country's animal health status is vital for international trade and is one of the most important legal ties between the OIE and WTO under the WTO SPS Agreement, which came into force in 1995.

Member Countries may call upon OIE experts to help them secure OIE endorsement for their official control programme and recognition of their animal health status with regard to any of the four specific diseases. The *Terrestrial Code* contains all the procedures for OIE recognition of a Member Country's status with regard to these diseases (12, 25).

The OIE self-declaration procedure

OIE Member Countries can self-declare their country, or a zone within their country, free from certain OIE-listed diseases (not including those for which the OIE has established a specific procedure for official recognition of animal disease status, i.e. African horse sickness, CBPP, FMD, bovine spongiform encephalopathy and, since May 2013, classical swine fever and peste des petits ruminants). Rinderpest was included in the list up to May 2011, when it was officially declared to have been eradicated from the planet. Now the only measures against rinderpest consist of health monitoring to detect a new outbreak or spread of the virus from a laboratory still holding the viral strain.

The OIE *Codes* detail the procedures for self-declaration that are adopted at the initiative and under the responsibility of the Member Country. When making a self-declaration of disease freedom, the country must be able to provide solid evidence that the requirements regarding animal health status have been met in compliance with OIE standards (12, 25).

The Delegates of Member Countries can submit to the OIE a self-declaration of their country's disease status, supported by scientific evidence. If it considers the self-declaration to be justified, the OIE may publish it in the OIE *Bulletin* to inform all Member Countries.

The role of zoning and compartmentalisation in animal disease control

The ultimate aim of animal disease control in a country is to totally eradicate the diseases in question. However, as eradication is a difficult and protracted process, the OIE

encourages Member Countries to define sub-populations with a distinct animal health status: this is known as zoning and compartmentalisation.

Zoning entails a geographical separation of sub-populations with a distinct animal health status, while compartmentalisation uses biosecurity measures and appropriate livestock management practices to isolate the sub-population in question from other sub-populations.

The compartmentalisation standards in the OIE *Codes* provide for the adoption of surveillance methods both inside and outside the compartment. The OIE defines general standards and disease-specific standards. Compliance with these standards allows a compartment to be defined as free from an animal disease even when the rest of the country is not free, or a disease outbreak to be confined to prevent it from spreading. The compartment must be effectively supervised and controlled.

The country's Veterinary Authorities are responsible for defining disease freedom within a compartment. Disease-free status allows Member Countries to engage in international trade, with importing countries under an obligation to recognise the disease freedom of a compartment in compliance with international standards (18, 19, 26, 27).

Conclusion

In a context of emerging new diseases, both zoonotic and non-zoonotic, and a heightened risk of animal diseases and zoonoses spreading across the world, the OIE's role in promoting transparent exchanges of animal health and scientific information among countries is vital for controlling animal diseases and zoonoses. The main objective is to encourage the three sets of professionals responsible for early detection of diseases and infections (livestock producers/private veterinarians/official veterinarians) to follow the three-stage process of successful disease control (surveillance/early detection/rapid response). It is therefore essential to establish effective communication between livestock producers (who oversee their herds on a day-to-day basis and consult a veterinarian with any doubts about the health of their livestock), private veterinarians (who perform the diagnosis and report the infection to the official veterinarian) and official veterinarians (who confirm the diagnosis and transmit animal health information).

The OIE facilitates international cooperation among Member Countries to enable them to take the necessary measures for controlling animal diseases, including zoonoses. This results in OIE cooperation agreements with countries as well as with many private international organisations.

Thus, the OIE's numerous missions include: standard-setting; providing expertise; training surveillance personnel; helping to enhance Veterinary Services; and assisting with

dispute settlement in cases where Member Countries fail to agree on measures aimed ultimately at controlling animal diseases.

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