Fact sheets

Wildlife diseases

Human activities and environmental changes are resulting in new infectious disease dynamics and new patterns favourable to pathogens spreading both geographically and between species as well as new opportunities for increasing genetic variability. Wildlife, farm animals and even humans fall victim to this increasingly common pattern. The international community as a whole must consider prevention and control of animal diseases in wildlife as crucial components of safeguarding of global animal and public health, while dealing with related agriculture and trade issues.

ROLE AND RESPONSIBILITY OF THE OIE

Through its mandate, the OIE focuses on safeguarding animal health as well as biodiversity worldwide. The organisation also develops standards for use by its Members to protect themselves from incursions of diseases or pathogens and to avoid unjustified sanitary commercial barriers.

The same importance and thoroughness given to the surveillance and control of diseases in farm animals must apply to wildlife as global movements and exchange of pathogens within and between the two populations are increasing. The OIE has an information network supported since 1994 by its international working group composed of high level scientists with an expertise in wildlife. The network also relies on national Focal Points appointed by Member Countries Delegates for relaying information to the working group and to the OIE. The group reviews disease occurrences in free living, farmed, ranched and captive wildlife, which can have a significant impact on these populations as well as on domestic animals, including poultry and also on public health. In response to the need for improved knowledge of diseases in wildlife as well as in domestic animals, the OIE is introducing wildlife species of significance in each of the disease specific chapters in the Terrestrial Code.

In 2012, the OIE launched an updated version of WAHIS (OIE World Animal Health Information System) integrating a new section for wildlife disease notification. WAHIS now allows Members Countries to complement compulsory information on OIE-listed diseases of wild species, but also to notify, on a voluntary basis specific wildlife diseases that are not officially included in that list. Information received and processed through both systems will be made public and released on the website of the OIE.

INTENSIFIED MOVEMENT OF PATHOGENS

A series of factors amplify the circulation of pathogenic agents geographically, within and between animal populations and between animals and humans.

Most of these factors are man-made and the trend will intensify with climate change, globalisation, demographic evolution and linked new social behaviours. With increased “traffic” on a global scale infectious agents have more opportunities to mix, transmit between different species and exchange genetic material that could combine into new killer pathogens.

Bush meat, organic or other wet markets products are now common commodities. These combine with the development of other new social patterns in developed countries such as the taste for exotic pets, wild animal products or ecotourism.

Environmental conditions also largely influence pathogen dynamics and the crossing of the species barrier by pathogens. Domestic animal grazing areas abut or overlap with wildlife reserves leading to more contact and natural resource competition. Farmed wildlife (such as deer and elk) and wildlife national and international relocation constitute additional issues to consider. Wildlife endangered species can fall victim and get infected with various pathogens, including domestic animal diseases. Finally the encroachment of humans in to formerly remote habitats and environments leads to contact with new pathogens and the opportunity to move these pathogens from their historical ranges.

CHALLENGES

Because wildlife species span a broad taxonomic diversity and are generally free roaming, monitoring wild animal populations poses several challenges. National Veterinary Services, which are responsible for disease prevention and control measures need to evaluate their financial, human and infrastructure needs to meet this challenge.

One priority is to focus on zones where the interface between wildlife and farm animals occurs and where as a result, risks of increased pathogen traffic are high. A second priority could include geographic areas where important wildlife populations occur. These goals can only be achieved through a global coordinated effort with countries supporting each other in strengthening national Veterinary Services.

Agreements and information exchanges among National Veterinary Services and administrators of protected areas as well as hunters’ and fishers’ associations prove to be very useful.
Definitions

Wildlife means feral animals, captive wild animals and wild animals.
Feral animal is an animal of a domesticated species that now lives without direct human supervision or control.
Captive wild animal is an animal that has a phenotype not significantly affected by human selection but that is captive or otherwise lives under direct human supervision or control, including zoo animals and pets.
Wild animal is an animal that has a phenotype unaffected by human selection and lives independent of direct human supervision or control.

A reservoir for emerging and re-emerging diseases

Wildlife diseases

Wildlife hemorrhagic fever is a severe, often-fatal disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees). Ebola is considered to be a zoonosis. The natural reservoir is thought to be species of fruit bats native to tropical forests. Large die-offs of endangered species of non-human primates have been linked to infection with Ebola and infected animals can then serve as a source of infection of Ebola in humans. Human outbreaks of Ebola virus are often linked to hunting of wildlife (“bush meat”) or to human activities such as mining in proximity to bat roosts and caves.

Wild boar

Wild boar can serve as a reservoir for a number of diseases including foot and mouth disease, pseudorabies, trichinella, classical swine fever and brucellosis. These diseases can have critical impact on the domestic swine sector and result in heavy production loss due to high mortality and slaughter for disease control. Also, outbreaks usually lead to the establishing of trade bans between partners.

Bovine Tuberculosis in South Africa

Bovine tuberculosis (Mycobacterium bovis) was identified in a buffalo of the Kruger National Park, South Africa in 1990. Originally introduced to wildlife populations by infected domestic cattle, wild buffalo and kudu have now become hosts of the disease and lions, baboons, panthers and cheetahs are occasionally infected. The joining of the Kruger Park with Mozambique’s Limpopo Park and Zimbabwe’s Gonarezou Park, creating an open range park could serve conservation purposes but also raises concern the infection will reach back to cattle or spread to other wildlife populations in the region unless attention is paid to managing this disease.

Fungus infection and ranaviruses in amphibians

Two types of amphibian diseases are of particular international importance – the fungal disease chytridiomycosis and diseases caused by ranaviruses. Both are associated with the critical decline of amphibian populations that is occurring globally. Chytridiomycosis has become epizootic in wild amphibians, resulting in loss of amphibian populations across the five continents. The scale of the international trade in amphibians is considerable - animals are transported as a food source, for the pet trades, for additions to zoological institutions and for bio-control purposes – and this trade constitutes a predisposing factor to unchecked spread of diseases.

In 2008, the OIE World Assembly of Delegates decided that these two amphibian diseases should be listed compelling Members to notify outbreaks to the OIE. Standards for international trade in amphibians were included to the 2008 OIE Aquatic Code, regarding these two diseases.

OIE Global Conference on Wildlife Animal Health and Biodiversity (2011)
www.oie.int/home/eng/Conferences_Events/sites/WILDLIFE_ACTES_2011/abstract.htm

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A reservoir for emerging and re-emerging diseases

West Nile fever, Hendra and Nipah virus and many more diseases, including many zoonoses, are found in wildlife. All diseases for which wildlife act as a reservoir and have an impact on animal populations (wild and domestic), economies and humans or a combination of all, need extra attention from the international community.

Animals, humans and diseases

Rabies

Rabies is a viral disease that affects the central nervous system of mammals, including humans. The rabies virus is present on all continents except Antarctica and some countries that meet the OIE requirements for rabies free status. In some areas, the disease is endemic with rabies present in wild animal hosts, while in others, domestic animals still play a major role in rabies persistence:
– West European countries implementing effective wildlife rabies control programs that include oral vaccination campaigns using recombinant vaccines eliminated the disease in wildlife (Switzerland 1999; France 2000; Belgium and Luxembourg 2001 and the Czech Republic 2004);
– population control and/or oral vaccination programmes for domestic, feral and stray animals are being implemented in several developing countries where rabies is endemic;
– eradication is underway in North-American countries.

Ebola

Ebola hemorrhagic fever is a severe, often-fatal disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees). Ebola is considered to be a zoonosis. The natural reservoir is thought to be species of fruit bats native to tropical forests. Large die-offs of endangered species of non-human primates have been linked to infection with Ebola and infected animals can then serve as a source of infection of Ebola in humans. Human outbreaks of Ebola virus are often linked to hunting of wildlife (“bush meat”) or to human activities such as mining in proximity to bat roosts and caves.

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