Rabies: who is responsible
for controlling and stopping this killer disease?

It is common knowledge that rabies may be the oldest infectious disease known to humanity. As early as 2300 BC, dog owners in the Babylonian city of Eshnunna were fined heavily for deaths caused by their dogs biting people. As early as 500 BC, there were even special rabies gods: one to prevent rabies (Aristaeus, son of Apollo) and one to heal rabies (Artemis). The disease was known and feared by everyone; it killed people in villages and in large cities, such as Paris in the early 1600s, Madrid and London, and later in the Americas (3). In 1885, for the very first time, Louis Pasteur, a Parisian chemist, successfully used a crude rabies vaccine to save the life of young Joseph Meister. However, rabies remained a mysterious killer disease. Even today, rabies is reported to claim nearly 55,000 lives a year.

The question might well be asked: why, after being known and feared by people for more than 4,000 years, does rabies still remain one of the most fatal infectious diseases in humans? Why do other animal diseases that pose a threat to human health and well-being – but with a far lower mortality rate – receive more attention in the popular press and cause more hysteria and pressure on governments to react to protect human health? Animal diseases that have hit the front pages of international newspapers during the past ten to 15 years include: the outbreak and spread of ‘mad cow disease’ (bovine spongiform encephalopathy or BSE) in the United Kingdom; the highly pathogenic avian influenza (HPAI) strain H5N1 and its unprecedented spread over five continents, with the threat of a possible human pandemic; the recent outbreak of H1N1 influenza and the outbreak of Ebola Reston virus in the Philippines. These are just a few examples of the new and, in many instances, unreasonably fearful global concern over the link between human and animal health. In almost all these cases, the main focus was the general fear of a global human pandemic as a result of these diseases in animals. It is thus not surprising that the international donor community, urged on by international organisations such as the OIE, FAO and WHO, reacted swiftly by mobilising and coordinating their efforts to give substantial financial support to strengthen the capacity of countries faced with such threats. This was especially evident during the height of the highly pathogenic avian influenza epidemic, during which an unprecedented amount of money was pledged and made available to prevent a possible global human pandemic, should the disease spill over from its animal source to a naïve human population (1).

Sadly, rabies – one of the oldest known diseases, occurring primarily in animals and responsible for more
human deaths than any other known zoonosis, and exceeding, by far, the sum total of recorded human deaths from BSE, HPAI and the recent H1N1 influenza outbreak combined – seems to be always either forgotten or pushed to the back of the queue of animal disease priorities. Rabies has been known to kill humans since the beginning of recorded history and remains a killer to this day, causing the deaths of thousands of people each year. Countries in Asia and Africa are particularly vulnerable, since they have insufficient resources to create an effective, protective immune barrier between humans and the animal source of the disease (1).

Scientists and other experts have offered many reasons for the inability or reluctance of governments to react to the rabies threat and mobilise the kind of resources that they have managed to find for other recent human pandemic disease threats. One reason cited is that there is very little financial return on the investment of governments into rabies control programmes, such as the pre- and post-exposure treatment of human victims or controlling the disease at the animal source by implementing rigid and effective vaccination programmes (1). Dr Bernard Vallat, Director General of the OIE, pointed out in a recent editorial that just an estimated 10% of the financial resources currently used for post-exposure treatment of rabies victims would be sufficient to allow national Veterinary Services throughout the world to eradicate rabies at the animal source and, in doing so, to prevent human cases of the disease (4).

Even if this money were to be redirected towards rabies control at the animal source by Veterinary Services, would it result in an effective and coordinated effort to substantially control the disease? In many countries, there still appears to be a never-ending debate between Ministries of Health and Agriculture on who is responsible for what. The outcome of many of these debates is that dog owners are deemed to be responsible for having their animals vaccinated, or for preventing them from coming into contact with infected animals, and, should they fail to achieve this, then the human health profession takes responsibility for treating the unfortunate human victims. Such a ‘solution’ inevitably results in the continuation of people dying from the disease because of exposure to an increasing, non-vaccinated, canine population – the most important species worldwide for transmission of rabies to humans.

Rabies is, however, a disease that calls for the equal involvement of both the human and animal health professions. The primary task of the animal health profession is to create an immune buffer between the animal source and humans through a rigid and sustainable vaccination strategy, targeting the main animal vector; namely, dogs. It has been proven in many countries that, by maintaining vaccination coverage of at least 70% to 75% of the canine population, the number of humans contracting the disease would decrease exponentially. Nonetheless, to enable national Veterinary Services to accept this primary responsibility, they need to have the capacity to do so.

The OIE, realising that more than 70% of its 178 Members are either developing or in-transition countries that are in urgent need of help and guidance to effectively control animal diseases and zoonoses, set itself the optimistic goal of assisting at least 120 of its Member Countries to enter the pathway for Good Veterinary Governance. Expert teams trained by the OIE have, to date, completed 102 assessments of the status of these countries’ Veterinary Services to advise them on how to address the gaps in their service delivery systems, thus achieving Good Veterinary Governance and the ability to effectively control important animal diseases, such as
rabies. The OIE, together with FAO, has also published a comprehensive text on Good Veterinary Governance to further guide countries in need. More importantly, in addressing the serious problem of global rabies control, the OIE, with assistance from donor funding, has established a World Animal Health and Welfare Fund from which funds can be made available to further advance Good Veterinary Governance in OIE Member Countries(2). Furthermore, the OIE urges the donor community to allow the substantial funding that was made available to address the HPAI human pandemic threat to be used for the control of other, equally important zoonotic diseases, such as rabies.

Recently, the OIE, FAO and WHO publicly acknowledged the need for closer cooperation and collaboration and confirmed their commitment to their international role as the primary players in combating important diseases threatening both human and animal health. In a joint statement, the three ‘sister’ organisations accepted the need for mutual efforts at the national and regional levels to obtain stronger and more sustainable political support for integrated approaches to preventing disease and lessening the effect of high-impact pathogens of medical and veterinary importance. The three organisations also confirmed the need for joint development of effective programmes to ensure coherent action and raise awareness among the general public and policy-makers of the risks posed by pathogens of animal origin and the actions needed to minimise human infection. Preventing the emergence and cross-border spread of infectious human and animal diseases was acknowledged as a global public good, with benefits that extend to all countries, people and generations. The tripartite partners encouraged international solidarity in the control of human and animal diseases, while providing international support to Member Countries requesting assistance with human and animal disease control and eradication programmes (2). It is sincerely hoped that this common commitment by the three major international participants will be equally applied at the regional and national level to control rabies.

Following the recommendations of two major international conferences on rabies control sponsored by the OIE (in Kiev in 2005 and Paris in 2008), the OIE has urged Member Countries to institute effective and sustainable rabies control programmes (1). Another international conference on rabies control, organised by the OIE in collaboration with the FAO and WHO, is due to be held in Seoul, the Republic of Korea, from 7 to 9 September 2011. Its aim is to increase the global commitment of these international organisations to a combined and multidisciplinary effort to put an end to this killer disease. The OIE has also committed its full support to the initiatives of the Global Alliance for Rabies Control and encourages its Member Countries to actively participate in the annual World Rabies Day, launched by the Global Alliance for Rabies Control.

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References