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Guest Editorial

Emerging viruses of zoonotic and veterinary importance



To enable discussion of all aspects of emerging virus infections, an Emerging Viruses meeting was held at the University of Nottingham, UK, on 27–29 July 2015. Given the success of this meeting, a second meeting was organised, now called 'Emerging Viruses of Zoonotic and Veterinary Importance', at Churchill College, Cambridge, UK, on 24–26 July 2017 to encourage discussion of emerging virus infections from a One Health perspective.

Infectious disease not only affects human health, but has an impact on the stability of food production and the survival of wild species. This is formulated in the One Health approach to infectious disease, where the possibility of infectious agent movement between species, including human beings, is key. Whilst a major driver of emerging virus disease research is public health concern over zoonotic infections, there are also veterinary drivers for emerging viral diseases. Such diseases may have devastating effects on wildlife populations, affecting the ability of these populations to withstand the global environmental changes we are causing. They may be diseases of production animals, affecting food production efficiency and the ability to trade. Finally, they may affect domestic pet animals, causing welfare issues and increased costs to owners. The articles in this special issue of *The Veterinary Journal* reflect some of the content of the meeting.¹

There is an increasing focus on emerging diseases fuelled by the human Ebola virus epidemic and Zika virus emergence. These reflect a more public face of disease spread than is seen in the veterinary world. Recent intrusions of notifiable viral diseases of veterinary species into Europe and Russia include lumpy skin disease, peste des petits ruminants, bluetongue, avian influenza and Newcastle disease.

In this Special Issue, we have papers focussing on the emergence and re-emergence of Schmallenberg virus (McGowan et al., 2018; Stavrou et al., 2017) and African swine fever virus (Sanchez-Cordon et al., 2018). The continued surveillance of wildlife (Bodewes, 2018) and domestic animals, including livestock (Bourret, 2018) and companion animals (Caddy, 2018), to identify novel viruses is particularly important in understanding the sources and risks of viruses affecting the health of animals and humans. A greater understanding of virus replication, pathogenesis and transmission allows intervention strategies to be formulated, including development of vaccines and antiviral treatments. Understanding of

replication of Zika virus is exemplified by the paper by Royle et al. (2017), whilst the review by Pusterla et al. (2018) summarises what is known about a novel coronavirus of horses.

With globalisation of human movement, increased density of human populations, climate change and loss of natural habitats, there is increased risk of interaction between species, and within species. This allows the emergence of infectious diseases by increased contact and cross-species transmission, as well as movement of infectious agents into geographic regions where they have not been found before. These types of drivers are discussed in the review by Heffernan (2018), whilst the potential for spill-over between different hosts is highlighted in the systematic literature search by Glennon et al. (2018).

We would like to thank the authors and reviewers of the papers in this special issue. We are also grateful to Dr Adrian Philbey, Co-Editor-in-Chief, for his support during the compilation of the issue. With the accelerating changes in our world, emerging viral infections will continue to be an important issue for human and veterinary health. We look forward to further meetings and discussions on this topic at the next meeting, which is planned to take place at the University of Surrey in 2019.

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¹ See: <http://emerging-viruses.uk/> (accessed 1 January 2018).

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