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GLOBAL MOVEMENT OF POTENTIAL PATHOGENS LINKED TO FREE-RANGING AND CAPTIVE WILDLIFE

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Since the majority of animal pathogens move with their hosts, the global spread of animal disease generally mirrors the movement of animals. Free ranging wildlife may move across international boundaries and there are many examples of diseases that have spread with them. However, most such diseases come to prominence only when there is a potential for spillover into livestock or humans. Since little can be done to prevent the movement of free ranging wildlife, which are often iconic, the management of the disease risks they pose must be based on risk assessments, surveillance, and preparedness. Risk assessments are increasing in sophistication, with growing use of spatio-temporal modelling techniques. However, disease surveillance in free ranging wildlife is very expensive, and as there is seldom sufficient funding to investigate all issues of potential interest, those that tend to attract funding are the emerging zoonoses.

Continents are more at risk from wildlife-vectored disease than are island nations. While islands are theoretically at risk from flying animals, since migratory ducks do not cross the equator, the southern hemisphere faces a considerably lower risk of avian influenza than does the northern hemisphere.

Deliberate introduction of animals carries risks of introducing diseases, but the import risk assessment framework of the OIE can be applied to wildlife in the same way as any other commodity. Most wildlife imports involve very small numbers of animals, and in the case of New Zealand, where almost all mammalian species were introduced in the last 200 years, there is little evidence to suggest that introduced wildlife were responsible for significant disease introduction. However, introduced animals can become important vectors of diseases already present e.g. in New Zealand Australian brush tailed possum has become an important wildlife reservoir host for bovine tuberculosis.

The disease risk posed by captive wildlife can be readily assessed and controlled. Biosecurity New Zealand has carried out a number of risk assessments on zoo animals in recent years. Restricting the source of captive wildlife to zoological parks in countries with a known health status makes it considerably safer to import captive wildlife than from the wild.