International Alliance for Biological Standardization

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Vaccination and Surveillance for
High Pathogenicity Avian Influenza in poultry:
Current Situation and Perspectives

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Global developments with HPAI during the last two years: implications for disease control

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During 2023 and 2024 there have been substantive changes in the epidemiology of H5 high pathogenicity avian influenza. The virus has continued to spread at global scale with Australasia the only unaffected continent following the detection of virus in avian and mammalian populations in Antarctica. Furthermore, due to high efficiency of infection and expansion of host range in birds (wild and domestic) there has been a continuous and high level maintenance of the virus in the environment. The epidemiology whilst not exclusively, has been dominated by H5N1 viruses belonging to clade 2.3.4.4b. The virus has extended its host range to wild avian populations not previously affected, such as seabirds due to heavy environmental contamination and exposure, but also has established continuous infections in key hosts groups such as *Laridae* which have further contributed to the changing epidemiology. Significantly the virus has spilled over and in some cases become established, in wild mammalian species. Initially these infections were primarily of species that scavenge or predate infected or dead wild birds and invariably resulted in fatal outcomes. More latterly following spread to sea mammals in South America evidence is emerging that the virus may be able to maintain independently in such populations. However of greatest significance is the spread of virus to dairy cattle in the USA where in excess of 230 cases have been reported to date since March this year. This is the first spillover into domestic livestock of non avian origin leading to ongoing maintenance of infection. All of these events have been accompanied by genetic changes in the virus some of which increase the risk to humans. As a result there have been several human infections due to exposure to infected birds and animals with most being unremarkable and not capable of onward transmission. The continued panzootic emphasizes the importance of the need for flexible and multiple options to prevent and control the spread of infection especially through effective use of vaccination.