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

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What public health should gain from surveillance for HPAI in vaccinated poultry

Vaccination of poultry against highly pathogenic avian influenza A(H5) virus infection could be a welcome addition to the toolbox for the improvement of animal health and welfare and food security. Prevention of human exposures to HPAI A(H5) viruses and zoonoses may be an added indirect benefit of such poultry vaccinations. However, it is important to recognize that poultry vaccines may not be perfect and may not provide sterilizing immunity to all vaccinated animals and/or against all circulating H5 virus variants. Moreover, vaccination can result in natural selection of antigenically drifted variants of influenza virus, with possible reduced effectiveness of H5 vaccines in poultry. Therefore, there may be a risk of dormant infections and virus excretion in poultry, which may result in a (invisible) continuous risk of new zoonoses. We should remain vigilant about this possibility. Post-vaccination monitoring will be important, both for the detection of dormant infections and continued virus evolution and for monitoring antigenic drift. Given the expected absence of signs of infection in poultry, surveillance activities including systematic random sampling on vaccinated farms should be considered. At the same time, contact between infectious vaccinated poultry populations and other (unvaccinated) animals, both domestic and wild, should be prevented. Post-vaccination surveillance should ideally be linked to the WHO GISRS system, to facilitate updating of pre-pandemic vaccine candidates in case antigenic drift occurs in vaccinated poultry.

