



International Alliance for Bi-
ological Standardization



World Organisation
for Animal Health
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Vaccination and Surveillance for High Pathogenicity Avian Influenza in poultry: Current Situation and Perspectives

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Surveillance for detection and assessment of virus evolution to inform vaccination programs including vaccine selection and updates

Avian influenza viruses (AIVs) evolve rapidly through antigenic drift and shift in both vaccinated and unvaccinated hosts. This is a natural ability of any influenza A virus, which constantly mutates to avoid extinction by genetically and antigenically distancing itself from the immune responses accumulating in host populations. This ongoing evolution challenges vaccine effectiveness as new strains can evade immune defenses. Genomic and antigenic surveillance is essential to track these changes, enabling timely updates to vaccine formulations and vaccination programs to maintain protection.

The importance of such surveillance is even more evident when considering the global spread and eco-epidemiological dynamics of viruses descended from the H5 A/Goose/Guangdong/1/1996 (Gs/GD) lineage. With their global reach and remarkable evolutionary capacity—amplified by an expanded host range and frequent inter-species transmission—it becomes essential to monitor their evolution across their multiple hosts in real time.

Adopting a comprehensive and coordinated approach to surveillance and vaccine updates is crucial. Initiatives such as OFFLU Avian Influenza Matching (OFFLU-AIM) exemplify this strategy, promoting international collaboration and data sharing to enhance genomic and antigenic monitoring. By integrating regional expertise, utilizing advanced surveillance technologies, and applying standardized methods for data collection and analysis, we can significantly improve our ability to control HPAI through vaccination and protect both animal and human populations globally.

