



## Short Communication (Expert Talk)

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### Control Avian Influenza in India

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#### ABSTRACT

Avian influenza virus (AIV) infection threatens animal health, productivity, food security, and the livelihood of animal owners and farmers in some of the world's poorest countries. The economic loss of the poultry farmers, effect on national trade involving poultry and poultry products, costs involved in surveillance and control operations of the disease, are the direct losses, indirect effect on transport and trade due to post AI outbreaks control measures inside the country, reduction in both profit and sale of the birds and the products etc and the threat of human transmission. Till now, there were around 8400 outbreaks of highly pathogenic avian influenza (HPAI) all over the world in poultry of which India had 112. In just last 3 months of 2017, multiple outbreaks were reported from 49 countries including US. Due to its direct effect on trade and traffic, the disease is considered as having serious consequences and hence rated high among trans-boundary diseases.

Some strains of highly pathogenic avian influenza (HPAI) virus cause severe zoonotic disease and may have pandemic potential. Till 16<sup>th</sup> March 2017 as per WHO record, the total no of persons died due to H5N1 all over the world was 453 out of 858 confirmed infections. The last report of a human death was from Egypt in 2017. There are reports of nonfatal human infections with LPAI viruses belonging

to subtypes H4, H5, H6, H7, H9, H10, and H11, and both fatal and nonfatal infections with HPAI viruses belonging to subtypes H5 /H7. Currently, due to ongoing circulation of various strains (H5N1, H5N2, H5N8, H7N8, etc), outbreaks of avian influenza continue to be a global public health concern.

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Early detection and disease confirmation is important not only to prevent further mortality or production losses but also to save other birds/neighboring farms from the spread of disease. Most countries have used stamping-out programs in poultry to eradicate H5N1 HPAI.

In India, AIV H5N1 epidemic was reported in commercial chicken farms in 2006. During the decade thereafter more than 110 outbreaks covering many states till date, have provided adequate indications that although in some cases the virus circulated in susceptible population of the infected areas, there was significantly high number of independent introductions of the viruses into naïve populations. Different clades of highly pathogenic AIV H5 type were reported from different states; however, India has not yet reported any ailment in human due to AIV. Biosecurity is an integrated approach encompassing policy and regulatory frameworks to analyze and manage risks in the areas of animal health and food safety, including associated environmental risk.

OFFLU, the joint OIE and FAO animal influenza network of experts, conducted an evaluation of global avian influenza control strategies for poultry, especially AI vaccine and vaccination components, during 2010–11. Of the 63 HPAI affected countries, only 15 have utilized vaccination as a part of the control strategy during 2002-10. It was reported that although, human cases were reduced after vaccination, field outbreaks have occurred in most of the vaccinating countries due to inadequate coverage in the target species and antigenic drift in field viruses.

It is now a known fact that migratory birds entering in Indian water-bodies are responsible for newer Indian outbreaks of AIV. As India is on their flyway, it is difficult to control the ingress of the disease; however good biosecurity, early detection and elimination of the hosts from infected zone have been successfully practiced in India to limit the infection.

Summarily, The primary strategy for HPAI and H5/H7 LPNAI control will continue to be immediate disease eradication using a four-component strategy: 1) education, 2) biosecurity, 3) rapid diagnostics and surveillance, and 4) elimination of infected poultry.