Animal intervention strategies under different epidemiological and field conditions that can reduce risk of zoonotic infection

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New ‘research’ outcomes

A number of documents providing recommendations for control and prevention of H5N1 HPAI, based on review of available information, observations and experiences

Reconfirm the need for different approaches to this disease in poultry in countries where virus is endemic

Greater acceptance of the need for whole of chain approaches to control and prevent AI

Reconfirmation that approaches other than stamping out of all poultry on large farms can be adopted for LPAI virus elimination, including strategic use of vaccines

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New ‘research’ outcomes

- Three major factors identified through observations that appear to result in H5N1 HPAI virus remaining endemic.

  i) quality of veterinary and animal productions services,

  ii) the structure of the poultry sector, and

  iii) the commitment to virus elimination at all levels (factors not easy to capture in models)
- The exact contributions of each of these is not known and probably differs between countries
- Poor quality veterinary services generally have insensitive disease reporting systems and surveillance programs that hamper targeting of control measures and stamping out programs

New research outcomes

- Several vector vaccines showing potential for vaccination of young chicks and ducks
- Modelling is being used as an aid for decision making in rich countries on issues such as the value of emergency vaccination in the face of an outbreak of HPAI (reasonable data available on which to build models)
- Modelling studies in some Asian countries hampered by the quality of the data but still provide some insights into factors potentially leading to endemic infection

New research outcomes

- Technical issues are not the only factor taken into account when choosing measures to implement in some countries
- Early studies demonstrate some potential for AI ‘resistant’ chicken, but much more work to do
- Top down approaches to control and prevention not always effective especially if they do not consider the requirements and needs of producers or sellers
- Poorly implemented measures ineffective, such as killed antigen vaccines administered too early

New research trends

- Examining the benefits and identifying potential side effects of mass vaccination of poultry, including trials of different vaccination protocols in the field (some not yet published)
- Greater use of modeling to assess control measures and risk factors (but often just confirming what has already been assumed from years of experience with AI)
- Some studies examining how measures were implemented in the field to identify their likely effectiveness/weaknesses (some not yet published)

How have they changed/can change public health decision making

- Implementation of longer term programs for disease control and elimination in places where H5N1 virus is endemic
- Better targeting of control and preventive measures and curtailment of practices that provide limited protection
- Selection of potential new seed strains for human vaccines against avian origin viruses
- If successful, new vector vaccines delivered to young chicks and ducks could improve immunity in this population and therefore reduce levels of virus excretion if subsequently infected