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Conceptual framework for avian influenza risk assessment in Africa: the case of Ethiopia.

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Abstract

The avian influenza (AI) epidemic is threatening Africa mainly because the flyways of migratory birds link the endemic and newly infected countries with disease-free areas in this continent and because of the risk of introduction through trade. Risk analysis provides a set of tools for supporting decision making by the veterinary services and other stakeholders, resulting in more effective surveillance and emergency preparedness. The risk assessment process could be split into three different steps: 1) risk release through the migratory birds and the official and unofficial poultry-product marketing chains; 2) risk exposure by means of studying interfaces among imported and exposed poultry and among wild and domestic birds; and 3) risk consequences for establishing the probability of AI spreading within the poultry population and the probability of it escaping detection. A conceptual framework is presented based on preliminary data and field missions carried out in Ethiopia. Field surveys and expert opinion will be necessary for the parameterization of the risk model. Spatial analysis will be used to identify high risk of exposure among wild and domestic birds. Risk communication and risk management will be based on the findings from the risk assessment model.

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