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Chinese, Hong Kong scientists map H7N9 risk infection

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Singapore: A map of avian influenza (H7N9), comprising of bird migration patterns and estimations of poultry production and consumption, which can be used to determine future risk and advise on ways to prevent infection, is presented in Biomed Central's open access journal Infectious Diseases of Poverty.

There have been 127 confirmed cases of H7N9 in mainland China with 27 deaths. A lack of information about the virus and its mode of transmission has led to public concerns that H7N9 could be a pandemic waiting to happen.

To quantify the risk of this happening scientists from the Hong Kong Baptist University and Chinese University of Hong Kong have generated a map of H7N9 risk in eastern China. The map is based on the northwards migratory patterns of birds using environmental and meteorological data over the same 12 weeks - from Zhejiang, Shanghai, and Jiangsu, to Liaoning, Jilin, and Heilongjiang.

Prof Jiming Liu, who led the study, explained, "By basing our model on wild bird migration and distribution of potentially infected poultry we are able to produce a time line of the estimated risk of human infection with H7N9. The preliminary results of our study made a prediction of bird flu risk which could explain the pattern of the most recent cases. By extending the model we will be able to predict future infection risks across central and western China, which will aid in surveillance and control of H7N9 infections. Since the effect of poultry-to-poultry infection is not really understood it may become necessary to regulate the activity of poultry markets."

Prof Xiao-Nong Zhou, from the Chinese Center for Disease Control and Prevention, who was also involved in this study, commented, "We are continuing to work on research into the sources of infection of H7N9 and the mode of transmission. However so far there is no evidence of the sustained human-to-human transmission required for a pandemic to occur."