

# New estimates suggest that a third of H7N9 patients admitted to hospital have died

June 23 2013

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A group of researchers at the Chinese Center for Disease Control and Prevention, in Beijing, China and The University of Hong Kong, analysed data on hospital admissions related to H7N9, as well as using surveillance data to estimate the risk of fatality for patients who had been admitted to hospital and the risk of fatality in symptomatic cases.

The results suggest that H7N9 has a lower fatality risk than H5N1, another [avian influenza virus](#) which emerged in 2003, but a higher fatality risk than the 2009 H1N1 [pandemic influenza](#). H5N1 had a fatality risk of around 60% for patients admitted to hospital, whereas pandemic H1N1 killed 21% of patients with the virus who were admitted to hospital.

Using data from China's sentinel surveillance network, and based on assumptions of how many people are likely to seek health care after becoming infected, the researchers suggest that between 0,16% and 2,8% of all people with symptomatic H7N9 infection are at risk of dying. The wide interval between these estimates reflects the difficulties of accurately measuring how many people are infected with H7N9 but experience only mild symptoms.

According to the authors, "Assessing the severity profile of [human infections](#) is vitally important in the management and treatment of any infectious disease outbreak. Although previous clinical case series have focused on the potential for avian influenza H7N9 [virus infection](#) to cause severe illness, we have estimated that mild cases might have

occurred. Our results thus support continued vigilance and sustained intensive control efforts against the virus to minimise risk of human infection, which is greater than previously recognised."

In a second Article, published at the same time, the same group of researchers at the Chinese [Center for Disease Control and Prevention](#), in Beijing, China and the University of Hong Kong compare the epidemiological characteristics of H7N9 and the older H5N1 viruses, warning that [public health officials](#) and [health care workers](#) need to be prepared for the possibility that H7N9 will reappear later this year.

For both viruses, men seem to have been more susceptible to infection, particularly in urban areas, suggesting that one of the main risk factors for infection in both cases is the handling of infected poultry. The researchers also outline some striking differences between infections caused by the two viruses, including more rapid disease progression seen with H5N1 infections, accompanied by a greatly increased risk of dying for patients admitted to hospital, nearly double that for H7N9.

The incubation period of H7N9 was estimated at 3•3 days on average, lower than previous estimates, and directly informing quarantine policies.

According to the authors, "The warm season has now begun in China, and only one new laboratory-confirmed case of H7N9 in human beings has been identified since May 8, 2013. If H7N9 follows a similar pattern to H5N1, the epidemic could reappear in the autumn. This potential lull should be an opportunity for discussion of definitive preventive public health measures, optimisation of clinical management, and capacity building in the region in view of the possibility that H7N9 could spread beyond China's borders."

The research reported in the two papers is part of a broad, ongoing

collaborative effort between the Chinese Center for Disease Control and Prevention and the University of Hong Kong's School of Public Health to define the epidemiology of influenza A (H7N9) in real time.

**More information:** Severity estimates:

[www.thelancet.com/journals/lan ... 0140-6736\(13\)61207-6 /abstract](http://www.thelancet.com/journals/lan...0140-6736(13)61207-6/abstract)  
H7N9 & H5N1 comparison: [www.thelancet.com/journals/lan ... \(13\)61207-6/abstract](http://www.thelancet.com/journals/lan... (13)61207-6/abstract)

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