

Transmission Dynamics of H1N1 Similar to Previous Influenza Strains

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(PhysOrg.com) -- The April 2009 H1N1 outbreak at a Queens, New York, high school was widespread but did not cause severe disease, according to an analysis conducted by the New York City Department of Health and Mental Hygiene and researchers from the Johns Hopkins Bloomberg School of Public Health.

Their findings suggest that the transmission and spread of novel H1N1 influenza are similar to those of seasonal influenza strains. The results appear in the December 31 issue of the [New England Journal of Medicine](#).

“Because this was the first major outbreak of 2009 H1N1 in the United States, it provided a rare opportunity to characterize the transmission dynamics and development of symptoms. Fortunately, we found that the characteristics of this disease were nearly identical to those of previously circulating influenza viruses, meaning that policies and models based on those assumptions could be applied to the control of 2009 H1N1,” said Justin Lessler, lead author of the study and research associate with the Bloomberg School’s Department of Epidemiology.”

From April 24 to May 8, New York City health officials confirmed 124 cases of 2009 H1N1 among 2,686 high school student and 248 school employees. An online survey identified another 800 students and employees with flu-like symptoms during the same period. The initial infection may have come from students visiting Mexico where 2009 [H1N1](#) transmission was first detected. Based on their analysis, the

researchers describe a disease with the same transmission characteristics as seasonal influenza, with the median time from [infection](#) to symptom onset being 1.4 days, symptoms lasting a median of 5.1 days, and moderate transmissibility.

“Schools were particularly affected in the early days of the pandemic so it was important to measure the amount of transmission in this setting,” said Derek Cummings, the study’s senior author and assistant professor in the Bloomberg School’s Department of Epidemiology. The estimated within-school reproduction rate, or number of new infections caused by an infected person, was 3.3, comparable to school-based outbreaks of other influenza strains.

Provided by Johns Hopkins Bloomberg School of Public Health

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