Medical Xpress

Influenza spreads readily in winter conditions

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Low temperatures and relative humidities have been linked to the rapid spread of influenza in a new study by researchers, led by Dr. Peter Palese, from the Mount Sinai School of Medicine. The study, published in *PLoS Pathogens*, supports the theory of the seasonal flu.

Influenza has long been considered a seasonal virus. Factors including indoor crowding during cold weather, seasonal fluctuations in host immune responses, relative humidity, temperature, and UV radiation have all been suggested to account for this phenomenon, but none of these hypotheses had previously been tested directly.

The researchers tested the effects of temperature and relative humidity on infected and naive guinea pigs. The study found that low relative humidities of 20%-30% induced the rapid spread of the virus, with the opposite effect at 80% or above. Also, results showed that the virus spread more easily at 5 °C than at 20 °C, with no transmission at 30 °C.

The data implicates that low relative humidities produced by indoor heating and winter temperatures favor the spread of influenza. This study should serve as the basis for understanding the seasonality of other viral infections.

Source: Public Library of Science