

Children more likely to catch swine flu, says new research

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Young people aged under 18 years are more likely than adults to catch swine flu from an infected person in their household, according to a new study published today in the *New England Journal of Medicine*.

However, the research also shows that young people are no more likely than adults to infect others with the pandemic H1N1 virus.

In the study, by scientists at the MRC Centre for Outbreak Analysis & Modelling at Imperial College London and the Centers for Disease Control and Prevention (CDC) in the USA, the researchers analysed data collected by CDC from 216 people believed to be infected with the swine [flu virus](#), or 2009 H1N1, and 600 people living in their households, to determine how age, symptoms, number of people in a household and length of time after symptoms are first reported affect how easily people transmit the virus to one another.

The study suggests that it may be unnecessary for patients to stay at home for longer than four days after they start to have symptoms. It reveals that the average length of time between one person displaying the first symptoms of flu and someone else in their household having symptoms is 2.6 days.

At the start of the current [pandemic](#), CDC advised patients to stay at home for seven days, but it has since revised these guidelines to 24 hours after the end of fever (without the use of fever-reducing medications), which is supported by the new research findings.

Dr Simon Cauchemez, lead author of the paper from the MRC Centre for [Outbreak](#) Analysis and Modelling at Imperial College London, said: "At the start of the current flu pandemic we didn't know how different factors affected the risk of transmitting the virus to other people. If we are advising people to stay at home if they develop flu-like symptoms, we need to understand the implications this might have for other household members. Our new research helps us to do this - for example it shows that children are more at risk of being infected than [adults](#)."

"Our study also suggests that people infected with [swine flu](#) might not need to stay at home as long as we previously thought - if they are only likely to transmit the virus to other people for the first few days of their illness, keeping people off work for a week may be unnecessary and could be detrimental to the economy. In view of this, the new CDC guidelines are very sensible," added Dr Cauchemez.

The data reveal that household contacts aged 18 or under were twice as likely to be infected by a patient in their household, compared to adults aged 19 to 50. Household members aged over 50 were the least susceptible to infection.

However, today's study shows that the age of a patient did not appear to affect their risk of passing on infection, despite suspicions that children may be more infectious than adults.

Today's research also suggests that most transmissions occur shortly before or after the first patient shows symptoms of infection. It shows that the risk of someone catching the virus is higher in households of only two people compared to households of six people: 28% of household contacts developed acute respiratory illness in households of two people, compared to 9% in households of six people. The authors of the study believe this is because in larger households there is less one-on-one contact between family members.

The results show that one in eight of the 600 people living with swine flu patients developed symptoms of respiratory illness. This figure is in the lower range of values of what was observed in past flu pandemics.

Finally, today's study shows that no particular symptoms, including cough, runny nose, fever, sore throat, vomiting and diarrhoea, were more associated with the virus being transmitted between people in the same household than the others. However, for some of the symptoms, there was little power to detect an effect since, for example, almost all patients (92%) had a cough.

Provided by Imperial College London

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