

WHO working on formulas to model swine flu spread

July 1 2009, By FRANK JORDANS , Associated Press Writer

(AP) -- The World Health Organization said Wednesday it is working to mathematically model the spread of swine flu in an attempt to better understand how the outbreak developed from a handful of cases to a global epidemic in less than two months.

WHO brought together over 20 independent experts beginning Wednesday for the three-day meeting in Geneva.

"They will be working together to describe and predict the behavior and impact of the pandemic, and demonstrate potential outcomes of proposed intervention efforts," spokeswoman Ashaluck Bhatia told The Associated Press.

The meeting comes as it becomes clearer that actual case numbers may be far higher than the agency's tally of officially diagnosed infections.

According to WHO's latest update Wednesday, a total of 77,201 confirmed cases and 332 deaths have been reported in over 110 countries.

But U.S. health officials said last week the number of Americans infected with the new A(H1N1) virus may be as high as 1 million. The estimate by the U.S. [Center for Disease Control and Prevention](#) was based on mathematical modeling and surveys by health officials.

"We're now probably off by orders of magnitude in terms of the real

number of cases versus the number of diagnosed cases," said Andrew Pekosz, a [flu](#) expert at Johns Hopkins University in Baltimore.

In countries where the virus has firmly established, counting individual cases doesn't paint an accurate picture of the disease anymore, he said.

Still, information about confirmed infections can be fed into mathematical models to predict future developments and detect anomalies.

"A jump from one patient to 60 patients isn't a concern, but a jump from one to 300 shows you there's something going on that needs to be looked at carefully," said Pekosz.

On the other hand, "if you've got 100 cases and then week later you've got 150, most mathematical models would indicate that either the infection in your country isn't behaving normally, or you're not diagnosing all the cases that are occurring."

WHO's Bhatiasevi said the experts would be looking not just at case numbers, but also at how many severe infections have occurred and which measures have helped stem the spread of the disease.

This will help WHO advise countries on how to respond to the pandemic and target their supply of anti-viral medication and later vaccines, when those become available.

During the [outbreak](#) of SARS in Asia and foot and mouth disease in Britain mathematical models were applied after the event, said Pekosz.

[Swine flu](#) may offer the first opportunity to apply the formulas as a [pandemic](#) is occurring, he said.

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