Mathematicians may decide who receives avian flu vaccine

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When the next flu pandemic hits, the emotional question of who gets access to limited supplies of vaccine and anti-viral drugs could well be guided by a very logical team of mathematicians.

A rejuvenated field of math is using numbers and equations to help predict the course of infectious disease outbreaks, with the latest Canadian research in the area being showcased at a conference that started yesterday.

The mathematicians say their complex modelling can also indicate how best to use quarantines, drugs and vaccine to curb the spread of bugs like SARS, AIDS or a killer human version of bird flu.

The group spearheading the research here has already done work for the Ontario Health Ministry and the Public Health Agency of Canada.

"It's clear that if we are going to make any kind of intelligent decisions during a crisis, we have to do this," said Dr. Arvind Gupta, head of the group Mathematics of Information Technology and Complex Systems.

"In these crises, you have limited resources and limited time ... You may ask, 'If I was to give the vaccine to this particular part of the population, is there a higher probability of stopping the disease than if I gave it to this other population?' " Canada's pandemic plan calls for health care workers, the elderly, the very young and the chronically ill to get priority.

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