

Newsday

New flu is likely to spread differently

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Unlike the 1918 flu that circled the globe with unremitting ferocity, a pandemic strain today probably would emerge as a series of hot zones, possibly straining medical efforts to contain the deadly outbreaks, scientists report today.

With bird flu sweeping through more and more flocks in global regions far from the infection's Asian origins, researchers say the potential of the H5N1 virus mutating, which would allow it to spread easily among humans, is increasingly likely.

Most recently, the virus has been reported in 11 European countries and in Africa, Iran and India. Since bird flu's reemergence in 2003, there have been more than 160 human cases worldwide, about half of them fatal, from Indonesia to Turkey.

Now, in one of the first government-funded computer models of a human pandemic spawned by H5N1, a team of researchers theorizes that infections would initially emerge in influenza hot zones.

"You could think of it this way: It would be like a fire throwing out sparks," said Carl Bergstrom, a theoretical biologist at the University of Washington in Seattle.

"Multiple sparks could mean fires cropping up in a lot of different places at once. The aim is to successfully contain each of these fires. We think containment is critical," he said.

Containment means reaching a pandemic source as early as possible and applying public health tools such as vaccination, antiviral therapy and quarantine.

Additional containment activities would include "stepping up the rate of culling or vaccinating poultry and accelerating the production of human vaccines," Bergstrom said.

He and colleagues at Harvard's School of Public Health contend that resources to fight the flu might be strained in this country and elsewhere.

Because containment is a component of federal and World Health Organization planning for a possible flu pandemic, the new model helps show the possible pitfalls.

Bergstrom said containment escaped public health officials in the lethal pandemic season 87 years ago, a reason the infection swept so aggressively, killing 50 million people worldwide and more than 600,000 in the United States. Bergstrom, Christina Mills, James Robins and Marc Lipsitch provide details of their research in a report released today on the online scientific journal PLoS, the Public Library of Science.

The new model of pandemic influenza is one of several expected over the next few months from an international research network developing computer-based simulations of a global flu outbreak.

The models are designed to help public health workers better understand the spread of contagious diseases and their potential impact on public health

In Manhattan, Betsey McCaughey, former lieutenant governor of New York and founder of the nonprofit Committee to Reduce Infection Deaths, said recipes for pandemic flu containment should be incorporated into hospital disaster plans.

She argues that a killer flu could prove difficult to fight because some hospitals "lack the discipline and training to control simple bacteria.

"The mortality in the United States would depend, at least initially, on how well prepared hospitals are when the first patients come in for treatment. Rigorous plans will have to be in place, otherwise it will rage through hospitals on gloves, hands, equipment and uniforms."