Scientists: This swine flu relatively mild in comparison to 'regular' flu

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As the World Health Organization raised its infectious disease alert level Wednesday and health officials confirmed the first death linked to swine flu inside U.S. borders, scientists studying the virus are coming to the consensus that this hybrid strain of influenza -- at least in its current form -- isn't shaping up to be as fatal as the strains that caused some previous pandemics.

In fact, the current outbreak of the H1N1 virus, which emerged in San Diego and southern Mexico late last month, may not even do as much damage as the run-of-the-mill flu outbreaks that occur each winter without much fanfare.

"Let's not lose track of the fact that the normal seasonal influenza is a huge public health problem that kills tens of thousands of people in the U.S. alone and hundreds of thousands around the world," said Dr. Christopher Olsen, a molecular virologist who studies swine flu at the University of Wisconsin School of Veterinary Medicine in Madison.

His remarks Wednesday came the same day Texas authorities announced that a nearly 2-year-old boy with the virus had died in a Houston hospital Monday.

"Any time someone dies, it's heartbreaking for their families and friends," Olsen said. "But we do need to keep this in perspective."

Flu viruses are known to be notoriously unpredictable, and this strain could mutate at any point -- becoming either more benign or dangerously severe. But mounting preliminary evidence from genetics labs, epidemiology models and simple mathematics suggests that the worst-case scenarios are likely to be avoided in the current outbreak.

"This virus doesn't have anywhere near the capacity to kill like the 1918 virus," which claimed an estimated 50 million victims worldwide, said Richard Webby, a leading influenza virologist at St. Jude Children's Research Hospital in Memphis, Tenn.

When the current virus was first identified, the similarities between it and the 1918 flu seemed ominous. Both arose in the spring at the tail end of the flu season. Both seemed to strike people who were young and healthy instead of the elderly and infants. Both were H1N1 strains, so called because they had the same types of two key proteins that are largely responsible for a virus' ability to infect and spread.

The Centers for Disease Control and Prevention and the National Institutes of Health published genetic sequence data Monday morning of flu samples isolated from patients in California and Texas, and thousands of scientists immediately began downloading the information. Comparisons to known killers -- such as the 1918 strain and the highly lethal H5N1 avian virus -- have since provided welcome news.
"There are certain characteristics, molecular signatures, which this virus lacks," said Peter Palese, a microbiologist and influenza expert at Mt. Sinai Medical Center in New York. In particular, the swine flu lacks an amino acid that appears to increase the number of virus particles in the lungs and make the disease more deadly.

Scientists have identified several other differences between the current virus and its 1918 predecessor, but the significance of those differences is still unclear, said Dr. Scott Layne, an epidemiologist at the UCLA School of Public Health.

Ralph Tripp, an influenza expert at the University of Georgia, said that his early analysis of the virus' protein-making instructions suggested that people exposed to the 1957 flu pandemic -- which killed up to 2 million people worldwide -- may have some immunity to the new strain.

That could explain why older people have been spared in Mexico, where the swine flu has been most deadly.

The swine virus does appear able to spread easily among humans, which persuaded the WHO to boost its influenza pandemic alert level to phase 5, indicating that a worldwide outbreak of infection is very likely. And the CDC reported on its website that "a pattern of more severe illness associated with the virus may be emerging in the United States."

"We expect to see more cases, more hospitalizations, and, unfortunately, we are likely to see more deaths from the outbreak," Health and Human Services Secretary Kathleen Sebelius told reporters Wednesday on her first day at work.

But certainly nothing that would dwarf a typical flu season. In the U.S., between 5% and 20% of the population becomes ill and 36,000 people die -- a mortality rate of between 0.24% and 0.96%.

Dirk Brockmann, a professor of engineering and applied mathematics at Northwestern University in Evanston, Ill., used a computer model of human travel patterns to predict how this swine flu virus would spread in the worst-case scenario, in which nothing is done to contain the disease.

After four weeks, almost 1,700 people in the U.S. would have symptoms, including 198 in Los Angeles, according to his model. That's just a fraction of the county's thousands of yearly flu victims.

Just because the virus is being identified in a growing number of places -- including Austria, Canada, Germany, Israel, New Zealand, Spain and Britain -- doesn't mean it's spreading particularly quickly, Olsen said.

"You don't ever find anything that you don't look for," he said. "Now that diagnostic laboratories and physicians and other healthcare workers know to look for it, perhaps it's not surprising that you're going to see additional cases identified."

And a pandemic doesn't necessarily have a high fatality rate. Even in Mexico, the fatalities may simply reflect that hundreds of thousands of people have been infected. Since the symptoms of swine flu are identical to those of a normal flu, there's no way to know how many cases have evaded government health officials, St. Jude's Webby said.

As the virus adapts to its human hosts, it is likely to find ways of spreading more efficiently. But evolution also suggests it might become less dangerous, Olsen said.
"If it kills off all its potential hosts, you reach a point where the virus can't survive," he said. Working to calm public fears, U.S. officials on Wednesday repeatedly stressed the statistic of yearly flu deaths -- 36,000.

Sebelius and Homeland Security Secretary Janet Napolitano also rejected calls to close the borders, which several lawmakers reiterated Wednesday on Capitol Hill.

"We are making all of our decisions based on the science and the epidemiology," Napolitano said. "The CDC, the public health community and the World Health Organization all have said that closing out nation's borders is not merited here."

Though scientists have begun to relax about the initial toll, they're considerably less comfortable when taking into account the fall flu season. They remain haunted by the experience of 1918, when the relatively mild first wave of flu was followed several months later by a more aggressive wave.

The longer the virus survives, the more chances it has to mutate into a deadlier form.

"If this virus keep going through our summer," Palese said, "I would be very concerned."

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