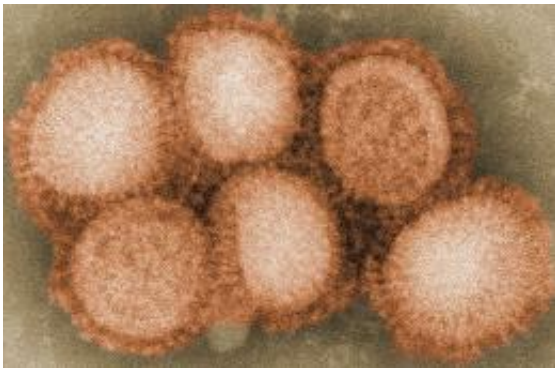


CDC study suggests H3N2 swine virus may have pandemic potential

February 21 2012, by Bob Yirka



This colorized negative stained transmission electron micrograph (TEM) depicted some of the ultrastructural morphology of the A/CA/4/09 swine flu virus. Image: C. S. Goldsmith and A. Balish, CDC.

(Medical Xpress) -- A CDC study led by microbiologist Terrence Tumpey has found that the H3N2 virus that infected several people in the United States last year, may have more pandemic potential than has been thought. The study is based on research conducted by the CDC on ferrets. The team has published the results of their study in the *Proceedings of the National Academy of Sciences*.

The H3N2 virus, now called the H3N3 variant because it has changed since first being discovered, was first found in humans in the United States, but is believed to have migrated to pigs back in 2009. The version seen last year has apparently migrated back to humans after picking up a

new gene from the H1N1 variant, a gene that many researchers believe makes flu viruses more easily transmissible.

In their research, the [CDC](#) team found that unlike the H5N1 variant, or so-called [bird flu](#), the H3N2 virus needed no prodding from researchers to become more transmissible, as it showed itself to be highly so among lab ferret populations. Fortunately, the team also found that H3N2 does not migrate very easily to humans or even between humans, despite the addition of the M gene, which accounts, they say, for the low numbers of cases seen. This appears to be because of lung differences between [pigs](#), [ferrets](#) and humans.

The dark side of this new research though, is that it appears to show that if the H3N2 variant mutates further and retains its high transmissibility rates, that's when we could have a real problem on our hands because H3N2 appears to have a high mortality rate. The researchers are not suggesting this is a possibility but they're not saying it's not either.

This study comes on the heels of the debate that continues to rage in the scientific community over whether it makes sense to publish studies that describe how to cause the H5N1 virus to become more transmissible; information that terrorists or governments could use to make a biological weapon. Just last week a World Health Organization group of experts all agreed that such studies should be published, despite protestations from representatives of the United States.

Thus far, there are have been no new cases of H3N2 in humans in the United States since December, but that might be due to the delayed [flu](#) season which this year has only just started.

More information: "Pathogenesis and transmission of swine origin A(H3N2)v influenza viruses in ferrets" by Melissa B. Pearce et al. [PNAS](#), 2012.

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