

## Flu mystery may be cracked

by Bend\_Weekly\_News\_Sources

Researchers say they've solved a great mystery of the flu: why it spreads mainly in winter. The answer, they report, is that the virus is more stable and remains airborne longer in the cold, dry air that prevails in the season. A typical flu virus is shown "sliced" in half in this diagram to show the inside. It contains genes for making copies of itself on the inside, and "spikes" that help it attach to a host cell on the outside. (Courtesy Nat'l Institute of Allergy and Infectious Diseases, U.S.)

The New York Times reported the findings, also published in the Oct. 19 issue of the research journal PLoS Pathogens, on Wednesday.

☞ Influenza virus is more likely to be transmitted during winter on the way to the subway than in a warm room, Peter Palese, chairman of microbiology at Mount Sinai School of Medicine in New York and the study's lead author, told the Times. Palese conducted the study after reading a paper published in the aftermath of the devastating 1918 influenza pandemic. That report suggested the virus could rapidly spread among guinea pigs. Palese and colleagues experimented with flu virus among guinea pigs, varying air temperature and humidity in the animal quarters. They found that transmission was best at 41 degrees Fahrenheit (5 degrees Celsius), and worsened at higher temperatures, ending completely at 86 degrees Fahrenheit (30 degrees Celsius).

Transmission was also best at a low humidity of 20 percent, Palese said. That's probably because the viruses float in the air in little respiratory droplets, he added. In humid air, the droplets grow larger and fall. Flu viruses spread through the air, Palese said, whereas cold viruses spread mainly by direct contact, such as handshakes or contact with an object just touched by an infected person. Flu season in northern latitudes runs from November to March, the coldest months. In southern latitudes, it's from May until September. In the tropics, there is little flu at all. Flu researchers told the Times they were delighted to finally get some solid data on flu seasonality. ☞ "It was great work, and work that needed to be done," said Terence Tumpey, a senior microbiologist at the U.S. Centers for Disease Control and Prevention.

Courtesy World Science staff

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