## Applegater Winter 2010 23

# Flu

### **BY PAUL SAGE**

#### **Definition:**

Pandemic Novel H1N1 2009 aka "swine flu": 1. A novel influenza strain that was first noticed in Mexico early in 2009 and quickly became a pandemic that has touched every corner of the world.

#### 2. a media frenzy.

Novel H1N1 2009 influenza appeared in the Rogue Valley in late September 2009. It belongs in a family of influenza viruses that can infect people, birds, swine, and now cats. This virus is the result of the reassortment of genetic material of viruses that obtained the ability to infect other organisms (people, birds, cats and swine). The pig is the host that allowed the reassortment in this case, hence "swine flu.".

Seasonal influenza viruses change every

year by changing their genetic material. This change is called antigenic drift. This is why there is a different influenza vaccine every year. Novel H1N1 2009 is the result of a new reassortment of genetic material, an antigenic shift which produces a whole new influenza. Novel H1N1 2009 is a new subtype of influenza not recently detected in people. There is some protection for people who had been exposed to the 1957 flu outbreak. Because this is a new subtype of influenza virus, the majority of the population

is susceptible for this infection which is greatly increased over other seasonal influenza viruses.

We have a history of similar outbreaks of influenza in the past, including the 1918 Spanish Flu and the 1976 Swine Flu. The 1918 strain started a pandemic and left a mark in history with many deaths and much suffering. The 1976 Swine Flu was transmissible person-to-person but was limited to U.S. Army personnel at Fort Dix, New Jersey. Our Novel H1N1 2009 has turned into a world-wide pandemic and is recognized as an illness easily spread from person to person.

Jackson and Josephine Counties in southern Oregon had been hit harder than the rest of the State of Oregon by Novel H1N1 2009 as of the first week in November 2009. During the beginning of October 2009 both Rogue Valley Medical Center and Providence Medford Medical Center had increases of between 20 and 40 extra patients per day that were likely influenza cases. Although there is not an accurate rapid test for Novel H1N1 2009 that can be used to diagnose a patient in the emergency department, many people were strongly suspected of having Novel H1N1 2009 and clinically diagnosed with a flu-like illness. Jackson County public health was reporting no seasonal (regular) influenza activity at this time.

(Seasonal influenza is not expected in the Rogue Valley until some time between Thanksgiving and January 2010.)

Influenza virus is spread through droplets produced by coughing or sneezing. These droplets can be propelled up to six feet from the coughing or sneezing source. Touching the eyes, nose, or mouth can transfer the virus to another person if proper hand hygiene (washing with soap and warm water) is not performed. The virus can live on nonporous surfaces for up to 24 hours and on facial tissue and clothes for up to eight hours, but it is very short-lived on human hands or skin. This virus needs access to mucosal tissue like the nose, throat, lungs or eyes.

People die of seasonal influenza every year: over 30,000 annually in the U.S. alone. Over 200,000 people are hospitalized according to the

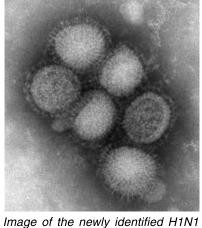
CDC. While the illness that is produced by Novel H1N1 is similar to seasonal influenza, the concern about a pandemic influenza is the sheer number of people that can be infected and the ease of transmission from person to person. The vast majority of people who presented to our hospital emergency department were ill with an influenza-like illness (sore throat, cough, fever, body aches, chills, and miserable).

Most of these people went

home after clinical evaluation (history, physical exam, vital sign review, and possible chest radiograph, possible strep throat screen). Some were admitted to the hospital due to co-morbid illness like Chronic Obstructive Pulmonary Disease (COPD), asthma, poorly controlled diabetes, or other chronic illnesses or conditions that affected the patient's immune system and/or something of concern on their clinical evaluation. In some people there was also a secondary pneumonia associated with this influenza.

The Novel H1N1 2009 story is not over. This virus will likely be with us for years to come, being another seasonal influenza virus that will genetically drift. It may disappear, although that is unlikely, due to its ease of spreading globally. It was not a very virulent influenza as the vast majority of infected people did not get life-threatening illnesses. There are other influenza viruses, H5N1 Avian Influenza, that are spread person-to-person that have a much higher and more terrifying mortality rate. Paul Sage is a Physician Assistant who trained in family medicine at OHSU and has been practicing at Providence Medford Medical Center Department of Emergency Services for almost nine years.





influenza virus taken in the CDC Influenza Laboratory.

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