UPDATED: H1N1 (Swine Flu) and You

The ongoing spread of the H1N1 influenza virus has many people living with HIV concerned about their health and safety. We continue to keep a close eye on the news and, more importantly, advice from health officials at the CDC and WHO. In short: There's still no reason to panic. This update, posted June 11, is our sixth revision since the original web exclusive was published April 27.

June 11, 2009 By Tim Horn

What is influenza A (H1N1)?

Initially dubbed swine flu, it's now technically called influenza A (H1N1), a viral infection generally associated with mild disease that has been documented in enough countries to be considered a global pandemic by the World Health Organization (WHO).

While the virus is believed to have originated in pigs, hence the term "swine flu," health officials have been unable to confirm the source of the virus. While true swine flu can cause illness in people, notably pig farmers and handlers, rarely does it spread from one person to another.

Swine are unique in that they can be infected with strains of influenza known to cause disease in pigs, birds and humans. The genetic material from the various strains can then mix, a process known as reassortment. In fact, the influenza A (H1N1) strain currently circulating the globe contains genes from two strains of porcine virus, one strain of avian influenza and one strain of human flu.

Is influenza A (H1N1) deadly?
All types of influenza that cause disease in humans can be deadly—about 200,000 people are hospitalized and 36,000 people die from flu-related complications every year in the United States.

Death rates from influenza A (H1N1) remain low. According to a June 10 update from the WHO, "74 countries have officially reported 27,737 cases of influenza A (H1N1) infection, including 141 deaths." In other words, the mortality rate of this particular infection is less than 0.1 percent. "Worldwide, the number of deaths is small," said Margaret Chan, MD, the WHO director-general during a June 11 press conference. "Each and every one of these deaths is tragic, and we have to brace ourselves to see more. However, we do not expect to see a sudden and dramatic jump in the number of severe or fatal infections." And on present evidence, she added, "the overwhelming majority of patients experience mild symptoms and make a rapid and full recovery, often in the absence of any form of medical treatment."

Many are comparing influenza A (H1N1) with the Spanish flu pandemic of 1918. Are they similar?

The current influenza infection and the Spanish flu definitely share some common traits. Both involve H1N1 virus (with different genetic characteristics) and both were first documented at the end of the regular flu season, in spring. Initial reports also suggest that influenza A (H1N1), like the 1918 influenza outbreak preferentially infects younger people—in nearly all areas with large sustained influenza A (H1N1) outbreaks, the majority of cases have occurred in people under the age of 25 and most cases of severe and fatal infections have been in adults between the ages of 30 and 50 years. Conversely, seasonal flu is most serious and fatal among the frail elderly.

It is important to note that initial studies conducted by the CDC and the National Institutes of Health (NIH) suggest we are currently dealing with an H1N1 strain that's not nearly as lethal as the virus responsible for millions of Spanish flu-related deaths. According to Peter Palese, a microbiologist and influenza expert at Mount Sinai School of Medicine in New York City who spoke to the Los Angeles Times at the end of April, "There are certain characteristics, molecular signatures, which this virus lacks." In particular, he explained, influenza A (H1N1) lacks an amino acid that appears to increase the number of virus particles in the lungs and make the disease more deadly.

Some experts caution that H1N1 can mutate as it continues to spread—or possibly reassort yet again—and become more virulent, setting the stage for a more lethal "second wave" of the epidemic, much like occurred in the fall of 1918. Thus far, however, there is no evidence to suggest such genetic changes in the virus are occurring. Compounded by the fact that the United States and many other countries have developed effective pandemic control strategies, secured access to therapies active against influenza A (H1N1) and bacteria responsible for flu-related complications like pneumonia, not to mention state-of-the-art hospital care, a direct comparison with the grim realities of a pandemic almost 100 years earlier is difficult at best.

Isn't influenza A (H1N1) now a public health emergency in the United States and elsewhere?

What is of concern to public health experts is the fact that the disease is caused by a new influenza type A virus researchers know very little about, and the fact that nobody appears immune to the infection. Experts are also concerned about current patterns of serious cases and deaths that are occurring primarily among young people, including the previously health and those with pre-existing medical conditions or pregnancy.

On June 11, the WHO officially declared influenza A (H1N1) a "Phase Six" pandemic—its highest alert level—reflecting the fact that there are now ongoing community level outbreaks in multiple parts of the world. One important thing to remember is that "pandemic" simply refers to the geographical spread of a disease-causing microorganism. It does not speak to the actual severity of illness caused by the virus.

Is influenza A (H1N1) a threat to people living with HIV?

People living with HIV—as well as those with other chronic conditions, such as heart disease, asthma and diabetes—are believed to face an increased risk of serious influenza-related

symptoms. According to CDC interim guidelines released April 30 and a WHO statement released May 1, influenza carries potential risks for those infected with HIV. “It is known that adults and adolescents with HIV infection, especially persons with low CD4 cell counts, are at higher risk for viral and bacterial lower respiratory tract infections and for recurrent pneumonias,” the CDC guidelines read. "Because adults and adolescents infected with HIV experience more severe complications of seasonal influenza, it is reasonable to assume that they are also at higher risk for influenza A (H1N1) complications.”

It is not yet clear if, in fact, people living with HIV are more likely to become sick—or severely ill—if exposed to influenza A (H1N1). There have not yet been any data involving HIV-positive individuals, including those with suppressed immune systems or those responding well to antiretroviral therapy, to draw any specific conclusions.

Can influenza A (H1N1) and HIV mix to form a “super virus”?

At least two mainstream media reports have gotten it seriously wrong—first a Reuters report published May 2, followed by an even more alarming UPI report published May 4. The Reuters article claims, “HIV and the new flu strain could also mix together in a dangerous way, as has occurred with HIV and tuberculosis, the WHO said in guidance for health workers on its website.” The UPI article states, “”Health authorities are particularly worried that the capability to mutate already exhibited by the virus could eventually let it combine with the human immunodeficiency virus, which causes AIDS."

Both reports misrepresent text in the May 1 WHO document referenced above. “Although there are inadequate data to predict the impact of a possible human influenza pandemic on HIV-affected populations, interactions between HIV/AIDS and A(H1N1) influenza could be significant,” WHO writes. “Country preparedness plans for influenza should address the needs of HIV-infected persons, and country HIV/AIDS plans, especially in high HIV prevalence countries, should consider public health action required in case of pandemic influenza.”

Nowhere does the WHO statement, or any other published recommendation from a health agency or statement by an infectious disease expert, suggest influenza A (H1N1) can mutate and combine with HIV itself to form a super immune-suppressive form of an influenza virus. While WHO and the CDC reckon that influenza A (H1N1) can mutate or reassort with other influenza variants into a more deadly, drug-resistant influenza virus—much like HIV can mutate and reassort with other HIV strains in people—they are very different viruses.

In short, while people living with HIV may be at greater risk for influenza-related complications if infected with influenza A (H1N1), there is absolutely no reason to believe that both viruses can combine to, as UPI suggests, “devastate the human race.”

How can I protect myself?
The CDC and other public health experts list fairly simple ways to prevent the spread of influenza A (H1N1). These include:

Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.

Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.

Avoid touching your eyes, nose or mouth. Germs spread this way.

Stay home if you get sick. The CDC recommends that you stay home from work or school and limit contact with others to keep from infecting them.

Very little is known about the benefits of wearing face masks to help control the spread of flu. Whenever possible, instead of relying on face masks, try avoiding close contact and crowded conditions—particularly if 2009 H1N1 reaches pandemic status.

No evidence shows influenza A (H1N1) can be transmitted through food. Eating properly handled pork—cooked to an internal temperature of 160 degrees—is safe.

Develop a household emergency plan as a precaution. This should include storing a supply of food, medicines, face masks, alcohol-based hand rubs and other essential supplies.

Reports from the CDC and WHO indicate researchers are now working on a vaccine against influenza A (H1N1). Though it will likely take at least another two to four months to develop and mass produce a vaccine against influenza A (H1N1), it could be available in time for a possible second wave of influenza A (H1N1)-related flu this coming winter in the northern hemisphere.
