

Bulletin on Bird Flu (*Avian Influenza*)

Bill Gates announced that he would add an additional \$250 million to the \$4 billion he has already given to tackle the world's most deadly diseases. What are these deadly diseases and how might they affect you?

One that is on the rise and has infections disease experts concerned and fearing a worldwide pandemic with potentially disastrous results is the “**bird flu.**” Unlike an epidemic—which is localized and affects a defined geographic area—pandemics are worldwide epidemics and as such, are far more serious and difficult to contain, especially in today's modern age, with literally millions of individuals traveling internationally each year.

What is the Bird Flu?

According to the Centers for Disease Control (CDC), “bird flu” is an infection caused by avian (bird) influenza (flu) viruses. These flu viruses occur naturally among birds. While wild birds usually do not get sick from them, it is very contagious among birds and can make some domesticated birds—including chickens, ducks, and turkeys—very sick and kill them.

History of similar flu strains

The bird flu is related to the Spanish flu, which broke out as a worldwide pandemic in 1918. While estimates of the death toll and number of individuals stricken vary, most experts estimate that more than 20 million Americans became sick and of these, about 500,000 died—about ten times more than were killed in battle during World War I. Experts place the worldwide death toll from the Spanish flu at between 30 and 50 million. Many people died within the first few days after infection, and others died later of other complications. Nearly half of those who died were young, healthy adults—something that is atypical for most common virus strains today, which tend to affect the most vulnerable among us—the young, the old, and the infirmed.

Potential to infect humans

Bird flu viruses do not usually infect humans, but several cases of human infection with bird flu viruses have occurred since 1997. As of July 5, 2005, there have been 116 confirmed human cases of avian influenza A (H5N1) in Vietnam, Thailand, and Cambodia, resulting in 54 deaths, and at least two have died in the Netherlands. Most cases occurred among poultry workers and are believed to have been transmitted through human contact with infected poultry or contaminated surfaces. However, there is at least one documented human-to-human transmission, and there may be others.

Risks to humans today

The potential risk of a pandemic breaking out today could be significant for the following reasons:

- Potential for mutation. Influenza viruses are constantly changing, and while person-to-person transmission of the bird flu is rare, experts fear that strains will adapt over time to infect and spread among humans.
- No vaccines. There is no vaccine and while efforts are underway, developing one will be difficult and take many years, since this modern strain has been so rare among humans.
- No immunity. There is little preexisting natural immunity to infection in the human population.
- Mortality (death) rate. While the Spanish flu had an estimated 5% mortality rate, the early outbreaks of the bird flu had an estimated 70% mortality rate. However, according to recent information from officials, mortality rates have declined to about 30%. This should be good news but it is not, because if that trend continues, it is more likely that greater longevity of infected humans will make them more difficult to identify early on. This lack of early detection could result in more people contracting the bird flu as it silently spreads—thus increasing the chances it will become a global pandemic.

Symptoms of bird flu

Symptoms of bird flu in humans have ranged from typical flu-like symptoms (fever, cough, sore throat and muscle aches) to eye infections, pneumonia, severe respiratory diseases and distress, and other serious and life-threatening complications. The symptoms of bird flu may depend on which strain of the virus caused the infection.

Medications for combating symptoms if you become infected

Several medications have been in common use for combating viral symptoms for a number of years, and while it is unknown just how effective they will be to help with bird flu, it seems appropriate to have something to do if it gets started in you or your family. As with all medications, be sure to read the package inserts for possible warnings regarding contraindications, drug interactions, and possible side effects prior to taking them.

- Singular. This medication was developed years ago as an anti-cytokine agent for asthma, sinusitis, inflammatory lung disease or allergies. Cytokines are released when viruses enter cells to call for white blood cells and immunologic proteins to come to fight off the virus. Sometimes cytokines become present in excess and cause a “cytokine storm” that kills its victims within hours.
- Tamiflu. This antiviral agent has been on the market for several years and has been singled out by the World Health Organization as the drug of choice against the bird flu, due to its proven effectiveness in treating those infected with H5N1, the strain most likely to be involved in the event of a worldwide outbreak. Tamiflu must be used as soon as possible (within 1 – 3 days within the onset of symptoms) to be useful. All major governments are currently stockpiling it, to protect their employees in the case of a pandemic and allow them to continue to provide necessary services to their citizens.

Physicians and other prescribers should be aware that patients with severe influenza-like illness—especially those with chronic medical conditions or complicated manifestations of acute illness—might have significant bacterial infections instead of, or in addition to, viral illness and should be evaluated accordingly.

What to do if you decide to buy the prescriptions

We suggest the following as a reasonable approach, given all available information to date:

- Don't take the medications until the flu has spread to humans in your town.
- Realize that Tamiflu may be on backorder at some pharmacies. In this case, put your name on the list at your local pharmacy and ask them to notify you when it comes in.
- Store them both in the refrigerator or freezer. Doing so will make them last years after the expiration date. Be sure to remember where you put them, as you may not be able to remember if you are feeling sick. Also inform family members.

Suggested regimen

When the media alerts you to the presence of bird flu in your community¹ consider beginning the regimen shown below:

- Start taking Singulair *once a day* to ward off the first of the cytokine problems.
- When you think you may have contracted the flu, *increase the Singulair to twice a day and begin taking the Tamiflu twice a day.*
- Begin all the usual supportive measures you have found useful for the flu in the past, and be sure to stay well hydrated by drinking lots of liquid.
- Call your physician to alert them and consider making an appointment for an evaluation to prevent unnecessary and potentially serious complications from secondary infections.

Current predictions

Experts believe that the bird flu pandemic *will* hit the human population and that it is only a matter of time. No one knows for sure, but most agree it will be in the next 50 years, and many expect that the outbreak will occur in next few months. An estimated 350 million or more people could die in the bird flu pandemic. For now, the medications noted above are not scheduled to go into increased production and thus severe shortages could result—with a large gap between those who need them and those who are able to get them.

If you would like to be prepared, get your prescriptions soon.

Dr. Joe

¹ Note: As of this writing, public health officials have been unable to define what is meant by “community,” and just how close to where you live and work an outbreak should be before you begin to take the medications. You will need to use your best judgment and should continue to monitor the CDC website for the latest updates. (See the following page for links to resources.)

Other sources for information

About the bird flu and to obtain the latest CDC updates:

<http://www.cdc.gov/flu/avian/>

About Singular:

http://www.singulair.com/montelukast_sodium/singulair/consumer/index.jsp

About Tamiflu:

<http://www.fda.gov/cder/consumerinfo/druginfo/tamiflu.htm>