

The New York City Department of Health and Mental Hygiene Advises Providers Against Prescribing Antiviral Medications for Personal Stockpiling due to Concerns about Pandemic Influenza

Advice for Health Care Providers

Concern about the spread of avian influenza A (H5N1) has caused some individuals in New York City to ask their health care providers for prescriptions for the antiviral medication oseltamivir (trade name Tamiflu[®], manufactured by Roche). Others have attempted to purchase this drug over the internet. However, the New York City Department of Health and Mental Hygiene (DOHMH) strongly advises physicians in New York City against providing patients with prescriptions for oseltamivir for the sole purpose of allowing them to have a personal stockpile in the event of a pandemic. The arguments against personal antiviral stockpiles are outlined below.

Background

Avian influenza A (H5N1) infections in wild birds and poultry have spread from Eastern Asia to Central Asia, and most recently have been identified in Europe and Africa. Since 2003, several 100 million domestic birds have been affected by the current avian outbreak.

Since 2004, human cases have been limited to Eastern Asia (Cambodia, Indonesia, Thailand, Vietnam, and China) and more recently the Middle East (Turkey and Iraq). As of March 2006, over 170 human cases have been reported, the mortality rate is approximately 50%, and sporadic cases continue to be identified (WHO Avian Influenza website http://www.who.int/csr/disease/avian_influenza/en/)

However, almost all human cases of avian influenza have been associated with exposure to ill or infected poultry. Only in a few cases has exposure to infected persons been implicated. At the current time, avian influenza is **not** efficiently transmitted person-to-person. This is a necessary component for influenza A (H5N1) or any other influenza virus to evolve into the next pandemic strain of influenza.

While a future pandemic of influenza is considered inevitable, it may not be due to influenza A (H5N1). In order to prepare for the next pandemic of influenza, local, state, and federal health authorities in the U.S. and in other countries are preparing plans to minimize the impact of a pandemic to the extent possible.

Once an influenza pandemic is recognized, it is likely that a vaccine to protect people from the pandemic strain will not be available for at least six months. Federal authorities are working with vaccine manufacturers to identify ways to accelerate vaccine production, and to increase the U.S. stockpile of antiviral medications.

Recommendations of the New York City Department of Health and Mental Hygiene (DOHMH)

DOHMH does **not** recommend personal stockpiling of oseltamivir or other antiviral agents for the following reasons:

- Personal stockpiles of oseltamivir will compound the existing problems with availability of this antiviral agent in the United States during the regular influenza season for those who may need it most. Commercial supplies of oseltamivir are expected to improve gradually over the next few years and the national stockpile will increase as well.
- The existing, limited supplies of oseltamivir and other antiviral agents should be prioritized as outlined below.
 - The highest current priority for use of oseltamivir is for **treatment** of people during the regular human influenza season who are at highest risk from serious complications from influenza infection (e.g., persons ≥ 65 years, children 6-23 months of age, and persons with certain chronic diseases).
 - The next highest priority for use of oseltamivir (and other influenza antiviral medications) is for **prophylaxis** in persons at high risk of serious complications from influenza infection who are exposed to influenza (e.g., a hospital or nursing home with an outbreak of influenza, or a household in which someone has been diagnosed with influenza) during the regular influenza season.
- Inappropriate and inconsistent use of oseltamivir may increase resistance to oseltamivir in both avian and non-avian strains of influenza viruses. The sub-inhibitory concentrations of antiviral agents that might result from inappropriate and inconsistent use are particularly likely to induce resistance. This would seriously affect the ability to use this antiviral medication for avian influenza, as well as other circulating influenza strains.
- To date, almost all cases of avian influenza in humans have been associated with exposure to infected birds rather than person-to-person transmission. Therefore, there is currently no evidence that H5N1 has developed the potential to cause a pandemic given the absence of effective human to human transmission.
- Four drugs are licensed for the treatment or prophylaxis of influenza infections: the adamantanes (amantadine and rimantadine) and the neuraminidase inhibitors (oseltamivir and zanamivir). Widespread resistance to the adamantanes has been reported in currently circulating avian influenza viruses. Most avian influenza viruses are currently susceptible to oseltamivir and zanamivir in vitro, but it is unknown whether use of these drugs is clinically beneficial since systematic studies of their use have not been performed in humans infected with avian influenza.
- If a non-H5N1 strain of influenza emerges to cause widespread human illness, it is not possible to predict which antiviral agent would be most effective.

- Personal stockpiles of oseltamivir may actually increase the potential for harm when used without consulting a health care provider. All antiviral medications are associated with side effects of varying degrees. An individual might take an antiviral when it is not appropriate (e.g., when an antibiotic is indicated) or when it is not needed (e.g., when they have an upper respiratory infection). In addition, oseltamivir may have interactions with other medications that an individual is taking.
- Oseltamivir is expensive (currently \$65.99 for a 10-pill bottle, which is equivalent to a 5 day course of treatment). If one were to use oseltamivir for prophylaxis during a pandemic, the course would need to extend for weeks or months, adding significantly to the cost.
- Oseltamivir has a limited shelf life. When stored properly, capsules are only guaranteed for 5 years, and the oral suspension for 2 years. No one knows when a pandemic will arise, and if his or her personal stockpiles will still be potent.

Personal Protective Measures to Prevent Influenza and Avian Influenza

Health care providers should review with their patients the steps outlined below which may minimize risk of acquiring and spreading both human influenza strains and other respiratory infections.

1. Get an influenza shot annually.

The current influenza vaccine formulation is not protective against avian influenza. However, a recent study suggests annual influenza immunization of the elderly has a cumulative protective effect, resulting in reduced mortality, particularly in older individuals.

2. Wash your hands.

Wash your hands often with soap and warm water or use an alcohol based hand sanitizer.

3. Avoid touching your eyes, nose or mouth.

This decreases the chance that you will introduce influenza virus and other infectious agents into parts of your body where infection can begin. It also decreases your potential infectiousness to others.

4. Cover your mouth when you cough or sneeze.

Never cough in the direction of someone else. Cough or sneeze into a tissue.

5. Clean things that are touched often.

Clean things that are touched often at home, work, or school like door or refrigerator handles, computer key boards / mouse, phone and water faucets.

6. Avoid close contact with others who are ill.

Avoid holding, hugging or kissing anyone who has a cold or the flu.

7. Avoid crowded conditions when possible.

Do not take persons at high risk for influenza into large crowds during influenza season unless necessary.

8. Stay home when you are ill.

If you have flu symptoms, stay home from work or school and avoid public activities for at least 5 days (7 days for children).

9. Those at risk for serious complication should receive a pneumococcal vaccination.

Secondary bacterial pneumonia is a common complication of influenza, a large proportion of which is due to the pneumococcus. It is likely to be the same with pandemic strains. Administering vaccine to people at risk for pneumococcal disease protects them now and during the next pandemic.

10. Take precautions when traveling to areas affected by avian influenza.

CDC does not currently recommend avoiding travel to countries affected by avian influenza. However, it does recommend avoiding all direct contact with poultry (including touching well-appearing, sick or dead chickens and ducks). It also recommends avoiding places such as poultry farms and bird markets where live birds are raised or kept, and avoiding the handling of surfaces contaminated with poultry feces or secretions.

For additional travel information, visit CDC's Travelers' Health Webpage on Southeast Asia at <http://www.cdc.gov/travel/seasia.htm> to educate yourself and others who may be traveling with you about any disease risks and CDC health recommendations for international travel in areas you plan to visit. For a list of affected areas and other information about avian influenza, see the following websites: CDC's Avian Influenza Website <http://www.cdc.gov/flu/avian/index.htm> or The World Organization for Animal Health http://www.oie.int/eng/en_index.htm.

For more information visit:

- DOHMH Influenza website:
<http://www.nyc.gov/html/doh/html/imm/fluhome.shtml>
- DOHMH Avian Influenza website:
<http://www.nyc.gov/html/doh/html/cd/cd-hcp-h5n1.shtml>
- CDC influenza website:
www.cdc.gov/flu
- WHO avian influenza website:
http://www.who.int/csr/disease/avian_influenza/en/index.html

References

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WHO. Avian influenza A (H5N1) infection in humans. N Engl J Med 2005;353:1374.

* Adapted from recommendations made by the Massachusetts Department of Public Health