



Recommended use of antivirals Pandemic (H1N1) 2009 briefing note 8

21 AUGUST 2009 | GENEVA -- WHO is today issuing guidelines for the use of antivirals in the management of patients infected with the H1N1 pandemic virus.

The guidelines represent the consensus reached by an international panel of experts who reviewed all available studies on the safety and effectiveness of these drugs. Emphasis was placed on the use of oseltamivir and zanamivir to prevent severe illness and deaths, reduce the need for hospitalization, and reduce the duration of hospital stays.

The pandemic virus is currently susceptible to both of these drugs (known as neuraminidase inhibitors), but resistant to a second class of antivirals (the M2 inhibitors).

Worldwide, most patients infected with the pandemic virus continue to experience typical influenza symptoms and fully recover within a week, even without any form of medical treatment. Healthy patients with uncomplicated illness need not be treated with antivirals.

On an individual patient basis, initial treatment decisions should be based on clinical assessment and knowledge about the presence of the virus in the community.

In areas where the virus is circulating widely in the community, clinicians seeing patients with influenza-like illness should assume that the pandemic virus is the cause. Treatment decisions should not wait for laboratory confirmation of H1N1 infection.

This recommendation is supported by reports, from all outbreak sites, that the H1N1 virus rapidly becomes the dominant strain.

Treat serious cases immediately

Evidence reviewed by the panel indicates that oseltamivir, when properly prescribed, can significantly reduce the risk of pneumonia (a leading cause of death for both pandemic and seasonal influenza) and the need for hospitalization.

For patients who initially present with severe illness or whose condition begins to deteriorate, WHO recommends treatment with oseltamivir as soon as possible. Studies show that early treatment, preferably within 48 hours after symptom onset, is strongly associated with better clinical outcome. For patients with severe or deteriorating illness, treatment should be provided even if started later. Where oseltamivir is unavailable or cannot be used for any reason, zanamivir may be given.

This recommendation applies to all patient groups, including pregnant women, and all age groups, including young children and infants.

For patients with underlying medical conditions that increase the risk of more severe disease, WHO recommends treatment with either oseltamivir or zanamivir. These patients should also receive treatment as soon as possible after symptom onset, without waiting for the results of laboratory tests.

As pregnant women are included among groups at increased risk, WHO recommends that pregnant women receive antiviral treatment as soon as possible after symptom onset.

At the same time, the presence of underlying medical conditions will not reliably predict all or even most cases of severe illness. Worldwide, around 40% of severe cases are now occurring in previously healthy children and adults, usually under the age of 50 years.

Some of these patients experience a sudden and very rapid deterioration in their clinical condition, usually on day 5 or 6 following the onset of symptoms.

Clinical deterioration is characterized by primary viral pneumonia, which destroys the lung tissue and does not respond to antibiotics, and the failure of multiple organs, including the heart, kidneys, and liver. These patients require management in

intensive care units using therapies in addition to antivirals.

Clinicians, patients, and those providing home-based care need to be alert to warning signals that indicate progression to a more severe form of illness, and take urgent action, which should include treatment with oseltamivir.

In cases of severe or deteriorating illness, clinicians may consider using higher doses of oseltamivir, and for a longer duration, than is normally prescribed.

Antiviral use in children

Following the recent publication of two clinical reviews, [1,2] some questions have been raised about the advisability of administering antivirals to children.

The two clinical reviews used data that were considered by WHO and its expert panel when developing the current guidelines and are fully reflected in the recommendations.

WHO recommends prompt antiviral treatment for children with severe or deteriorating illness, and those at risk of more severe or complicated illness. This recommendation includes all children under the age of five years, as this age group is at increased risk of more severe illness.

Otherwise healthy children, older than 5 years, need not be given antiviral treatment unless their illness persists or worsens.

Danger signs in all patients

Clinicians, patients, and those providing home-based care need to be alert to danger signs that can signal progression to more severe disease. As progression can be very rapid, medical attention should be sought when any of the following danger signs appear in a person with confirmed or suspected H1N1 infection:

- shortness of breath, either during physical activity or while resting
- difficulty in breathing
- turning blue
- bloody or coloured sputum
- chest pain
- altered mental status
- high fever that persists beyond 3 days
- low blood pressure.

In children, danger signs include fast or difficult breathing, lack of alertness, difficulty in waking up, and little or no desire to play.

[1] Neuraminidase inhibitors for treatment and prophylaxis of influenza in children: systematic review and meta-analysis of randomised controlled trials. Shun-Shin M, Thompson M, Heneghan C et al. *BMJ* 2009;339:b3172; doi:10.1136/bmj.b3172

[2] Prescription of anti-influenza drugs for healthy adults: a systemic review and meta-analysis. Burch J, Stock C et al. *Lancet Infect Dis* 2009; doi:10.1016/S1473-3099(09)70199-9

[Contacts](#) | [E-mail scams](#) | [Employment](#) | [FAQs](#) | [Feedback](#) | [Privacy](#) | [RSS feeds](#)

© WHO 2009