



STATE OF MARYLAND  
**DHMH**

---

Maryland Department of Health and Mental Hygiene  
201 W. Preston Street • Baltimore, Maryland 21201

Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – John M. Colmers, Secretary

**September 29, 2009**

**Dear Colleague,**

Again, we appreciate your attention to these important issues regarding 2009 H1N1 and seasonal influenza prevention and treatment. This update brings to your attention 6 major points:

- 1) Seasonal and H1N1 live attenuated influenza vaccine (LAIV), available as nasal spray, cannot be administered at the same time. Doses of LAIV must be separated by 4 weeks.
- 2) Other live vaccines (e.g. MMR and varicella) can be co-administered during the same visit as LAIV. However, if NOT co-administered on the same day as other live vaccines, live vaccines must be separated from each other by 4 weeks.
- 3) Children at particularly high risk of complications and death are those with neurodevelopmental disorders, such as developmental delay and cerebral palsy.
- 4) FDA and CDC alert physicians to be aware of confusing dosing instructions and dosing methods for Tamiflu.
- 5) Antiviral treatment decisions should be made early (<48 hours from symptom development), based on clinical judgment, regardless of availability of diagnostic testing, regardless of rapid antigen testing results, especially among high risk patients. All hospitalized patients should be strongly considered for early antiviral treatment.
- 6) H1N1 vaccine will be available soon. Providers wishing to administer H1N1 vaccine must register at [www.flu.maryland.gov](http://www.flu.maryland.gov) or [www.dhmh.state.md.us](http://www.dhmh.state.md.us).

**Maryland DHMH 2009 H1N1 Update for Clinicians: PEDIATRIC ISSUES**

**Maryland Update**

In Maryland, public health surveillance detects increased influenza activity throughout the state, with increasing clinic and emergency room visits for influenza like illness, increasing positive laboratory specimens for 2009 H1N1, and increasing influenza outbreaks in schools and institutions. To date, approximately half of state laboratory-confirmed H1N1 cases have been among children, and 40% of hospitalizations have been among children. Thus far, there has been one reported pediatric (<18 years) death associated with 2009 H1N1 virus in Maryland in a child with an underlying health condition. No antiviral resistance to oseltamivir (Tamiflu) has been detected by state lab surveillance.

Toll Free 1-877-4MD-DHMH • TTY for Disabled - Maryland Relay Service 1-800-735-2258

Web Site: [www.dhmh.state.md.us](http://www.dhmh.state.md.us)

### **H1N1 Vaccine Update**

DHMH continues to work towards the distribution of 2009 H1N1 vaccine to all registered vaccine providers. Please refer to [www.flu.maryland.gov](http://www.flu.maryland.gov), or [www.dhmh.state.md.us](http://www.dhmh.state.md.us) for details on registration and vaccine distribution. It is expected that 2 doses of H1N1 vaccine will be recommended for those under the age of 10 years.

DHMH reminds clinicians that there is a very significant clinical requirement which must be taken into consideration regarding the timing of seasonal live attenuated influenza vaccine (LAIV, FluMist®) and H1N1 (LAIV) vaccines. **There must be a 4 week interval between the application of FluMist® and intranasal H1N1 (LAIV) vaccines.** This interval is **NOT** required between FluMist® and injectable H1N1 vaccine, between doses of injectable seasonal and H1N1 vaccines, or if live vaccines are administered on the same day in different anatomic locations. Of note, nasal spray vaccination **CANNOT** be administered in different nostrils on the same day: a 4 week interval is required. **Children who have received FluMist® must wait 4 weeks in order to receive a dose of H1N1 (LAIV), and vice versa, for optimal vaccine efficacy.**

### **CDC Advisory**

CDC alerts health care providers that children < 5 years and children with certain chronic medical conditions are at increased risk for complications and death from influenza (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5834a1.htm>).

Among 36 pediatric 2009 H1N1 U.S. deaths,

7 (19%) were aged <5years, and

24 (67%) had one or more high-risk medical conditions.

It is alarming to note that **92% of the pediatric deaths with high-risk conditions had neurodevelopmental conditions, most commonly developmental delay or cerebral palsy.** Many children had multiple neurologic conditions and other comorbidities, including chronic pulmonary conditions. Among children who died > 5 years of age who did NOT have high risk conditions, all had bacterial coinfections (e.g., *Staph aureus* and *Strep* species). Higher risk children, including those with diabetes mellitus, chronic pulmonary conditions, sickle cell disease, cardiac abnormalities and immunosuppression are those in whom early treatment and strong consideration for post-exposure antiviral chemoprophylaxis should be considered.

### **Antiviral Therapy**

#### **Antiviral Management**

Early initiation of antiviral therapy (optimally, within 48 hours of symptom onset) is recommended for high risk children with ILI symptoms, even before any flu test results are available. One possible clinical management strategy would be to

- a) Discuss, in advance, with parents of high risk patients flu symptoms and risk of complications,
- b) have parent contact provider by phone should symptoms develop, and
- c) after assessment of severity of symptoms, either
  - i) dispense prescription for antiviral with warning signs for worsening symptoms,
  - ii) arrange an office visit for evaluation, or
  - iii) suggest triage to emergency room as medically appropriate.

This proposed method would assist a clinical practice with avoiding office visits of mild to moderately ill high risk patients during the infectious period and expediting treatment among high risk individuals at greatest risk of influenza complications. Understandably, some of these patients may need immediate medical evaluation at the physician office, or hospitalization. Please see <http://www.cdc.gov/H1N1flu/recommendations.htm> for complete antiviral prescribing guidelines

#### **FDA Alert on Tamiflu**

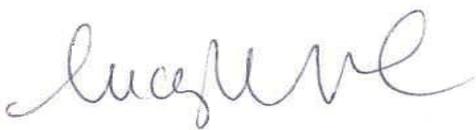
Pharmacists and physicians who care for pediatric patients should be aware of two issues:

- (1) the possible risk of confusion in dosing Tamiflu oral suspension and the need to ensure that the units of measure on the dosing dispenser and the dosing instructions match. FDA and CDC alert clinicians to opportunity for medication error with dosing of pediatric formulations of oseltamivir (Tamiflu). The units of measure on the dosing dispenser and the dosing instructions may not match. The prepackaged syringe is marked in mg, while the dosing suggestion may instruct administration by teaspoonful or milliliter (mL), causing confusion and thus potential for errant dosing. Pharmacists and health care providers should provide an oral syringe that is capable of accurately measuring the prescribed mL dose, and counsel caregiver how to administer the correct dose, and
- (2) the possible shortage of pediatric oral suspension formulation and the need of pharmacists to compound Tamiflu® capsules on site if commercially manufactured pediatric formulations are not available. Maryland DHMH is aware of this potential in Maryland and is exploring ways to evaluate and respond to medication shortages.

These issues are both addressed on the CDC website,  
<http://www.cdc.gov/H1N1flu/recommendations.htm>.

Thank you again for consideration of these important health matters and your ongoing collaboration with public health during this pandemic.

Sincerely,



Lucy E. Wilson, MD, ScM  
Chief, Center for Surveillance, Infection Prevention and Outbreak Response  
Infectious Disease and Environmental Health Administration  
Maryland Department of Health and Mental Hygiene



John Colmers  
Secretary  
Maryland Department of Health and Mental Hygiene