Seasonal Influenza

Provider Information Sheet

What is influenza-like illness (ILI)?
For surveillance purposes, influenza-like illness is defined as fever ≥ 100º F (36º C) *and* cough or sore throat without another identified cause.

Why does the health department track cases of ILI?
The health department tracks cases of influenza-like illness (ILI) to determine *when* the influenza season begins, *where* outbreaks of influenza are occurring, and *how severe* the influenza season is compared to other years. This information can help you diagnose and treat your patients: influenza-like illness is more likely to be caused by influenza A or B when those viruses are circulating in the community.

Where does ILI data come from?
You! West Virginia legislative rule 64CSR7 requires all health care professionals and health care facilities to report numerical totals of Influenza-like Illness (ILI) weekly to their local health department.

How does the health department know if ILI is really influenza A or B?
That information comes from virology surveillance. Sentinel providers around the state submit nasopharyngeal swabs to the Department of Health and Human Resources' Office of Laboratory Services. The specimens are cultured in the lab, and typed. The Virology Surveillance System tells us *what type* of influenza virus is causing illness. Some influenza isolates are referred to the Centers for Disease Control and Prevention. Information from this system will be used to determine the composition of next year's influenza vaccine. If you would like to be a sentinel provider, contact your local health department.

How can I get information on influenza virus activity in my community?
During the influenza season, information on influenza will be posted on the web at http://www.wvidep.org/AZIndexofInfectiousDiseases/InfluenzaSurveillanceData/tabid/1577/Default.aspx. Influenza-like illness and virology data will be posted within about two weeks of receipt. If you do not have web access, or need information more quickly, contact your local health department or the Infectious Disease Epidemiology Program at (304) 558-5358 or (800)-423-1271.

How can I use influenza surveillance data to improve care for my patients?
It is a good idea to document the first cases of influenza in the community by culture confirmation. After flu is confirmed in your community, patients with typical symptoms can be presumed to have influenza and treated appropriately. If you want to know whether flu season has started, check our website

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http://www.wvidep.org/AZIndexofInfectiousDiseases/InfluenzaSurveillanceData/tabid/1577/Default.aspx or give us a call (304)-558-5358 or (800)-423-1271.

What else should I do to protect my patients?
First, encourage your high risk patients and those who care for them to get influenza vaccine every year. Influenza vaccination season starts in October and continues through January and beyond, depending on the timing of influenza activity for that year.

Even after influenza A and B strike your community, you can still offer influenza vaccine. Just remember, it will take two weeks after immunization for a protective antibody response to be formed. Any patient who has a serious underlying medical condition should be considered for antiviral preventive therapy during that two week period. Patients with chronic conditions who cannot receive influenza vaccine should also be considered for antiviral preventive therapy.

What are the latest influenza vaccination recommendations for children and adolescents aged 6 months to 18 years?

- Vaccination of all children aged 6 months to 18 years should begin before or during the 2008 – 2009 season if feasible, but no later than the 2009-2010 season. This is a new recommendation.
- Children and adolescents at high risk for influenza complications should continue to receive influenza vaccination. This recommendation is unchanged. Children at high risk include those:
    - Aged 6 months to 4 years;
    - Who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes mellitus);
    - Who are immunosuppressed (including immunosuppression caused by medications or by human immunodeficiency virus);
    - Who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration;
    - Who are receiving long-term aspirin therapy who therefore might be at risk for experiencing Reye syndrome after influenza virus infection;
    - Who are residents of chronic-care facilities; and ,
    - Who will be pregnant during the influenza season.

What are the latest influenza vaccine recommendations for adults?
Annual influenza vaccine is recommended for these adults:

- All persons aged $\geq$ 50 years;
- Women who will be pregnant during the influenza season;

- Persons who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes mellitus);
- Persons who have immunosuppression (including that caused by medication or human immunodeficiency virus);
- Persons who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration;
- Residents of nursing homes and other chronic care facilities;
- Health-care personnel; and
- Household contacts (including children) and caregivers of children aged < 5 years and adults aged ≥ 50 years, with particular emphasis on vaccinating contacts of children aged < 6 months; and,
- Household contacts and caregivers of persons with medical conditions that put them at high risk for severe complications from influenza.

What vaccines are available?
Two vaccines are available for annual influenza vaccination: the trivalent inactivated vaccine (TIV) and the live attenuated influenza vaccine (LAIV). Both vaccines must be administered annually. For children aged 8 years or younger, two doses separated by an interval of 4 weeks are needed for children receiving vaccine for the first time. The first table (Table 1) compares the two vaccines:

Table 1: Characteristics of LAIV and TIV

Factor	LAIV	TIV
Route of administration	Intranasal spray	Intramuscular injection
Type of vaccine	Line-attenuated virus	Killed virus
Number of included vaccine strains	Three (two influenza A and one influenza B)	Three (two influenza A and one influenza B)
Vaccine virus strains updated	Annually	Annually
Approved age	Persons aged 2-49 years	Persons aged ≥ 6 months
Can be administered simultaneously with other vaccines	Yes*	Yes

*LAIV should be spaced 4 weeks from other live vaccines if not given simultaneously.

How do I know which vaccine to use?
The following table summarizes influenza vaccine recommendations for specific groups:

Table 2: Influenza vaccine use recommendations

Condition	Recommended Vaccine(s):	
	TIV	**LAIV**
All children aged 6-23 months (6 months to < 2 years)	Yes	No
Healthy persons aged 2 – 49 years	Yes	Yes
Persons aged ≥ 50 years	Yes	No
Children or adolescents (aged 6-18 years) who are receiving long-term aspirin therapy and, therefore, might be at risk for experiencing Reye syndrome after influenza infection	Yes	No
Women who will be pregnant during influenza season	Yes	No
Adults and children who have chronic pulmonary (including asthma) or cardiovascular (except hypertension), renal, hepatic, hematological or metabolic disorders (including diabetes mellitus)	Yes	No
Adults and children who have immunosuppression (including immunodeficiency caused by medications or by HIV)	Yes	No
Adults and children who have any condition (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders) that can compromise respiratory function or the handling of respiratory secretions, or that can increase the risk for aspiration	Yes	No
Residents of nursing homes or other chronic-care facilities	Yes	No
Health care providers	Yes	Yes*
Healthy household contacts (including children) and caregivers of children aged ≤ 59 months (< 5 years) and adults aged ≥ 50 years	Yes	Yes*
Healthy household contacts (including children) and caregivers of persons with medical conditions that put them at higher risk for severe complications from influenza	Yes	Yes*

* TIV is preferred for family members, close contacts and caregivers of immunocompromised persons requiring a protected environment such as hematopoietic stem cell transplant recipients.

Who should not receive influenza vaccine?

TIV is contraindicated in:

- Persons with anaphylactic allergy to eggs or vaccine components (see package insert for each vaccine);
- Persons with moderate to severe acute febrile illness; and
- Persons who have a history of Guillan-Bare syndrome within 6 weeks after a previous influenza vaccination (precaution).

The following persons should not be vaccinated with LAIV:

- Persons with a history of hypersensitivity, including anaphylaxis, to any of the components of LAIV or to eggs;
- Persons aged <2 years or those aged ≥ 50 years;
- Persons with any of the underlying medical conditions that serve as an indication for routine influenza vaccination, including asthma, reactive airways disease, or other chronic disorders of the pulmonary or cardiovascular systems; other underlying medical conditions, including such metabolic diseases as diabetes, renal dysfunction, and hemoglobinopathies; or persons with known or suspected immunodeficiency diseases or immunosuppressed states;
- Children aged 2-4 years whose parents or caregivers report that a health-care provider has told them during the preceding 12 months that their child had wheezing or asthma, or whose medical record indicates a wheezing episode has occurred during the preceding 12 months;
- Children or adolescents receiving aspirin or other salicylates (because of the association of Reye syndrome with wild-type influenza virus infection);
- Persons with a history of GBS after influenza vaccination; or
- Pregnant women.

How do I know which antiviral to choose?

The following drugs are licensed for the indications listed in the table below (Table 3). All drugs shorten illness by about one day if given within 2 days of symptom onset. Most data on antiviral efficacy comes from studies of healthy persons. There is very little data on the effectiveness of antiviral therapy in preventing influenza complications.

Oseltamivir can be given orally. Zanamivir is given by inhalation. Both Zanamivir and Oseltamivir are 82-84% effective in preventing febrile, laboratory confirmed influenza in healthy adults.

Table 3: Licensed antiviral agents for treatment and prevention of influenza

Name of Drug	Licensed for:	
	Treatment of	**Prevention of**
Oseltamivir (Tamiflu)	Influenza A and B in persons ≥ 1 year	Influenza A and B in persons ≥ 1 year
Zanamivir (Relenza)	Influenza A and B in persons ≥ 7 years	Influenza A and B in persons ≥ 5 years

For additional information, including dosing, see the package insert.

Who should receive treatment with antiviral agents?
Treatment should be considered for the following:
- Persons hospitalized with laboratory-confirmed influenza (limited data suggests benefit even for persons whose antiviral treatment is initiated > 48 hours after illness onset);
- Persons with laboratory-confirmed influenza pneumonia;
- Persons with laboratory-confirmed influenza and bacterial coinfection;
- Persons with laboratory-confirmed influenza infection who are at higher risk for influenza complications; and
- Persons presenting to medical care with laboratory-confirmed influenza within 48 hours of influenza illness onset who want to decrease the duration or severity of their symptoms and transmission of influenza to others at higher risk for complications.

Antiviral treatment should be initiated within 2 days of onset of illness. The benefit of treatment is greater the earlier treatment is begun.

Who should receive chemoprophylaxis with antiviral agents?
Antiviral chemoprophylaxis should be considered for the following during periods of increased influenza activity in the community:
- Persons at high risk during the 2 weeks after influenza vaccination (after the second dose for children aged < 9 years who have not previously been vaccinated), if influenza viruses are circulating in the community;
- Persons at high risk for whom influenza vaccine is contraindicated;
- Family members or health-care providers who are unvaccinated and are likely to have ongoing, close exposure to persons at high risk or unvaccinated persons or infants aged < 6 months;
- Persons at high risk and their family members and close contacts, and health-care workers, when circulating strains of influenza virus in the community are not matched with vaccine strains;

- Persons with immune deficiencies or those who might not respond to vaccination (i.e., persons infected with human immunodeficiency virus or with other immunosuppressed conditions, or who are receiving immunosuppressive medications); and
- Unvaccinated staff and persons during response to an outbreak in a closed institutional setting with residents at high risk (e.g., extended-care facilities).

What side effects should I anticipate from antiviral medications?
Zanamivir is given by inhalation and may cause an exacerbation of asthma. This drug should not be used in patients with underlying respiratory or cardiac disease.

The major side effects of Oseltamivir are nausea and vomiting. Transient neuropsychiatric events have also been reported.

See the package inserts for additional details.

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