H1N1 Update
October 13, 2009
Prepared for Community health care providers

SBAR
Situation…..Background…..Assessment….Recommendations

HIGHLIGHTS

Rapid flu tests/swap. Due to the poor reliability of rapid diagnostic flu tests, testing is not essential for treatment and will not be performed in area Emergency Departments. Please refrain from sending patients to area Emergency Departments for such testing.

Pediatric Tamiflu—Units of measure for oral dosing dispenser included in manufacturer's packaging must be confirmed to match dosing instructions for compounded Tamiflu. Families should be instructed to confirm dosing instructions with pharmacist.

2009 H1N1 Vaccine Arrival at Area Health Care Providers.

Oseltamivir (Tamiflu) is currently recommended for treatment of pregnant women because of its systemic absorption.

New info. about Seniors and H1N1.

Collective Area Hospital Visiting Policy Change.

Situation:

Epidemiology of 2009 H1N1 remains similar to that in the U.S. last spring.

Virginia (in CDC Region III) is among 37 states reporting widespread influenza activity, with 5 of 6 regions reporting widespread illness.

During week 39, 99% of all subtyped influenza A viruses reported to CDC were 2009 influenza A (H1N1) viruses.

6% of confirmed 2009 H1N1 fatalities have been in pregnant women, while only 1% of total population is pregnant.

Local H1N1 data. Sentara physician practices are experiencing an increase in percentage of flu cases, especially on the upper Peninsula. In the last week, percentage of flu cases doubled at practices reporting flu, and Peninsula practices reported volume up to 10%. Similar patterns are are tracked in Sentara EDs.

2009 H1N1 Vaccine. The first shipments of 2009 H1N1 vaccine are arriving at providers through Virginia Dept. of Health. Following CDC guidelines, the first vaccine is for health care providers. More information is expected from the Virginia Dept. of Health regarding public vaccine.

Seasonal Flu Vaccine for Physicians and Staff at Sentara clinical facilities. Sentara is seeking 100% vaccination of all medical staff members and staff in clinical facilities.

By Monday, Oct. 19 go to any Sentara Occupational Health office to get your free seasonal flu shot. Otherwise get your seasonal flu shot by Oct. 31 through another source.

Collective Area Hospital Visiting Policy Change. Effective Thursday, October 15, 2009, in an effort to protect hospital patients from the spread of 2009 H1N1 and seasonal flu, no one under the age of 18 will be permitted in Hampton Roads area hospitals unless they are patients. This visitation policy change includes siblings of newborns in Women's and Infant's units.

This age restriction reflects the higher prevalence of 2009 H1N1 among children and adolescents, putting them at greater risk of carrying the virus into health care settings. Medical evidence suggests infected persons can transmit the virus as much as 24 hours before displaying symptoms. **Please share this with your patients and families who may be impacted by this policy change. Participating hospitals and health systems include:**

Bon Secours DePaul Medical Center
Bon Secours Mary Immaculate Hospital
Bon Secours Maryview Medical Center
Chesapeake Regional Medical Center
Children's Hospital of The King's Daughters
Naval Medical Center Portsmouth
Riverside Regional Medical Center
Riverside Shore Memorial Hospital
Riverside Tappahannock Hospital
Riverside Walter Reed Hospital
Sentara Norfolk General Hospital
Sentara Bayside Hospital
Sentara CarePlex Hospital
Sentara Heart Hospital
Sentara Leigh Hospital
Sentara Obici Hospital
Sentara Virginia Beach General Hospital
Sentara Williamsburg Regional Medical Center

Background:

- Note: The CDC is reporting data from a new system for monitoring the trend in flu related hospitalizations and deaths. The new system replaces the weekly report of lab confirmed 2009 H1N1 related hospitalizations. Counts were reset to zero Aug. 30, 2009.
- In the U.S., from Aug. 30 through Oct. 3, 2009, the CDC reported 3,874 laboratory confirmed hospitalizations and 240 laboratory confirmed influenza deaths
- 19 influenza-associated pediatric deaths were reported during week 39 (September 27 – Oct. 3, 2009), 16 associated with 2009 influenza a (H1N1) and 3 from influenza A virus. .
- During week 39, the proportion of deaths attributed to pneumonia and influenza (P&I) was at the epidemic threshold.
- October 4, 2009 marks the official start of the 2009-10 influenza season.

Assessment

Summary of H1N1 found in Sentara Sept. 15 SBAR includes:

- 2009 H1N1 influenza is not the same as seasonal influenza
- Severe respiratory failure
- Vulnerable groups
- Higher risk of hospitalization and death
- Transmission
- Incubation
- Flu Symptoms

Seniors and 2009 H1N1 Vaccine (Sept. 30 H1n1 influenza vaccine and seniors)

- Studies show people 65 and older are the **least likely** to get sick with 2009 H1N1 flu virus. Lab tests on blood samples show older people likely have some pre-existing immunity to the virus.
- While least likely to get the virus, people 65 and older are at increased risk of flu complications.

Recommendations

CDC recommendations for Triaging Patients with Flu Symptoms

Mask patients with flu-like symptoms (fever and respiratory symptoms [cough and/or sore throat]) with a PROCEDURE or SURGICAL MASK unless medically contraindicated.

CDC recommends vaccines are the best prevention for flu.

2009 H1N1 Vaccine recommended for:

- Pregnant women
- Family and caregivers for children younger than 6 months old
- Health care workers and emergency services personnel
- Anyone 6 months to 24 years old
- Anyone 25 through 64 years with chronic pulmonary disorders (including asthma), cardiovascular (except hypertension), kidney, liver, and blood disorders (including sickle cell disease), neurocognative and neuromuscular disorders, diabetes, and depressed immune systems

Seasonal Flu Vaccine in Pregnant Women.
There are 2 types of vaccine. Pregnant women should get the flu shot—inactivated vaccine. Nasal spray flu vaccine (sometimes called LAIV for "live attenuated influenza vaccine) is not approved for use in pregnant women. This vaccine is made from live, weakened flu viruses which do not cause the flu. LAIV (FluMist®) is approved for use in healthy people 2 – 49 years old who are not pregnant.

2009 H1N1 Vaccine.
Influenza vaccines have not been shown to cause harm to a pregnant women or her baby. The seasonal flu shot (injection) is proven as safe and already recommended for pregnant women. The 2009 H1N1 influenza vaccine will be made using the same processes and facilities that are used to make seasonal influenza vaccines. Clinical trials are underway to test 2009 H1N1

vaccine in healthy children and adults. Studies on pregnant women for this vaccine were expected to begin in Sept.

Pregnant women should get the 2009 H1N1 vaccine. The first of that vaccine is available as LAIV (**flu mist**). While flu mist is NOT recommended for pregnant women, this group can be in close contact with people who have taken flu mist.

Existing recommendations also state that an inactivated and live vaccine may be administered at any time before, after or at the same visit as each other.

Live attenuated seasonal and live 2009 H1N1 vaccines should NOT be administered at the same visit until further studies are done.

Inactivated 2009 H1N1 vaccine can be administered at the same visit as any other vaccine, including pneumococcal polysaccharide vaccine.

Live 2009 H1N1 vaccine can be administered at the same visit as any other live or inactivated vaccine EXCEPT seasonal live attenuated influenza vaccine.

Antiviral Resistance

Most 2009 H1N1 is sensitive to the antivirals oseltamivir (Tamiflu) and zanamivir (Relenza) but not amantadine and rimantadine. Rare cases of oseltamivir resistance have occurred worldwide including 9 cases in the U.S. All viruses retain sensitivity to zanamirvir.

Seasonal H1N1 flu is sensitive to amantadine and rimantadine and zanamivir but not oseltamivir.

Seasonal H3N2 and B are sensitive to oseltamivir. and zanamivir, but resistant to amantadine and rimantadine. All current influenza, seasonal and pandemic, is sensitive to zanamivir (Relenza).

	Influenza viruses			
Antiviral	**Seasonal A (H1N1)**	**Seasonal A (H3N2)**	**Seasonal B**	**Pandemic H1N1**
Flumadine (Rimantadine)	Susceptible	**Resistant**	**No activity**	**Resistant**
(Amantrel, Symadine, Symmetrel) **Amantidine**	Susceptible	**Resistant**	**No activity**	**Resistant**
Tamiflu **(Oseltamivir)**	**Resistant**	Susceptible	Susceptible	**Susceptible**
Relenza **(Zanamivir)**	Susceptible	Susceptible	Susceptible	**Susceptible**

Treatment

Recommendations for use of antiviral medications may change as new information is available.

Treatment with oseltamivir or zanamivir is recommended by CDC for:

- All hospitalized patients with confirmed, probable or suspected 2009 H1N1 or seasonal influenza.
- Those with high risk of complications for flu including pregnant women
- Any suspected flu patient with warning symptoms (e.g., dyspnea) or signs (e.g., tachypnea, unexplained oxygen desaturation) for lower respiratory tract illness should promptly receive empiric antiviral therapy

Treatment should not wait for laboratory confirmation because laboratory testing can delay treatment and a negative rapid test for influenza does not rule out influenza.

Evidence shows the best outcomes overall are achieved with the shortest symptom to treatment time interval. Treatment should begin within 48 hours of onset of symptoms in high risk populations.

Persons NOT at higher risk for flu complications or who do NOT have severe influenza requiring hospitalization generally do not require antiviral medications for treatment or prophylaxis.

Clinical judgment is an important factor in antiviral treatment decisions for all patients presenting for medical care who have illnesses consistent with influenza.

Treatment in Pregnant Women

Oseltamivir or zanamivir are “Pregnancy Category C” medications. For treatment of pregnant women with suspected or confirmed flu, Oseltamivir is currently preferred because of its systemic absorption. See table below for dosing information.

Treatment should not wait for laboratory confirmation because laboratory testing.

Evidence shows the best outcomes overall are achieved with the shortest symptom to treatment time interval. Treatment should begin within 48 hours of onset of symptoms in high risk populations.

Early treatment is an alternative to chemoprophylaxis for pregnant women who have had contact with someone likely to have influenza.

Fever in pregnant women should be treated because of the risk that it poses to the fetus. Acetaminophen appears to be the best option for treatment of fever during pregnancy.

Table 1. Antiviral medication dosing recommendations for treatment or chemoprophylaxis of novel influenza A (H1N1) infection
(Table extracted from IDSA guidelines for seasonal influenza .)

Agent, group	Treatment	Chemoprophylaxis
Oseltamivir		
Adults	75-mg capsule twice per day for 5 days	75-mg capsule once per day for 10 days
Zanamivir		
Adults	Two 5-mg inhalations (10 mg total) twice per day for 5 days	Two 5-mg inhalations (10 mg total) once per day for 10 days

Antiviral Dosing Syringe and Compounding Information

Onsite Compound for Pediatric Tamiflu. If pediatric formulas of **Oseltamivir (**Tamiflu) are not available, pharmacists may compound Tamiflu into an oral suspension onsite.

Note on Tamiflu Oral Suspension Syringe Physicians and pharmacists should be sure the unit of measure of oral suspension syringe matches the dosing instructions. When using the manufacture's syringe with onsite compound, the units may not match the written prescription. Manufacturer's syringe is provided in packaging in mg rather than in gradations in milliliters (mL) or teaspoons. This can lead to patient or caregiver confusion and dosing errors. Doctors should warn parents to get pharmacist instructions before leaving pharmacy to confirm dosing.

Antiviral Chemoprophalysis

This situation is fluid and research for H1N1 is ongoing. According to current CDC information, the infectious period for 2009 H1N1 virus appears to be similar to that of seasonal influenza.

Infected persons may be infectious to others, beginning one day before they develop symptoms to up to 7 days after they become ill.

Children can shed influenza virus for longer periods. However, for this guidance, the *infectious period* for influenza is defined as one day before until 24 hours after fever ends.

Post exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir can be considered for the following:

- Persons who are at higher risk for complications of influenza and are a close contact of a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period.

- Health care personnel who have had a recognized, unprotected close contact exposure to a person with confirmed, probable, or suspected 2009 H1N1 or seasonal influenza during that person's infectious period..

Antivirals should not be used for post exposure chemoprophylaxis in healthy children or adults

- Chemoprophylaxis generally is not recommended if more than 48 hours have elapsed since the last contact with an infectious person.
- Chemoprophylaxis is not indicated when contact occurred before or after the ill person's infectious period.
- **An emphasis on early treatment is an alternative to chemoprophylaxis after a suspected exposure for some persons. See "Actions to Reduce Delays in Treatment" section.**
- Persons at ongoing occupational risk for exposure (e.g., health care personnel working in communities with influenza outbreaks) should carefully follow guidelines for appropriate personal protective equipment.

Patients at Risk of Flu Complications

Groups at higher risk for 2009 H1N1 influenza complications are similar to those at higher risk for seasonal influenza complications:

- Children younger than 5 years old. However, the risk for severe complications from seasonal influenza is highest among children younger than 2 years old.
- Adults 65 years of age or older
- Pregnant women
- Persons with the following conditions:

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), neurologic, neuromuscular, or metabolic disorders (including diabetes mellitus);
- Immunosuppression, including that caused by medications or by HIV;
- Persons younger than 19 years of age who are receiving long-term aspirin therapy, because of an increased risk for Reye syndrome.

Testing Recommendations for 2009 H1N1

The rapid tests for influenza range from 10 % to 70% accuracy, making it unreliable. Due to the poor reliability of rapid diagnostic flu tests, please refrain from sending patients to area Emergency Departments for such testing. It is NOT effective for treating patients and treatment relies on good clinical judgment.

Testing for 2009 H1N1 influenza infection with real-time reverse transcriptase-polymerase chain reaction (rRT-PCR) is recommended ONLY for persons with suspected or confirmed influenza requiring hospitalization or to confirm cause of death. However, we are having a disproportionate number of patients being sent to our Emergency Departments for influenza testing.

Please do not send your patients to hospital emergency departments for a rapid flu test or swap. These tests will not be performed in the course of treatment.

Actions to reduce delays in treatment:

- Identify and educate at higher risk for flu complications of signs and symptoms of influenza and need for early treatment;
- Ensure rapid access to telephone consultation and clinical evaluation for these patients as well as patients who report severe illness;
- Consider empiric treatment of patients at higher risk for influenza complications based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated.
- Providers might also choose to provide selected patients at higher risk for influenza-related complications (e.g., patients with neuromuscular disease) with prescriptions to be filled at the onset of symptoms **after telephone** consultation with the provider.
- Persons with suspected 2009 H1N1 influenza or seasonal influenza who present with an uncomplicated febrile illness typically do not require treatment. However, some groups appear to be at higher risk for influenza-related complications.

Know Warning Signs for Urgent Medical Treatment

Emergency Warning Signs in Children that need urgent medical attention:

- Fast breathing or trouble breathing
- Bluish or gray skin color
- Not drinking enough fluids
- Severe or persistent vomiting
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting
- Flu-like symptoms improve but then return with fever and worse cough

Stay at Home Recommendations for Healthcare Workers

According to CDC, health care workers providing direct patient care (or those working in direct patient care facilities), who have had influenza symptoms, should remain out of work for 7 days from onset of symptoms or until symptoms resolve, whichever period is longer.

Resolution of symptoms includes being free of fever, a temperature of 100° F or 37.8°C for 24 hours, without using fever-reducing medications.

Personnel not working in care giving facilities may return to work 24 hours after free of fever or signs of fever without the use of fever-reducing medications. A fever is defined as a temperature of 100° F or 37.8°C.

Source:

October 9, 2009 *Interim Guidance for Influenza Surveillance: Prioritizing RT-PCR Testing in Laboratories*

October 9, 2009 *U.S. Influenza and Pneumonia-Associated Hospitalizations and Deaths from September 27 - October 3, 2009*

October 9, 2009 *FluView September 27 – October 3, 2009* prepared by CDC, Influenza Division

October 2, 2009 *2009 H1N1 Influenza Shots and Pregnant Women: Questions and Answers for Patients*

September 29 Interim Recommendations for clinical use of Influenza Diagnostic Tests During the 2009-2010 Influenza Season

September 25, 2009 *Health Alert Network Info. Service Message: Updated Antiviral Dosing Syringe and Compounding Info. For 2009 H1N1 and Seasonal Flu.*

September 21, 2009 *H1N1 Clinicians Questions and Answers*

September 18, 2009 *2009 H1N1 Influenza Vaccine and Pregnant Women*

September 17, 2009 *Updated Interim Recommendations for Obstetric Health Care Providers Related to Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season*

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