

Update on 2009 H1N1 Influenza and Meningococcal Conjugate Vaccination Recommendations

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www.cdc.gov/H1N1flu

Take-home Messages

- Simple measures can reduce the impact of flu
 - Get vaccinated if you are in a recommended group
 - Wash your hands, cover your cough
 - Try to avoid close contact with sick people
 - If you are sick, stay home, and avoid close contact with others
- Follow public health advice regarding school closures, avoiding crowds, social distancing
- Inform yourself, and be prepared:
www.flu.gov and www.cdc.gov/H1N1flu

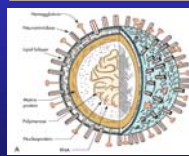
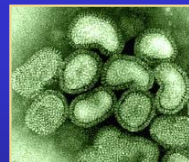
Outline

- Background on influenza
- Global situation
- US Government response
- What you can do

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Influenza Virus

- Three types: A, B, C
 - A, B seasonal flu
 - A epidemic flu, severe disease
- Surface proteins determine subtype
 - H (hemagglutinin) H1 – H16
 - N (neuraminidase) N1 – N9
- Influenza A viruses infect multiple species depending on subtype
 - Humans
 - Birds (wild birds, domestic poultry)
 - Pigs
 - Other mammals; horses, dogs, seals, whales, ferrets, tigers



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Emergence of 2009 H1N1 Influenza

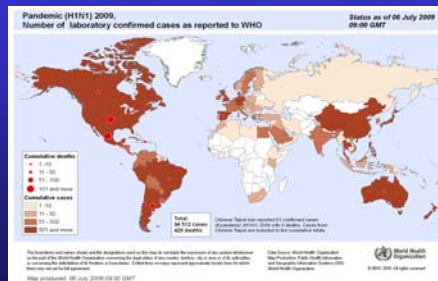
March – April 2009

- Human infections with a novel H1N1 influenza virus of swine origin reported in California and Texas
 - Patients had no contact with pigs, indicating human-to-human transmission
- H1N1 virus closely related to isolates from ongoing Mexico epidemic
 - Severe illness and deaths reported in Mexico

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2009 H1N1 Flu: Current Global Situation

On June 11, 2009, WHO raised pandemic alert level to Phase 6
 – Sustained human-to-human transmission of the virus causing outbreaks in multiple countries
 As of October 18, 2009: WHO reports close to **47,123 confirmed cases with 8,163 total deaths**.



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2009 H1N1 Flu: *United States*

During week 41 (October 11-17, 2009), influenza activity increased in the U.S.

Forty-six states reported geographically widespread influenza activity, Guam and three states reported regional influenza activity, one state, the District of Columbia, and Puerto Rico reported local influenza activity, and the U.S. Virgin Islands did not report a virus of North American lineage.

- Virus is novel "quadruple reassortant" with:
 - Swine influenza virus of North American lineage
 - North American avian influenza virus
 - One segment of human influenza virus
 - Swine influenza virus normally found in Asia and Europe
- Novel virus not previously detected in swine or humans
- Virus isolates from Mexico closely related to US influenza isolates

*Source: CDC
<http://www.cdc.gov/h1n1flu/update.htm>

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2009 Influenza Pandemic

- WHO Director-General Margaret Chan declared the pandemic on June 11, 2009.
 - Influenza pandemics, whether moderate or severe, are remarkable events because of the almost universal susceptibility of the world's population to infection.
 - The virus is spreading under a close and careful watch.
 - WHO continues to recommend no restrictions on travel and no border closures.
 - We are all in this together, and we will all get through this, together.

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Seasonal Influenza Illness in the United States

During a regular flu season in the United States, we anticipate:

- Greater than 200,000 hospitalizations / year
- 36,000 deaths per year
- Substantial economic impact ~\$37.5 billion

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US Government Response to H1N1 Flu

- Public health emergency declared in the United States (April 26)
- Emergency Declaration for 2009 H1N1 Influenza in the United States (October 24)
- CDC's response goals:
 - reduce transmission and illness severity
 - provide information to help health care providers, public health officials, and the public address challenges posed by new virus infection

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US Government Response to H1N1 Flu

- Released Strategic National Stockpile of medications and materials to 50 states and territories
- Intensified surveillance and investigation of influenza
 - Evaluate virus, describe illness severity, monitor geographic spread
- Coordinating and informing across states, USG, WHO
- Developing and regularly updating guidelines for the public
- Assisting countries with surveillance and investigation

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Antiviral Treatment for Novel H1N1 Influenza



	Amantadine	Rimantadine	Zanamivir	Oseltamivir
Target	M2	M2	Virus/cell entry	Virus/cell entry
H1N1 Virus susceptible?	Resistant	Resistant	Susceptible	Susceptible



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Current CDC Recommendations on Antiviral Treatment

- Oseltamivir treatment recommended for:
 - All hospitalized patients with suspected, probable, or confirmed novel influenza A (H1N1) virus infection
 - Outpatients with high-risk conditions (young children, pregnant women, persons with chronic conditions - chronic lung disease, diabetes, etc.) with suspected, probable, or confirmed novel influenza A (H1N1) virus infection

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What can you do?

- Vaccination
- Educate yourself, your families and your communities
 - Know the symptoms of influenza
 - Know how to avoid spreading influenza
 - Cough hygiene
 - Handwashing
 - Social distancing
- If you are sick, stay home from work
- Be prepared



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Vaccination Recommendations

- People age 6 months through 24 years old
- Pregnant women
- People age 25 through 64 with chronic health conditions
- People who live with or care for children younger than 6 months old
- Healthcare and emergency medical services workers



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Vaccination Dosing and Formulation

- Children younger than age 10 should receive 2 doses of 2009 H1N1 vaccine
 - Separated by 4 weeks
- Adults need 1 dose of vaccine
- The vaccine comes in 2 forms
 - Injectable
 - Nasal Spray

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What are the symptoms of H1N1 influenza?

Similar to seasonal human flu:

- Fever
- Cough
- Sore throat
- Runny or stuffy nose**
- Body aches
- Headache
- Chills
- Fatigue
- Diarrhea and vomiting



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How Influenza Viruses Spread

- Primarily through respiratory droplets
 - Coughing
 - Sneezing
 - Touching respiratory droplets on self, another person, or an object, then touching mucus membranes (e.g., mouth, nose, eyes) without washing hands



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What else can you do to protect yourself and others?

- Wash your hands with soap & water
- Try not to touch surfaces that may be contaminated with the flu virus
- Avoid touching your nose, eyes, and mouth
- If you're coughing, cover your mouth with a tissue, dispose after use
- Avoid close contact with sick people
- Defer unnecessary travel to affected areas



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What should you do if you get sick?

- If you are sick with flu, stay home until you have been free of fever for 24 hours.
- Avoid contact with other people as much as possible.
- http://www.cdc.gov/h1n1flu/guidance_homecare.htm

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Warning signs to seek medical care:

In children:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Irritable, the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults:

- 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 **

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Can you get 2009 H1N1 Influenza (formerly referred to as swine flu) by eating pork?

No. The novel H1N1 Influenza (formerly referred to as swine flu) is not spread by food. You cannot get H1N1 influenza from eating pork or pork products. Eating properly handled and cooked pork products is safe.

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Be prepared – have a family emergency plan

- Store a 1-week supply of water
- Store at least a 1-week supply of non-perishable food for each family member and pet
- Include medications and health supplies (both prescription and non-prescription)
- Maintain an emergency contact list
- Plan now for school and workplace closings

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Summary

- Illness and death from the H1N1 influenza pandemic will continue to occur around the world—be prepared
- We can act individually and collectively to help reduce the spread of H1N1 influenza
- Follow public health recommendations for preventing the spread of influenza
- CDC, WHO and public health officials worldwide are closely monitoring the situation

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Influenza Resources

- <http://www.cdc.gov/h1n1flu/>
- <http://www.flu.gov/>
- <http://www.who.int/csr/disease/swineflu/en/index.html>



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How does CDC make vaccination recommendations?

- The Advisory Committee on Immunization Practices (ACIP) is a federal advisory committee.
- The committee is made up of 15 voting members who are medical and scientific experts. Members must be US citizens and cannot be employed by the US Government.
- ACIP meets in person 3 times per year.
- It develops written recommendations subject to the approval of the Director of CDC for the administration of FDA licensed vaccines.
- The Committee reviews data on disease morbidity and mortality, vaccine safety and efficacy, cost-effectiveness, and related factors.

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ACIP (II)

- ACIP recommends age for vaccine administration, number of doses, and dosing interval, precautions and contraindications.

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What is meningococcal disease?

- ❖ This disease is passed through saliva, coughing or sneezing
- ❖ It can cause meningitis, which is an infection of the lining of the brain and spinal cord. It can also cause blood infections and pneumonia.
- ❖ Symptoms include fever, headache, a stiff neck, and nausea or vomiting. Blood infections can cause a red or purple rash.
- ❖ People who get it can go deaf, have brain damage, or lose an arm or leg (have it cut off or amputated).

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What is meningococcal disease? (II)

- ❖ Approximately 1,800-2,200 people get this disease each year in the U.S.
- ❖ 10% of people who get this disease will die; Healthy people can die from this disease within 48 hours.
- ❖ Outbreaks happen most often in college dorms or military barracks, but there have also been outbreaks in middle schools and high schools.

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How can meningococcal disease be prevented?

- ❖ The MCV4 vaccine can protect pre-teens and teens from this disease.
- ❖ CDC recommends routine vaccination of 11 and 12 year olds at the pre-teen check up.
- ❖ CDC recommends vaccination of 11 through 18 year olds at the earliest opportunity.
- ❖ Routine vaccination is also recommended for 19 through 55 year olds at increased risk of the disease (including college freshman living in dorms, military recruits, microbiologists who are routinely exposed, travelers to or residents of certain areas).

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Is MCV4 vaccine safe and effective?

- ❖ MCV4 is very safe and effective.
- ❖ It can cause mild side effects, such as
 - ❖ Fever
 - ❖ Redness or soreness where the shot is given
- ❖ Serious side effects are rare.
- ❖ Protection from the vaccine lasts for at least several years. Scientists do not yet know if a booster will be needed.

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What is happening in Ohio...

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Questions?

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