

# EPI CONNECTIONS

October 2009

A Bimonthly Newsletter of the Communicable Disease Division

## Answers to Questions about the 2009 H1N1 Influenza Vaccine

There are many questions within the medical community surrounding the 2009 H1N1 influenza vaccine. Common concerns include vaccine safety, the association between influenza vaccines and Guillaine-Barré Syndrome (GBS), the manufacturing process, distribution to target groups, and vaccine administration. Below is the most recent information addressing these concerns.

### Vaccine Safety

- The 2009 H1N1 influenza vaccine is not experimental. It is made using the same methods and facilities used to produce seasonal influenza vaccine every year. Seasonal influenza vaccines are safe when administered according to licensed indication and usage information. Like any medical product, vaccines do carry some risks. It is anticipated that the safety profile of licensed 2009 H1N1 monovalent vaccines will be similar to seasonal influenza vaccines; that serious adverse events after vaccination will be uncommon.
- GBS is thought to be triggered by an infection and is most commonly preceded by the campylobacter jejuni bacterium. It may also be triggered by respiratory or intestinal illnesses. Multiple studies have evaluated the association of flu vaccines and GBS. Only one study has shown an association; that one person out of one million vaccinated persons may be at risk of GBS associated with the vaccine.
- General fears may still linger from the shortfalls of the 1976 swine flu vaccine. The virus used in 1976 was completely different than the 2009 strain. The 1976 vaccine contained inactivated whole virus. Current influenza vaccines contain only purified hemagglutinin from the virus (rather than the whole virus), making them more purified.

### Vaccine Distribution

The initial supply of 2009 H1N1 influenza vaccine should be available by mid-October. Additional doses will be released in each subsequent week.

### Target Groups

The Centers for Disease Control and Prevention (CDC) recommends the use of the 2009 H1N1 influenza vaccine to five initial target groups:

1. Pregnant women.
  2. Any household contacts and caregivers for children younger than 6 months of age (parents, siblings, daycare providers).
  3. Health care and emergency medical services personnel
  4. All people between the ages of 6 months through 24 years.
  5. Persons aged 25-64 who have health conditions associated with higher risk of complications from influenza.
- If Boulder County Public Health (BCPH) determines that the H1N1 vaccine demand for the initial target groups has been met, providers will be notified that they can administer the vaccine to healthy people of all ages.

- Pregnant women and young healthy people are targeted because this group accounts for a higher number of H1N1 infections, hospitalizations, and death. Studies indicate that people older than 60 years of age may have some immunity to the 2009 H1N1 influenza strain.

### Vaccine Guidelines

- Providers should begin administering seasonal influenza vaccine to all age groups as soon as it is available and continue to administer it throughout influenza season.
  - There is no compelling evidence that sero-protection or immunity is lost at four months if it has been initially achieved after immunization.
  - There is lack of evidence for late season outbreaks among vaccinated persons that can be attributed to waning immunity.
- Inactivated seasonal and the inactivated 2009 H1N1 influenza vaccines can be administered at the same time (using separate syringes and sites) or at any time before or after the other.
- Inactivated seasonal and live 2009 H1N1 influenza vaccines can be administered together or at any time before or after the other.
- Live seasonal and inactivated 2009 H1N1 influenza vaccine can be administered together or at any time before or after the other.
- DO NOT administer the live attenuated seasonal and live 2009 H1N1 vaccines at the same time. If there are only live vaccines for both seasonal and 2009 H1N1 influenza available, the doses should be separated by at least four weeks.
- The 2009 H1N1 influenza vaccine will be available in an inactivated, injectable formulation and a live attenuated nasal spray.
- Two doses of the 2009 H1N1 influenza vaccine will likely be needed to produce sufficient immunity; however, current clinical trials are underway to determine the size of the dose and the number of doses that will be needed.

References: Centers for Disease Control; IAC Express 2009 Issue, Issue number 821; Sept. 2, 2009 (Immunization Action Coalition).

Contributed by Sophia Yager

The graphic features three circular icons illustrating the '3 Cs' of flu prevention. The first icon shows a person coughing into their elbow, with the text 'Cover your cough. Use a tissue or your elbow.' below it. The second icon shows hands being washed under a faucet, with the text 'Clean your hands. Use soap and water or hand sanitizer.' below it. The third icon shows a person staying home, with the text 'Contain germs. Stay home when sick.' below it. The graphic also includes the logo for the Iowa Department of Public Health (IDPH) and the text 'Iowa Governor Chet Culver Iowa Lt. Governor Patty Judge'.



# Epi-Eye

*A Look Outside Our Community and Around the World*

## Lessons from H1N1 Activity Around the World

Monitoring outbreaks from around the world provides sufficient information to make tentative conclusions about how the influenza pandemic might evolve in the coming months:

### The Virus

- H1N1 is now the dominant influenza virus strain in most of the world.
- There are no signs that the virus has mutated to a more virulent or lethal form. Close monitoring of viruses by a World Health Organization (WHO) network of laboratories shows that viruses from all outbreaks remain virtually identical.

### Illness

- The clinical picture of pandemic influenza is largely consistent across all countries. The overwhelming majority of patients continue to experience mild illness. Although the virus can cause very severe and fatal illness, the number of such cases remains small.
- The most severe cases and deaths have occurred in adults under the age of 50 years, with deaths in the elderly being comparatively rare. This age distribution is in stark contrast with seasonal influenza, where around 90% of severe and fatal cases occur in people 65 years of age or older.
- Clinicians around the world are reporting a very severe form of the disease in young and otherwise healthy people, which is rarely seen during seasonal

influenza infections. In these patients, the virus directly infects the lung, causing severe respiratory failure. During the winter season in the southern hemisphere, several countries have viewed the need for intensive care as the greatest burden on health services; cities reporting that nearly 15% of hospitalized cases have required intensive care.

### Special Populations

- An increased risk during pregnancy is now consistently well documented across countries.
- Data continue to show that medical conditions, including respiratory disease (notably asthma), cardiovascular disease, diabetes, and immuno-suppression, increase the risk of severe and fatal illness.
- Several early studies show a higher risk of hospitalization and death among certain subgroups, including minority groups and indigenous populations. In some studies, the risk in these groups is four to five times higher than in the general population. Although the reasons are not fully understood, possible explanations include lower standards of living and poor overall health status, including a high prevalence of conditions such as asthma, diabetes, and hypertension.

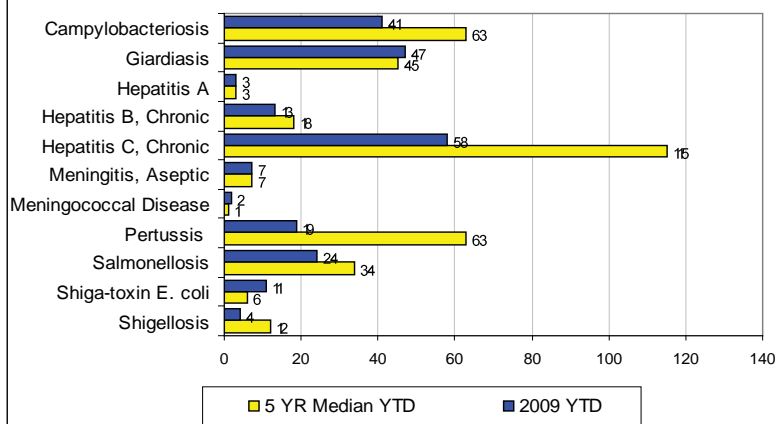
### Treatment

- At present, only a handful of oseltamivir-resistant viruses have been detected worldwide. All of these cases have been extensively investigated, and to date, no instances of onward transmission of drug-resistant virus have been documented.

From WHO briefing note "Preparing for the second wave: lessons from current outbreaks." [http://www.who.int/csr/disease/swineflu/notes/h1n1\\_second\\_wave\\_20090828/en/index.html](http://www.who.int/csr/disease/swineflu/notes/h1n1_second_wave_20090828/en/index.html)

*Contributed by Carol Helwig*

**Surveillance of Selected Diseases, Boulder County  
2009 YTD Compared to 5-year Median YTD  
(1/1/2009-9/15/2009)**



## Providers Should Strongly Consider Stool Cultures in Patients with Bloody Diarrhea

Although incidence of most diseases in the graph to the left are at or below the five year median, we are seeing an increase in cases of E. coli O157:H7. Newly reported in September are four cases of E. coli that appear to be related. BCPH is currently investigating this outbreak. Due to this increased incidence, we are asking providers to be especially diligent in considering stool culture in cases of diarrhea, especially those cases with bloody diarrhea.

