

Frequently asked questions about 2009 H1N1 influenza vaccine and disease.

Is the H1N1 vaccine safe?

It is produced exactly the same way the seasonal flu vaccine is produced every year. It is simply a new virus strain. In fact, had H1N1 struck this country earlier than this spring, the H1N1 strain probably would have been included as part of this year's seasonal flu shot.

Millions of Americans get the seasonal flu vaccine each year without any problems. Still, understanding that some Americans have concerns about "new" vaccines, the National Institutes of Health and the vaccine manufacturers have conducted more rigorous tests on the H1N1 vaccine than they do on other flu vaccines, and there have been no red flags from these clinical trials.

Also, CDC has stepped up surveillance efforts to track the H1N1 vaccine and any possible adverse events. Since it is so closely related to the seasonal flu vaccine, we do not expect to see serious side effects. But we are taking all the necessary steps to promote and monitor safety.

Our top doctors and scientists believe the risk of the flu, especially for pregnant women, children, and people with underlying health conditions, is higher than any risk that might come from the H1N1 vaccine.

<http://www.flu.gov/myths/index.html>

Does the vaccine work and how many doses of H1N1 vaccine do you need?

There is really good news that has come out of our clinical trials being run by the National Institutes of Health and the flu vaccine manufacturers. The H1N1 vaccine is a really good match with the H1N1 virus currently circulating across the country, and healthy adults and children 10 and older will need only one dose of vaccine.

Though scientists initially thought that two doses might be required, information from clinical trials has since demonstrated the H1N1 vaccine works faster than we expected and works well against the H1N1 virus, which is making millions of Americans sick.

<http://www.flu.gov/myths/index.html>

How far apart must seasonal and H1N1 influenza vaccine be spaced?

(Please note this information has changed)

Seasonal inactivated (shot) to H1N1 inactivated (shot):	No wait
Seasonal inactivated (shot) to H1N1 LAIV (nasal spray):	No wait
Seasonal LAIV (nasal spray) to H1N1 inactivated (shot):	No wait
Seasonal LAIV (nasal spray) to H1N1 LAIV (nasal spray):	four weeks

Should I get vaccinated against 2009 H1N1 if I have had flu-like illness since the Spring of 2009?

The symptoms of influenza (flu-like illnesses) are similar to those caused by many other viruses. Even when influenza viruses are causing large numbers of people to get sick, other viruses are also causing illnesses. Specific testing, called "RT-PCR test," is needed in order to tell if an illness is caused by a specific influenza strain or by some other virus. This test is different from rapid flu tests that doctors can do in their offices. Since most people with flu-like illnesses will not be tested with RT-PCR this season, the majority will not know whether they have been infected with 2009 H1N1 flu or a different virus.

Therefore, if you were ill but do not know if you had 2009 H1N1 infection, you should get vaccinated, if your doctor recommends it. So, most people recommended for 2009 H1N1 vaccination should be vaccinated with the 2009 H1N1 vaccine regardless of whether they had a flu-like illness earlier in the year. If you have had 2009 H1N1 flu, as confirmed by an RT-PCR test, you should have some immunity against 2009 H1N1 flu and can choose not to get the 2009 H1N1 vaccine. However, vaccination of a person with some existing immunity to the 2009 H1N1 virus will not be harmful. For more information on flu tests, see [Influenza Diagnostic Testing During the 2009-2010 Flu Season](#).

Any immunity from 2009 H1N1 influenza infection or vaccination will not provide protection against seasonal influenza. All people who want protection from seasonal flu should still get their seasonal influenza vaccine.

Why does CDC advise pregnant women to receive the 2009 H1N1 influenza (flu) vaccine (shot)?

Getting the flu shot is the single best way to protect against the flu. It is important for a pregnant woman to receive both the 2009 H1N1 flu shot and the seasonal flu shot. A pregnant woman who gets any type of flu has a greater chance for serious health problems. Compared with people in general who get 2009 H1N1 flu (formerly called "swine flu"), pregnant women with 2009 H1N1 flu are more likely to be admitted to hospitals. Pregnant women are also more likely to have serious illness and death from 2009 H1N1 flu.

When a pregnant woman gets a flu shot, it can protect both her and her baby. Research has found that pregnant women who had a flu shot get sick less often with the flu than do pregnant women who did not get a flu shot. Babies born to mothers who had a flu shot in pregnancy also get sick with flu less often than do babies whose mothers did not get a flu shot.

http://www.cdc.gov/H1N1flu/vaccination/pregnant_qa.htm

How is 2009 H1N1 Influenza A different from seasonal influenza?

2009 H1N1 influenza A virus is the result of an antigenic shift. The CDC tells us that Influenza viruses can change in two different ways.

One is called "antigenic drift." These are small changes in the virus that happen continually over time. Antigenic drift produces new virus strains that may not be recognized by the body's immune system. This process works as follows: a person infected with a particular flu virus strain develops antibody against that virus. As newer virus strains appear, the antibodies against the older strains no longer recognize the "newer" virus, and reinfection can occur. This is one of the main reasons why people can get the flu more than one time. In most years, one or two of the three virus strains in the influenza vaccine are updated to keep up with the changes in the circulating flu viruses. So, people who want to be protected from flu need to get a flu shot every year.

The other type of change is called "antigenic shift." Antigenic shift is an abrupt, major change in the influenza A viruses, resulting in new hemagglutinin and/or new hemagglutinin and neuraminidase proteins in influenza viruses that infect humans. Shift results in a new influenza A subtype or a virus with a hemagglutinin or a hemagglutinin and neuraminidase combination that has emerged from an animal population that is so different from the same subtype in humans that most people do not have immunity to the new (e.g. novel) virus. Such a "shift" occurred in the spring of 2009, when a new H1N1 virus with a new combination of genes emerged to infect people and quickly spread, causing a pandemic. When shift happens, most people have little or no protection against the new virus. While influenza viruses are changing by antigenic drift all the time, antigenic shift happens only occasionally. Type A viruses undergo both kinds of changes; influenza type B viruses change only by the more gradual process of antigenic drift.

<http://www.cdc.gov/flu/about/viruses/change.html>

How severe is illness associated with 2009 H1N1 flu virus?

Illness with 2009 H1N1 virus has ranged from mild to severe. While most people

who have been sick have recovered without needing medical treatment, hospitalizations and deaths from infection with this virus have occurred.

In seasonal flu, certain people are at “high risk” of serious complications. This includes people 65 years and older, children younger than five years old, pregnant women, and people of any age with certain chronic medical conditions. About 70 percent of people who have been hospitalized with this 2009 H1N1 virus have had one or more medical conditions previously recognized as placing people at “high risk” of serious seasonal flu-related complications. This includes pregnancy, diabetes, heart disease, asthma and kidney disease.

Young children are also at high risk of serious complications from 2009 H1N1, just as they are from seasonal flu. And while people 65 and older are the least likely to be infected with 2009 H1N1 flu, if they get sick, they are also at “high risk” of developing serious complications from their illness. See [People at High Risk of Developing Flu-Related Complications](http://www.cdc.gov/h1n1flu/highrisk.htm) (<http://www.cdc.gov/h1n1flu/highrisk.htm>) for more information about who is more likely to get flu complications that result in being hospitalized and occasionally result in death.

CDC laboratory studies have shown that no children and very few adults younger than 60 years old have existing antibody to 2009 H1N1 flu virus; however, about one-third of adults older than 60 may have antibodies against this virus. It is unknown how much, if any, protection may be afforded against 2009 H1N1 flu by any existing antibody.

<http://www.cdc.gov/H1N1flu/qa.htm>

How does 2009 H1N1 flu compare to seasonal flu in terms of its severity and infection rates?

With seasonal flu, we know that seasons vary in terms of timing, duration and severity. Seasonal influenza can cause mild to severe illness, and at times can lead to death. Each year, in the United States, on average 36,000 people die from flu-related complications and more than 200,000 people are hospitalized from flu-related causes. Of those hospitalized, 20,000 are children younger than 5 years old. Over 90% of deaths and about 60 percent of hospitalization occur in people older than 65.

When the 2009 H1N1 outbreak was first detected in mid-April 2009, CDC began working with states to collect, compile and analyze information regarding the 2009 H1N1 flu outbreak, including the numbers of confirmed and probable cases and the ages of these people. The information analyzed by CDC supports the conclusion that 2009 H1N1 flu has caused greater disease burden in people younger than 25 years of age than older people. At this time, there are relatively fewer cases and deaths reported in people 65 years and older, which is unusual when compared with seasonal flu. However, pregnancy and other previously recognized high risk medical conditions from seasonal influenza appear to be

associated with increased risk of complications from this 2009 H1N1. These underlying conditions include asthma, diabetes, suppressed immune systems, heart disease, kidney disease, neurocognitive and neuromuscular disorders and pregnancy.

<http://www.cdc.gov/H1N1flu/qa.htm>