

H1N1-2009 Influenza Virus

Q & As

Please note these Q &As include information that can be targeted to both healthcare professionals and the public.

General Influenza Questions:

What is seasonal influenza (flu)?

Seasonal influenza (commonly known as “the flu”) is an acute respiratory illness caused by influenza A and B viruses and occurs in Canada every year, generally during late fall and the winter months. Influenza A viruses are the most common cause of annual influenza epidemics. Outbreaks of influenza B are generally more localized and in any year may be restricted to one region of the country.

What are the symptoms of influenza infection?

Influenza in general is an acute viral disease of the respiratory tract characterized by almost always: cough and fever. Common symptoms also include: fatigue, muscle aches, sore throat, headache, decreased appetite, runny nose. Uncommon symptoms may include: nausea, vomiting, and diarrhoea. In most patients, recovery occurs within 2 to 7 days.

What is the pandemic H1N1-2009 virus?

The pandemic H1N1-2009 virus (H1N1-2009) is a novel influenza virus causing illness in people. It is a triple reassortment virus, meaning that it contains genetic material from an avian influenza virus, two different swine viruses (a North American strain and a Eurasian strain) and a human influenza virus. It has never before circulated and is not related to previous or current human seasonal influenza viruses. People have no natural immunity to protect against this virus. The H1N1-2009 flu virus emerged in April 2009 and surveillance of its spread shows that it is affecting more young and healthy people than seasonal flu, which normally affects seniors and young children. People with underlying medical conditions and pregnant women may be at a greater risk for severe illness.

Is seasonal influenza different from the H1N1-2009 influenza?

The H1N1-2009 flu virus, causes respiratory infection that cannot be distinguished from seasonal flu that affects the nose, throat and lungs. Pandemic influenza A H1N1-2009 is a new strain of influenza A; most people have limited to no immune protection, whereas influenza A or B strains (as seen in the seasonal influenza) are often the same to previous years or have only minor variations. Many people may have some immune protection to seasonal influenza from exposure in previous years. Most people born before 1957 are less susceptible to the pH1N1 virus.

Is “bird flu” (H5N1) different from the H1N1-2009 influenza?

Yes, the “bird flu” (H5N1) is different from pandemic H1N1-2009 influenza. Avian influenza, or “bird flu”, is an influenza infection that normally infects birds and, less commonly, pigs. Avian influenza viruses are highly species-specific, but have, on rare occasions, infected humans. Rare instances of limited human-to-human transmission of H5N1 and other avian influenza viruses have occurred in association with outbreaks in poultry.

General Influenza Vaccine Questions:

If I had the seasonal influenza vaccine last year do I need to get the vaccine again this year?

Yes, because the seasonal influenza virus changes often, it is necessary to get a seasonal influenza immunization every year, for protection against the new virus strains that may be circulating that year. Adults need only one dose each year of the seasonal influenza vaccine to be protected against the virus.

What are the risks from the H1N1 vaccine?

Serious effects from the vaccine are very rare. Most people have no problems after receiving an influenza vaccine. Possible side effects are as follows:

1. Occasional redness, soreness and swelling where the needle was inserted which may last for 1 to 2 days.
2. Headache, fatigue, fever happens infrequently.
3. Allergic reactions like hives, wheezing, difficulty breathing or swelling of the face and mouth occurs very rarely. If these reactions develop, see a doctor immediately.
4. An illness called Guillain-Barré Syndrome (GBS), which causes muscle paralysis, occurred after the influenza vaccine used in 1976 and may occur very uncommonly after the seasonal influenza vaccine in some other influenza seasons.
5. In 2001, "Ocular-Respiratory Syndrome" (ORS) was reported after the seasonal influenza vaccine was administered. ORS began 24 hours after vaccination and was generally mild; symptoms included red eyes, cough, wheezing, and/or swelling of the face.

If you experience any of the above effects please contact your local physician or visit your local urgent care clinic or emergency department.

Be sure to keep your personal immunization record up-to-date when you receive the vaccine. Carry this record (influenza immunization card) with you should you become ill and see a doctor or attend a clinic or hospital so they will know that you have had the seasonal influenza vaccine, and one or two doses of the H1N1-2009 vaccine and the date the vaccine(s) was given.

Questions about the H1N1-2009 vaccine:

Will the new H1N1-2009 vaccines be safe?

Licensed vaccines, including influenza vaccines, are held to a very high standard of safety. All precautions will be taken to ensure safety of new pandemic vaccines and results from clinical trials, both completed and currently ongoing or soon to be initiated, will be taken into consideration by the regulatory authorities in their decision to license pandemic vaccines.

What are adjuvants? Are they safe?

Adjuvants are substances that are added to vaccines to help the body develop good protection/ immune response against pandemic H1N1 infection. Using an adjuvant means a smaller amount of the vaccine can be given with each injection. In early June, WHO held a consultation of experts which reviewed the safety of adjuvants. No significant safety concerns were identified in this consultation. Vaccine safety – including adjuvanted and non-adjuvanted vaccine - will be carefully monitored through post-marketing surveillance.

How well does the H1N1-2009 vaccine protect against pandemic influenza?

Based on early studies, Arepanrix™ is expected to be a very effective vaccine to prevent H1N1 infection.

How many doses of the H1N1-2009 vaccine will I need?

- Immunization is not permitted in children age 0-6 months
- Children between 6 months and up to 10 years of age require 2 half doses of adjuvanted vaccine. The Interval between doses should be a minimum of 21 days
- Children age 10 years and older and adults (including those over 65 years of age) need only 1 dose of Arepanrix™ H1N1 vaccine
- Pregnant women: 1 dose unadjuvanted*

**In the case where unadjuvanted vaccine is not available, and rates of pH1N1 are high or increasing in a local community in Ontario, women in the second half of their pregnancy (20+ weeks) should be offered adjuvanted vaccine.*

Additional Information for Healthcare Professionals providing vaccine:

Recommended influenza vaccine dosage, by age, for Fall 2009/Winter 2010 Season

Age	Dosage (mL)	Number of doses required
6-months to 9 years*	0.25	2
10 years and above**	0.5	1
Pregnant women***	0.5	1

* The adjuvanted formulation is recommended for this age group due to the potential for enhanced immunogenicity (see IMMUNOGENICITY AND EFFICACY section). Unadjuvanted vaccine may be used in children under age 3, but it may result in poorer immunogenicity after a single dose. For either formulation, the interval between doses should be a minimum of 21 days.

** The adjuvanted vaccine is recommended for this age group. Based on the results of clinical trials to date, a single dose of vaccine may be sufficient. Clinical trials are ongoing and this recommendation will be reviewed as additional data become available.

*** Unadjuvanted vaccine is considered the preferred option for pregnant women, given that there are extensive safety data on the use of unadjuvanted seasonal influenza vaccines in pregnant women

and there are currently no data on the safety of the adjuvanted vaccine in this group. This recommendation is made as a precaution for this population, given the potential for concern that pregnant women may have about receiving a newly developed vaccine during their pregnancy. Unadjuvanted vaccine may be administered at any stage of pregnancy. The WHO's Strategic Advisory Committee of Experts (SAGE) has recommended that, if unadjuvanted product is not available, pregnant women should be vaccinated with another pandemic vaccine, such as an adjuvanted formulation. Therefore, if unadjuvanted vaccine is not available and if H1N1 influenza activity is increasing or high in a particular region of Canada, pregnant women who are in the second half of pregnancy (e.g. above 20 weeks gestation) can be offered adjuvanted vaccine.

Do I have to go back to the same place to get my 2nd dose of H1N1-2009 vaccine?

No, you do not need to return to the same delivery location where you received your first dose of vaccine. You may go to any service delivery location identified by your local health unit to receive the second dose of H1N1-2009 vaccine. Make sure that you bring your/your child's influenza immunization card with you for each visit.

Will this year's seasonal influenza vaccine also protect against the H1N1-2009 virus?

No, having been immunized with this year's seasonal influenza vaccine will not provide protection against the H1N1-2009 virus, but it will provide protection against circulating seasonal influenza viruses.

Do I have to pay for the H1N1-2009 vaccine?

No. The pandemic influenza A H1N1-2009 vaccine is available free of charge to individuals who live, work and attend school in Ontario and Canada.

Who should get the H1N1-2009 vaccine?

It is recommended that all Canadians \geq 6 months of age should receive the H1N1-2009 vaccine unless medically contraindicated.

Who should not have the H1N1-2009 vaccine?

The following persons should **not** get the H1N1 -2009 influenza vaccine:

- Infants under six months of age (the current vaccine is not recommended for this age group).
- Anyone with a serious allergy (anaphylaxis) to eggs or egg products. A serious allergic reaction usually means that the person develops hives, swelling of the mouth and throat or has trouble breathing, a sudden drop in blood pressure, or shock after eating eggs or egg products.
- Anyone who has a severe allergy to any component of the vaccine. Your health care provider can tell you which components are in the specific vaccine. Some vaccines contain small quantities of antibiotics or preservatives.
- Anyone who had a serious allergic reaction to a previous dose of the influenza vaccine.
- Avoiding subsequent influenza vaccination of persons known to have had Guillain Barre Syndrome (GBS) within 8 weeks of a previous influenza vaccination appears prudent at this time.

Is there any concern for people who have fish allergies receiving the H1N1-2009 adjuvanted vaccine?

This matter was extensively reviewed with the vaccine regulating body and the vaccine manufacturer and there are no concerns. Persons with fish allergies **can** receive the adjuvanted vaccine. Squalene is naturally present in the human body. The Shark-derived squalene that is used in the production the adjuvant is highly purified. The purification process involves three successive distillation steps at more than 120 C°. This means that any protein present that would cause an allergic response is eliminated by the purification process.

Can the seasonal influenza vaccine and the H1N1-2009 vaccine be given at the same time? Can the H1N1 vaccine be given at the same time as other vaccines?

The H1N1-2009 vaccine may be administered concurrently with seasonal influenza vaccine or other vaccines. If pH1N1 influenza vaccine is administered at the same time as both seasonal influenza and pneumococcal vaccines, the latter two should be given in the arm opposite that used for the pH1N1 influenza vaccine, due to the higher frequency of local reactions to the adjuvanted pH1N1 vaccine.

Can I get the H1N1-2009 vaccine if I have already had the seasonal influenza vaccine?

Yes, you may receive the H1N1-2009 vaccine after the seasonal influenza vaccine. If not given concurrently, there is no minimum interval required between the two influenza vaccines. If you got the H1N1-2009 vaccine first, you may receive the seasonal vaccine after. The seasonal influenza vaccine will protect only against the seasonal influenza virus. To be protected from the H1N1-2009 virus you must be immunized with the H1N1-2009 vaccine.

Which groups will be recommended to receive the H1N1-2009 vaccine first?

The federal government has ordered enough H1N1-2009 vaccine for every Canadian that needs and wants to be immunized. The basic approach is to ensure those that need the H1N1-2009 vaccine the most get the vaccine first. Groups chosen to receive H1N1-2009 vaccine in the first sequence (those who would benefit most from immunization and/or those who care for them) include:

- People under 65 with chronic conditions
- Pregnant women
- Healthy children 6 months up to 5 years of age
- Persons residing in remote and isolated settings or communities
- Health care workers involved in pandemic response or the delivery of essential health care services
- Household contacts and care providers of persons at high risk who cannot be immunized or may not respond to vaccines
- Populations otherwise identified at high risk (including those identified by Provinces and Territories)

Others who would benefit from immunization include:

- Healthy children 5 to 18 years of age
- First responders (police, firefighters)
- Swine and poultry workers
- Healthy Adults between 19 and up to 64 years of age (this age group is at increased risk for severe H1N1 disease)

Where can I get the H1N1-2009 vaccine?

Contact you local public health unit for service delivery locations for H1N1-2009 vaccine or with your healthcare provider.

Will vaccination against the H1N1-2009 virus be mandatory?

No, vaccination against the H1N1-2009 virus is not mandatory. It is voluntary just like the seasonal influenza vaccination program.

If I have received the H1N1-2009 vaccine, can I donate blood?

Yes. It is recommended that after influenza immunization with the H1N1-2009 vaccine, wait at least 2 days before giving blood. Each vaccine has a recommended time interval between vaccination and donation of blood. Please consult your local blood services for specifics.

If I have recently donated blood, can I receive the H1N1-2009 vaccine?

Yes. Please consult your local blood services for specifics regarding time between donation of blood, and receiving the H1N1-2009 vaccine.

If I have been diagnosed with the H1N1-2009 virus do I have immunity and will I still need a vaccine?

When a person is infected with the H1N1 virus, they develop antibodies that provide them with immunity to that particular virus. In the case of H1N1 infection, only persons with laboratory confirmed H1N1 infection should not receive the vaccine. People who may have been informed they likely have infection with H1N1 virus which was not laboratory confirmation should receive the vaccine.

Should I get vaccinated against H1N1-2009 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 respiratory viruses. Even when influenza viruses are causing large numbers of people to get sick, other viruses are also causing illnesses. Specific lab testing is needed in order to tell if an illness is caused by a specific influenza strain or by some other virus. Since most people with flu-like illnesses will not be tested this season, the majority will not know whether they have been infected with H1N1-2009 flu or a different respiratory virus. Therefore, if you were ill in 2009 you should get vaccinated, if your doctor recommends it. So, most people should be vaccinated with the H1N1-2009 vaccine regardless of whether they had a flu-like illness earlier in the year.

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

Do those that have been previously vaccinated against the 1976 swine influenza need to get vaccinated against the H1N1-2009 vaccine?

The 1976 swine flu virus and the H1N1-2009 virus are different enough that it's unlikely a person vaccinated in 1976 will have full protection from the H1N1-2009. People vaccinated in 1976 should still be given the H1N1-2009 vaccine.

Questions re: Vaccine Format

Why has Canada ordered a vaccine with an adjuvant for the general population, rather than one that does not have an adjuvant?

The WHO has recommended that countries use dose-sparing vaccines whenever possible. By developing an adjuvanted vaccine, we use less of the virus material (antigen), allowing us to immunize more people in a timely manner. The addition of the adjuvant substance helps the body develop good protection (also known as an immune response) against the pandemic H1N1 infection.

How many components are in the adjuvanted H1N1-2009 vaccine?

- In Canada, the adjuvanted H1N1-2009 influenza vaccine includes two-components consisting of: one multi-dose vial containing the antigen suspension: a monovalent, inactivated, split virion, Influenza A H1N1-2009 influenza virus antigen. The suspension is a colourless light opalescent liquid.
- A second vial containing the adjuvant emulsion (ASO₃). The emulsion is a whitish homogenous liquid, resembling milk.

What is an adjuvant?

An adjuvant is a substance added to a vaccine to help boost the immune response and increase protection. Adjuvants make it possible to reduce the amount of antigen per dose or the total number of doses needed to achieve immunity.

What type of adjuvant is used in the H1N1-2009 vaccine?

The adjuvant ASO₃ is a trade name for a squalene-based immunologic substance used in pandemic influenza A H1N1-2009 vaccine and other various vaccine products by GlaxoSmithKline (GSK).

What is squalene?

Squalene is a naturally occurring substance found in plants, animals, and humans. It is manufactured in the liver of every human body and circulates in our bloodstream. Squalene is commercially extracted from fish oil, and in particular shark liver oil. Squalene used in pharmaceutical products and vaccines is purified from this source.

What is known about the safety of squalene in vaccines?

Twenty two million doses of Chiron's influenza vaccine (FLUAD) have been administered safely since 1997. This vaccine contains about 10mg of squalene per dose. No severe adverse events have been associated with the vaccine. Some mild local reactions (redness, swelling, pain) have been observed and disappeared in 24 to 48 hours. Clinical studies on squalene-containing vaccines have been done in infants and neonates without evidence of safety concerns.

As stated in the Product Information Leaflet, shark-derived squalene is highly purified. The purification process involves three successive distillation steps at more than 120 C°. This means that any protein present would have been eliminated in the process. Individuals allergic to fish would be allergic to a protein and not to any oil from the fish. Furthermore, squalene itself is naturally present in the human body.

Why is ASO3-adjuvant included in GSK's pandemic 2009 H1N1 vaccine?

Available clinical data have shown that an oil-in-water adjuvanted vaccine can help mount a robust response against possible pandemic viruses such as the H5N1 and H1N1 influenza viruses. For this reason, GSK has chosen an adjuvant formulation because a smaller amount of antigen is needed for each dose of vaccine produced (dose sparing) as its preferred option for its pandemic influenza vaccines. Canada supported the WHO recommendation to use adjuvanted influenza vaccine to protect Canadians.

Which countries are currently using vaccine with AS0₃ adjuvant?

GSK's AS0₃ adjuvanted H5N1 pre-pandemic influenza vaccine is approved in all 27 European states, Malaysia and Hong Kong. This vaccine was developed for stockpiling by governments in advance of avian influenza and currently GSK is not aware of clinical use of this vaccine in these regions.

Will there be a non-adjuvanted vaccine available?

Yes. GSK is developing an adjuvanted H1N1 vaccine as recommended by the WHO. The Public Health Agency of Canada has ordered a small quantity of unadjuvanted vaccine which will be available in Ontario early in November.

Does the vaccine contain the preservative, thimerosal?

Yes. After mixing the contents of the AS03 adjuvant emulsion with the virus antigen suspension, each 0.5mL dose of the vaccine contains thimerosal, a mercury derivative (5µg per dose), as preservative. In line with WHO's guidelines, a preservative is necessary in multi-dose vials and thimerosal remains the most effective preservative.

Will a single dose, thimerosal free format be available?

No. there will not be a thimerosal free H1N1 -2009 vaccine.

Is there latex in the stoppers of the vials?

The stopper is made of butyl rubber, and is latex free.

Is there anything available for those with severe hypersensitivity to eggs?

No, there is no H1N1-2009 vaccine currently available for those with a severe hypersensitivity to eggs. Because the vaccine is manufactured in eggs, people with a documented severe hypersensitivity to eggs should not be vaccinated with the H1N1-2009 vaccine. If they developed swelling of the mouth or throat, hives, or trouble breathing after a previous influenza vaccination they should consult with their healthcare provider.

Is the vaccine inactivated?

Yes, it is made from "killed" viruses.

Is the product light sensitive?

Yes, it is recommended that the H1N1-2009 vaccine be protected from light until ready to administer.

Questions re: Influenza Antivirals:

Are there drugs that can treat pandemic influenza A H1N1-2009 virus?

Yes. The use of Oseltamivir (Tamiflu) or zanamivir (Relenza) can be used for the treatment and/or prevention of infection with pandemic influenza A H1N1-2009 virus. Influenza antiviral drugs are prescription medicines (pills, liquid or an inhaled powder) that fight against the influenza by keeping influenza viruses from reproducing in your body. If you get sick, antiviral drugs can make your illness milder, and make you feel better faster. They may also prevent serious influenza complications. During the current pandemic, the priority use for influenza antiviral drugs is to treat severe influenza illness (for example hospitalized patients) and people who are sick who have a condition that places them at high risk for serious influenza-related complications. Influenza antivirals work best when they are given within 48 hours of the onset of symptoms.

What are the Public Health Agency of Canada (PHAC)'s recommendations for the use of antivirals?

PHAC's recommendation is that antivirals be used to treat pandemic H1N1-2009 influenza infection when the illness is moderate to severe and the patient is at a high risk for complications. PHAC is not recommending that antivirals be given for a mild disease or as a preventive basis at this time. The reasons for this are:

We do not have sufficient information to suggest that this influenza virus requires the use of antivirals for everyone with influenza symptoms. Most people who have symptoms of influenza in Canada are recovering well on their own. There is a risk that the virus could become resistant to antivirals if they are used to treat mild illness or to prevent illness. There are limited amounts of antivirals in the provincial stockpile; we want to be sure that the people who need it most are able to get it.

What is the difference between an influenza antiviral and a vaccine?

Antivirals are drugs used for the prevention and early treatment of influenza. If taken shortly after getting sick (within 48 hours), they can reduce influenza symptoms, shorten the length of illness and may reduce serious complications from influenza infection.

Antivirals work by reducing the ability of the virus to reproduce but do not provide immunity against the virus. The H1N1-2009 Flu Virus can be treated with two different antivirals, oseltamivir (Tamiflu) and zanamivir (Relenza).

A vaccine is any preparation intended to produce immunity to a disease by stimulating the production of antibodies. Vaccines are the best way to prevent illness and death from influenza. They stimulate the production of antibodies against the flu virus components included in the vaccine, providing immunity against the virus.

In order to provide the best protection, a vaccine must be tailored to fight off specific strains of influenza.

Can I get the vaccine if I am taking the antivirals?

You should speak with your primary care provider before receiving the H1N1-2009 vaccine while taking antivirals.

Could the H1N1-2009 virus become resistant to oseltamivir and zanamivir?

Yes, resistance can develop to antiviral drugs used for influenza. Therefore Canada and its global partners, including WHO, are monitoring antiviral drug resistance. The H1N1-2009 Flu Virus is already resistant to Amantadine, another type of influenza antiviral. That is why we have to be careful not to overuse these drugs.

Should I take an antiviral now just in case I catch the new virus?

No. You should only take an antiviral, such as oseltamivir or zanamivir, if your health care provider advises you to do so. Individuals should not buy medicines to prevent pandemic influenza A H1N1-2009 virus without a prescription, and they should be careful about buying antivirals over the internet.

Questions re: Pregnant Women

Should pregnant women take special precautions to protect themselves, such as avoiding crowds?

It's important that people continue their daily lives during the pandemic. It is not recommend that pregnant women avoid going to work, or community social events if they are healthy. In other crowded situations that cannot be avoided, all people including pregnant women should take precautions such as frequent hand hygiene, to avoid picking up the virus. Pregnant women might consider carrying hand sanitizer for the same purpose.

What type of vaccine (adjuvanted or non-adjuvanted) is recommended for pregnant women?

All pregnant women with pre-existing health conditions and healthy pregnant women in the second half of their pregnancy (more than 20 weeks gestation) should speak to their health care provider about receiving the adjuvanted vaccine. Healthy pregnant women in the first half of their pregnancy are at less risk of complications from the flu, and can wait to receive the unadjuvanted vaccine, when it is available.

Does an adjuvanted vaccine pose a risk to pregnant women?

All evidence suggests that adjuvanted vaccines are just as safe as unadjuvanted vaccines; however there is no safety data for the use of adjuvanted vaccine in pregnant women. The WHO's Strategic Advisory Group of Experts (SAGE) recommended in July that pregnant women should receive non-adjuvanted vaccine where possible, but that an adjuvanted vaccine could be used if necessary in situations when local pandemic influenza activity is increasing.

What is the Ministry of Health and Long Term Care recommending to pregnant women at this time?

As H1N1 is spreading rapidly in Ontario, in Canada and elsewhere in North America, all pregnant women with pre-existing health conditions and healthy pregnant women in the second half of their pregnancy (more than 20 weeks gestation) should speak to their health care provider about receiving the adjuvanted vaccine. Healthy pregnant women in the first half of their pregnancy are at less risk of complications from the flu, and can wait to receive the unadjuvanted vaccine, when it is available.

As further information becomes available, and when unadjuvanted vaccine is approved for use in Canada, these recommendations will be updated.

Travel Questions:

Is it safe to travel?

Yes. WHO is not recommending travel restrictions related to the outbreak of the H1N1-2009 virus. Today, global travel is commonplace and large numbers of people move around the world for business and leisure. Limiting travel and imposing travel restrictions would have very little effect on stopping the virus from spreading, but would be highly disruptive to the global community.

The H1N1-2009 virus has already been confirmed in many parts of the world. The global response now focuses on minimizing the impact of the virus through the rapid identification of cases, and providing patients with appropriate medical care, rather than on stopping its spread internationally.

I am travelling to the Hajj in 2009. Do I need the H1N1-2009 vaccine?

Yes. It is a recommendation from the Public Health Agency of Canada, and a requirement of the Saudi Arabian government that all travellers to the Hajj provide documentation of **both** seasonal and H1N1-2009 vaccination, at least 2 weeks prior to entering the country. Please note that the dates for the Hajj pilgrimage in 2009 are November 25 – November 30, 2009.

How can I protect myself from H1N1-2009 when I am travelling?

People who are ill should delay travel plans. Returning travelers who become ill should contact their health care provider.

For further information on the pandemic influenza A H1N1-2009 vaccine contact your local public health unit or your health care provider.

References:

Apanrix™ H1N1 AS03-Adjuvanted H1N1 Pandemic Influenza Vaccine – Emulsion for Injection, Product Leaflet, GlaxoSmithKline Inc., Prepared 21 October 2009.

Guidance Document on the Use of Inactivated Pandemic Influenza A (H1N1) 2009 Monovalent Vaccine
CONFIDENTIAL DRAFT October 16, 2009, Pandemic Vaccine Task Group (PVTG).

The Ontario Ministry of Health and Long-Term Care

<http://www.health.gov.on.ca/en/ccom/flu/>

The Public Health Agency of Canada

http://www.phac-aspc.gc.ca/alert-alerte/h1n1/faq_rg_h1n1-eng.php

<http://www.phac-aspc.gc.ca/tmp-pmv/2009/hadj-pilgrim090925-eng.php>

The World Health Organization

http://www.who.int/csr/disease/swineflu/frequently_asked_questions/swineflu_faq_antivirals/en/index.html

The US Center for Disease Control

http://www.cdc.gov/h1n1flu/vaccination/public/vaccination_qa_pub.htm

<http://www.cdc.gov/h1n1flu/qa.htm>

The United States Government

<http://www.flu.gov/news/blogs/vaccinevoluntary.html>