

## **Influenza Control Program**

### **Frequently Asked Questions**

#### **Influenza Vaccine**

Influenza – or the flu – can be a serious contagious disease, which is spread by droplet transmission through close contact with an infected person. Infected individuals are highly contagious and can transmit the virus for 24 hours before they show any symptoms.

Each year, there are approximately 3,500 deaths from influenza and its complications across Canada. Influenza causes by far the most deaths among vaccine-preventable diseases, outpacing all others combined. Hospitalized patients and seniors in residential care are more vulnerable to influenza than healthy adults. The vaccine is also less effective in the elderly and those with compromised immune systems, making it even more important that their caregivers are vaccinated.

Infected health care providers can pass the virus on to their patients before they even know they are sick. The most effective way to prevent the flu is by getting vaccinated and adopting additional preventative measures, such as proper hand hygiene and proper sneezing and coughing etiquette. Immunization helps physicians, health care providers and those who come into regular contact with patients reduce their risk of contracting influenza and spreading it to their patients.

To protect patients in our facilities, in 2012 British Columbia's health authorities adopted the Influenza Control Program Policy, requiring all employees, students, physicians, residents, contractors, vendors and volunteers to get immunized or to wear a mask during influenza season when in a patient care area. To further protect patients, the policy was expanded to include all visitors to our health care facilities.

#### **How do I comply with the Influenza Control Program Policy this year?**

All B.C. health care workers employed by a health authority and medical staff (i.e. physicians) are expected to report what they do to prevent flu – whether they have chosen to be vaccinated or wear a mask in patient care areas – by self-reporting using an online system by December 3, 2018.

Employees report here: <https://influenzareporting.org>

Medical staff (i.e. physicians) report here: <https://medicalstaffhealth.phsa.ca>

To self-report, you must know your health authority employer and employee ID number, your home postal code, phone number and email, and (if applicable) the date of your flu vaccination and who vaccinated you (e.g., flu clinic nurse, family physician, pharmacist, public health, peer nurse immunizer). If you are employed by more than one health

authority, you only need to report once using one health authority employee ID. The system will automatically notify your other employers.

By reporting your flu immunization, you are in compliance with the policy for the rest of the policy application period. If you report that you choose to decline vaccination, you will be required to wear a surgical/procedure mask in patient care areas for the duration of the policy application period to comply with the policy. If you decline vaccination and later decide to be vaccinated, you must self-report again to update your vaccination status. The end of the policy application period will be announced by the Provincial Health Officer, typically around the end of March.

### **What is a patient care area?**

A patient care area/location is defined as an area within a health care facility, including a contracted facility, hallway or lobby, which is accessible to patients, residents or clients who are there to access care or services.

It includes any other location where care is provided, such as home and community care locations (including a client's home). It does not include locations such as administrative areas or private offices which are not generally accessed by patients, residents or clients.

### **What is the influenza vaccine?**

The influenza or flu vaccine is a safe and effective way to help people stay healthy, prevent illness, and save lives. The influenza virus can cause serious illness and even death in people with certain chronic health conditions. The vaccine is the best protection against influenza illness and its complications.

Each year the vaccine is reformulated to match what the World Health Organization and an advisory group of experts believe will be the circulating strains that winter. Vaccines used in the health care worker program in B.C. use killed virus particles and cannot cause infection – you cannot get influenza from getting your flu shot.

The influenza vaccine protects against viruses that cause influenza. The vaccine does NOT protect against other viruses or bacteria that cause colds or gastrointestinal infections (sometimes called 'stomach flu'). Several different influenza vaccines are available in British Columbia. All of the vaccines are approved by Health Canada.

In B.C., the vaccine is usually available starting in early November. For your best protection and that of your patients and family, you should get the vaccine as soon as possible.

## **Can the influenza vaccine give me influenza?**

The influenza vaccine (flu shot) given by needle cannot give you influenza. The vaccine contains only part of the influenza viruses and cannot cause infection.

Common reactions to the flu shot may include soreness, redness and swelling where the vaccine was given. Occasionally, other symptoms can include fever, headache and aching muscles that may last one to two days.

There is also a “live” influenza vaccine, which is given as a nasal spray and contains weakened influenza virus particles. This vaccine does have the potential to cause mild symptoms, such as runny nose, sore throat and fever. As a precaution, some people (such as those with severe asthma or weakened immune systems) should not get this live vaccine.

In addition, health care providers who work with severely immunocompromised patients who are hospitalized in isolation (e.g., bone marrow transplant unit) need to wait two weeks after receiving the live vaccine before returning to work with these patients. While this vaccine is very effective for children, especially young children, it is not as effective as the injectable flu shot for adults. For these reasons, this vaccine is NOT offered as part of the health care provider influenza immunization program.

## **Is the vaccine expected to be a good match this year?**

We cannot predict which strains will circulate in B.C. this year and although we have had some early H3N2 activity, it may change as the season progresses; historically we have not had two seasons with the same strain predominating. Because the vaccine did not work as well last season there may be a higher level of immunity to the H3N2 strain this year. In addition, the vaccine contains protection against H1N1 and a B strain, which we are likely to also see circulating this year.

While we know that influenza vaccines do not provide 100% protection, overall they remain the best way of preventing influenza and an important control measure in conjunction with regular hand cleaning and respiratory hygiene. In addition, if you do still get the flu after receiving the vaccine, studies have shown the severity and duration of your illness will likely be less than if you had not been vaccinated.

While scientists and researchers continue to search for a better influenza vaccine, it is recommended that health care workers take advantage of the influenza vaccination available this year.

### **If there is a vaccine mismatch why don't all health care workers have to wear a mask in patient care areas?**

Wearing a mask, in conjunction with hand and respiratory hygiene, reduces the risk of influenza transmission. However, masking is still secondary to vaccination in terms of preventing the transmission of influenza. Although one of the vaccine strains in last year's vaccine did not protect as well for the circulating H3N2 virus, the two other vaccine strains provided good protection against influenza viruses for immunized staff.

During a season with pronounced vaccine mismatch, health care workers who have been vaccinated may voluntarily wear a mask to further reduce the risk of transmission. However, the policy will not be amended to require vaccinated staff to wear masks. In addition, influenza seasons with pronounced vaccine mismatch are, fortunately, uncommon.

As in any season, to protect patients from influenza transmission during a season with pronounced vaccine mismatch, both vaccinated and unvaccinated staff members should consistently practice hand and respiratory hygiene and stay at home if they are experiencing influenza-like illness until symptom resolution.

### **If I get the flu vaccine every year, will it continue to protect me?**

Recent studies have provided important new insights into the factors influencing vaccine protection. Overall, these studies have shown that people who receive the flu shot are better protected against seasonal influenza than those who are not vaccinated.

Among those who are vaccinated each year, the amount of protection may be reduced over time; however, the reasons for this require better understanding. None of the effectiveness studies to date have shown that receiving influenza vaccine increases the risk of serious influenza illness.

Since these studies show that vaccinated people are better off than unvaccinated people, people are recommended to continue getting their annual influenza vaccine.

### **What if I am pregnant or breastfeeding? Is it safe for me to be immunized?**

Yes. Influenza can have serious consequences for pregnant women and their unborn children, and vaccination is the best protection.

Influenza immunization is recommended for pregnant women – for your own health and to provide your baby with immunity in their first six months of life, when they are most at risk of serious disease. The National Advisory Committee on Immunization recommends the flu vaccine be given to all pregnant women.

The vaccines used for this program in British Columbia do not contain live virus. They cannot give you the flu and are very safe in pregnancy.

### **I have a latex allergy – can I get the flu vaccine?**

Yes, the stopper on the vaccine vials is butyl rubber which is latex-free. All products used to administer the vaccines are latex-free.

### **What if I have an egg allergy?**

Numerous studies have shown now that egg-allergic persons can safely receive the injectable influenza vaccine without the need for skin testing or other measures, even if they have had a severe reaction to egg in the past. You should be monitored for 30 minutes after receiving the shot.

### **What are the possible reactions after the vaccine?**

Common reactions to the influenza vaccine or flu shot include soreness, redness and swelling where the vaccine was given. Other symptoms can include fever, headache, aching muscles and fatigue that may last one to two days. More serious reactions, such as anaphylaxis, are very rare. Vaccine providers are trained and prepared to watch out for and respond to all potential reactions.

The influenza vaccine given by needle cannot give you influenza. The vaccines available in the health care worker program contain only part of the influenza viruses and cannot cause infection.

Acetaminophen or Tylenol® can be taken for fever or soreness. ASA or Aspirin® should NOT be taken by anyone under 20 years of age due to the risk of Reye Syndrome.

### **Should I be concerned about the risk of Guillain-Barré Syndrome following a flu shot?**

Guillain-Barré Syndrome (GBS) is a rare neurological disorder. GBS is a form of paralysis (usually temporary) and can occur after some common infections – including influenza. GBS may be associated with influenza vaccine in about one per million recipients. GBS has been found to be 17-70 times more common following an influenza infection than it is following a flu shot.

### **Why does the healthcare worker vaccination program only offer trivalent vaccines?**

For the 2018/19 influenza season In British Columbia, trivalent vaccines (i.e. vaccines with three inactivated virus strains) are publicly funded for the adult population, whereas children (6 months to 17 years of age) are preferentially offered publicly funded quadrivalent vaccines (i.e. with four inactivated or weakened virus strains). Trivalent vaccines contain two influenza A strains and one influenza B strain. Quadrivalent vaccines contain an additional influenza B strain. There are three main reasons that quadrivalent vaccines are not available this season for healthcare workers and other adults:

- The burden of influenza B infection is highest in people less than 20 years of age, therefore extra protection from influenza B is justified for children.
- The vast majority of influenza vaccine produced by Canadian manufacturers continues to be trivalent vaccine. Two of the main vaccines used in BC's publicly funded program for adults (Agriflu® and Fluviral®) are not available in quadrivalent formulation at this time.
- Providing quadrivalent vaccine to all age groups will be more costly for our healthcare system. There is not sufficient evidence to suggest that the benefits of routinely providing quadrivalent vaccine to all adults will outweigh the costs.

### **Why are preservatives sometimes used in vaccines?**

Preservatives have been used in vaccines for more than 70 years and are added to prevent the growth of bacteria or fungi that could possibly make the vaccine in multi-dose vials unsafe.

This may occur when a syringe needle enters a vial as a vaccine is being prepared for administration. Contamination by germs in a vaccine could cause serious infections.

Preservatives are generally not used in single-dose vaccine vials.

### **What is thimerosal?**

Thimerosal is a mercury-based preservative that has been used for decades in multi-dose vials (vials containing more than one dose) of some vaccines to prevent the growth of germs, bacteria and fungi.

The amount of mercury in vaccines is very small, less than one tenth of the mercury in a tin of albacore tuna, available in grocery stores.

### **Do the available flu vaccines in this program contain mercury (thimerosal)?**

Seasonal influenza vaccine is produced in large quantities for annual immunization campaigns, and some of the vaccine is produced in multi-dose vials, which contains

small amounts of thimerosal to safeguard against possible contamination of the vial once it is opened.

The single-dose units are made without thimerosal as a preservative because they are opened and used only once.

### **Is thimerosal in vaccines safe?**

There is a large body of scientific evidence on the safety of thimerosal. Data from multiple studies show the low doses of thimerosal found in vaccines do not cause harm, and are only associated with minor local injection site reactions like redness and swelling.

The medical community supports the use of thimerosal in influenza vaccines to protect against potential bacterial contamination of multi-dose vials.

### **Is thimerosal in vaccines linked to autism?**

No. The best available science to date has shown that there is no link between vaccines containing thimerosal and autism or other behavioural disorders.

The National Advisory Committee on Immunization has reviewed the safety of thimerosal and concluded that the alleged adverse health effect from thimerosal in vaccines has never been substantiated. International bodies, such as the World Health Organization, the U.S. Food and Drug Administration and the Institute of Medicine in the U.S. share this opinion.

Public health agencies are committed to ensuring the safety of vaccines. This is achieved by oversight of rigorous trials before a vaccine is ever licensed for use, as well as continuous monitoring after licensing.

### **Who should not get the influenza vaccine?**

Speak with a public health provider if you:

- Have had a life-threatening reaction to a previous dose of influenza vaccine, or any component of the vaccine.
- Have had severe oculo-respiratory syndrome after a previous flu shot.
- Have developed Guillain-Barré Syndrome within eight weeks of getting any influenza vaccine.

We know that you are committed to protecting your patients, and thank you for your dedication to their safe care and well-being.

## **What is the evidence to support the Influenza Control Program Policy?**

Strong evidence suggests that when the vaccine match is good – as it is most years – immunizing health care workers results in lower mortality and illness rates in the patients they care for. Four large, randomized trials conducted in Europe between 1997 and 2009 demonstrated health care worker immunization in chronic care hospitals and long-term care homes reduced mortality in residents by 20-40% during the flu season. A summary editorial in the academic journal, *The Lancet*, supported the results.

These results have been questioned, notably by the Cochrane Collaborative, Respiratory Disease Group. Subsequent re-analysis of the same data used in the Cochrane review led another group to publish in the peer-reviewed journal *Clinical Infectious Diseases* (2014) that contrary to the Cochrane conclusion, influenza vaccination is likely to reduce illness and deaths among patients and reduce illness among health care workers themselves – and the benefits of influenza vaccination for healthcare workers outweigh the possible harms.

For a discussion of the evidence from the BC Centre for Disease Control, please see: <https://hlth-sharepoint.gov.bc.ca/HSIMT/cmo/BPAM/WEB/Lists/webrequests/Attachments/9141/BCCDC%20Influenza%20Prevention%20policy%20evidence%202013.pdf>

While fewer studies have been carried out in acute care facilities, there is evidence that low health care worker influenza vaccination coverage is associated with higher risk for patients; and one study in the Netherlands showed that increased coverage benefited workers and patients. Given the whole body of evidence, we have no reason to doubt that immunizing health care workers in acute care facilities offers protection to their patients, as well as to the workers themselves. For example, a study from Fraser Health found that absenteeism in unvaccinated staff during the 2012/13 influenza season was two times higher compared to vaccinated staff.

The evidence is clear – vaccination of health care workers reduces their risk of getting the flu and spreading it. The alternative – wearing a mask – is nevertheless serves to prevent or significantly reduce the risk of influenza transmission for healthcare workers who cannot, or who choose not to, be vaccinated.

## **Do other Canadian provinces have an Influenza Control Program Policy for health care workers?**

Yes. B.C. was the first Canadian province to introduce the Influenza Control Program Policy in the 2012/13 influenza season for all health care workers at B.C. health authorities. Influenza immunization coverage for B.C. health care workers rose from below 50% to between 75% and 84% after the introduction of the policy. Now, similar policies are being implemented in New Brunswick, Saskatchewan and Alberta and in a number of healthcare facilities in Ontario.

**An arbitrator in Ontario ruled against a ‘Vaccinate or Mask’ health care worker policy at St. Michael’s Hospital in September 2018. Will this have any effect on B.C.’s policy?**

This arbitration is not binding in British Columbia and is specific to Ontario’s collective agreements and local hospital processes, which are different from B.C.’s.

In 2013, a similar arbitration took place in B.C., in which the arbitrator agreed that B.C.’s policy was a reasonable exercise of management’s rights to protect patients. The union’s grievance challenging the provincial flu policy was dismissed.

The decision in Ontario does not change the policy in British Columbia. Health authority employers continue to support the policy’s goal of protecting patients from influenza in British Columbia.

**Can I use a homeopathic ‘vaccine’ to prevent influenza instead of the flu shot?**

No, homeopathic ‘vaccines’ (i.e. nosodes) are not acceptable alternatives to vaccination under the Influenza Control Program Policy. Nosodes are not vaccines; they have not been proven to prevent infection and they are not supported by scientific evidence. The preparation involved in making them often dilutes and sterilizes the product to the point where no active ingredient remains.

Many public health experts, including those here in BC, have expressed their concerns to Health Canada that by regulating and approving these products they are giving Canadians the false assumption that they are protected from disease, potentially putting vulnerable children and adults at risk. Health Canada now requires nosode labels to state that the product is not a vaccine, nor an alternative to vaccination, and has not been proven to prevent infection.

The flu vaccine is safe and effective and offers the best protection against influenza illness and its complications.

**There was a paper (“*Influenza Vaccination of Healthcare Workers: Critical Analysis of the Evidence for Patient Benefit Underpinning Policies of Enforcement,*” de Serres, et al.) published with authors from the BCCDC that suggests the evidence supporting health care worker immunization is flawed. Will we be changing or eliminating the BC Influenza Prevention program policy after this research?**

This question is important, as all policies should be reviewed in light of new research. Therefore, public health experts in BC have reviewed the paper in detail. The review has concluded that the analysis does not change the weight of evidence for the benefit of health care worker immunization against influenza. Therefore, the policy remains unchanged because the rationale, evidence and ethical underpinnings of the policy have remained the same.

Below are some of the findings of our review:

- The randomized controlled trials are but a part of the evidence that was considered in developing the BC Policy. Similar policies exist or are being considered for implementation in several US states, New Brunswick, Nova Scotia, Ontario and Manitoba, based on evidence that included randomized control trials, observational studies, reviews from expert groups, as well as ethical, legal (including employer obligations) and practical reviews. While a single study can, rarely, fundamentally change our understanding of a disease or an intervention, this analysis does not.
- In the paper, mathematical equations and variables are used to examine the data produced from the trials and compare them to information predicted by those equations. These types of mathematical exercises can be helpful to understand what we are seeing in a trial, but they must be interpreted in the context of the limitations of their assumptions. For example, in the analysis, uncertainty due to random variation, to which all trial data are subject, was not fully explored. This makes the results substantially less informative.
- Mathematical models, which rely on multiple assumptions, are a lower quality of evidence than randomized trials and well-designed observational studies. Therefore, while they can contribute to our understanding, they do not invalidate randomized trials.

The conclusion that the scientific evidence is insufficient to support the health care worker influenza vaccination policy is not supported by the results of the paper. The authors do not question the ethical basis for requiring health care workers to fulfill their obligation to take basic precautions against preventable harms to patients. Nor do they quantify what would be a sufficient weight of evidence. Policy change should be made based on the impartial consideration of the entire body of evidence.

This paper does not alter that evidentiary base.