

Facility Influenza Immunization Policy

Questions and Answers For Health Care Facilities

A. THE POLICY

1. What is the most important measure to reduce the impact of influenza in a facility?

Yearly vaccination of residents and staff is the single most important measure you can undertake for reducing the impact of influenza. Immunization of staff is important because they can acquire and transmit influenza to co-workers and frail patients during the course of their work.

The Canadian National Advisory Committee on Immunization (NACI) states: “Health-care workers and their employers have a duty to actively promote, implement, and comply with influenza immunization recommendations in order to decrease the risk of infection and complications in the vulnerable populations for which they care.” [NACI, Statement on Influenza Vaccination for the 2010-2011 Season. CCDR Aug, 2010;36 (ACS-6).]

The NACI statement also advises that:

“NACI considers the provision of influenza vaccination for HCWs who have direct patient contact to be an essential component of the standard of care for the protection of their patients. HCWs who have direct patient contact should consider it their responsibility to provide the highest standard of care, which includes undergoing annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

In order to protect vulnerable patients during an outbreak, it is reasonable to exclude from direct patient contact HCWs who develop confirmed or presumed influenza and unvaccinated HCWs who are not receiving antiviral prophylaxis. Health care organizations should have policies in place to deal with this issue.”

2. What is the provincial policy for vaccination of staff of health care facilities?

All health care facilities (acute, long term, intermediate and extended care facilities) are required to have a written staff influenza immunization policy in place. This must include notice that non-immunized staff can be excluded in the event of an influenza outbreak in the facility.

3. Is immunization of health care staff now mandatory?

No, in BC, there are no mandatory immunizations and facilities cannot force staff to be vaccinated. However, if satisfactory influenza vaccination coverage is not achieved, additional measures may be considered.

This influenza immunization and exclusion policy clearly spells out the consequences for staff who choose not to be immunized. Exclusion of unimmunized health care facility staff during an influenza outbreak is a legitimate outbreak control measure enforceable by the local Medical Health Officer under the Public Health Act Communicable Disease Regulations.

Adult care regulations require employees to comply with the immunization program of the Ministry of Health Services. In addition, current collective agreements allow the employer to require immunization of their employees where there are legitimate medical reasons for such immunization. The medical reason for influenza immunization of health care staff is the protection of the high risk patients in their care.

4. What is the recommended approach for non-immunized staff in the event of an outbreak of influenza in the facility?

If an outbreak of influenza develops in a facility, non-immunized staff will not be allowed to work (see Exclusion Procedures, Section V). At the discretion of the Medical Health Officer and physician/nurse responsible for infection control within the facility, exclusion may apply to individual wards/units or to the entire facility.

Because it takes 14 days to develop protective antibodies after vaccination, staff who decide to get vaccinated once an outbreak is identified must wait 14 days before returning to work. Alternatively, unvaccinated staff can take anti-viral medication (neuraminidase inhibitors). Unvaccinated staff who take anti-viral medication may return to work if free of symptoms and they continue the antiviral medication until the outbreak is officially declared over (maximum duration of eight weeks if oseltamivir). If they have been vaccinated when the outbreak is identified, they must continue to take the antiviral medication for 14 days after vaccination or until the outbreak is declared over. The same recommendation applies to staff who were vaccinated less than 14 days before an outbreak is declared. These workers must be alert to the symptoms and signs of influenza, particularly within the first 48 hours after starting antiviral prophylaxis and should be excluded from the patient care environment if these develop. Careful assessment for ILI symptoms is also important in case the antiviral schedule for treatment rather than prophylaxis of influenza infection is warranted and in order to reduce the likelihood of resistance emerging due to suboptimal dosing in persons already infected.

Non-immunized staff who do not wish to take anti-viral medication may otherwise return to work when the outbreak is declared over by the local Medical Health Officer.

5. What is the anti-viral medication recommended for prophylaxis or treatment of influenza?

Anti-virals are medication (drugs) capable of preventing or treating viral infection. Two classes of drugs are licensed in Canada for the prevention and/or treatment of influenza virus: amantadine and the neuraminidase inhibitors (zanamivir and oseltamivir). For

both, treatment should be started within 48 hours of onset of symptoms to be most effective.

Amantadine is only effective against influenza A. However, during the 2005-2006 influenza season in Canada, more than 90% of all influenza A/H3N2 isolates were resistant to amantadine. During the 2006-07 season, 25-30% of A/H3N2 isolates were also resistant to amantadine. During the 2007-08 season, 99.5% of A/H3N2 isolates were amantadine-resistant. During the 2009-10 season, 100% of both A/H3N2 and pandemic A/H1N1 (pH1N1) isolates were amantadine-resistant. Although seasonal A/H1N1 viruses retained sensitivity to amantadine when they were last circulating, the pH1N1 virus has replaced seasonal A/H1N1 strains since it emerged in April 2009. As such, the detection of influenza A is currently unlikely to be seasonal A/H1N1. Until this profile changes and health authorities are officially notified, amantadine is no longer recommended for the treatment or prophylaxis of influenza.

The neuraminidase inhibitors are effective against both influenza A and B. Oseltamivir (trade name Tamiflu™) is taken orally; zanamivir (trade name Relenza™) is inhaled. Oseltamivir has been licensed in Canada for the post-exposure prevention of influenza A and B since December 2003. It is not licensed for seasonal (pre-exposure) prophylaxis, although it has been used off-label (outside the licensed indications) for this purpose. Zanamivir has also recently been approved for both seasonal (up to 28 days) and post-exposure prophylaxis.

The most common side effects of oseltamivir are nausea and vomiting. These usually occur within 1 to 2 days of starting the drug. Usual dose for prophylaxis is 75 mg once daily; for treatment it is 75 mg twice daily. Dose adjustments are recommended in patients with kidney disease and with serum creatinine clearance of 30 mL/min or less. The recommended dose of zanamivir is two inhalations (5mg per inhalation) once daily for prophylaxis and twice daily for treatment.

During the 2007-08 and 2008-09 season, oseltamivir resistance was identified among circulating seasonal A/H1N1 viruses worldwide including Canada. pH1N1 after its emergence in April 2009 has replaced seasonal A/H1N1. Testing of influenza isolates in Canada has indicated that most of the pH1N1 (99%) and all A/H3N2 and influenza B isolates were sensitive to oseltamivir among those tested September 1, 2009 through May 6, 2010. Antiviral resistance testing at the WHO Collaborating Center for Surveillance, Epidemiology and Control of Influenza at CDC on isolates collected during the period 13 Jun to 25 Sep 2010 showed that all pH1N1, A/H3N2 and influenza B isolates were sensitive to oseltamivir.

Recommendations described in this 2010-11 BC Facility Influenza Immunization Policy (dated October 18, 2010) will be updated based on evolving surveillance information during the season as appropriate. Health care providers using oseltamivir are advised to consult surveillance updates through public health and stay informed about influenza activity and resistance patterns during the 2010-2011 season. If oseltamivir resistance

is detected or suspected in a facility outbreak setting (for example, if an outbreak is not controlled despite adequate antiviral prophylaxis), or if resistance is reported to be widespread in the community, up-to-date advice of local and provincial health authorities should be followed regarding antiviral use.

6. Will exclusion orders be served to facility health care staff who are not immunized?

The protocol recommends that, following a recommendation from the Medical Health Officer, the facility exclude non-immunized staff from work during an outbreak of influenza, unless they take antiviral medication and/ or are immunized (see Exclusion Procedures Section V). Under some circumstances, where staff or facilities refuse to comply with recommendations, the local Medical Health Officer may enforce exclusion of non-immunized staff under the authority of the Public Health Act Communicable Disease Regulations. Such exclusion is a legitimate outbreak control measure.

7. Will hospitals also have a policy about staff immunization for influenza?

Hospitals or acute care facilities are also included in this policy. It is recognized that implementation within larger acute care settings may be difficult and approaches should be discussed with the Medical Health Officer or designate. Acute care facilities may experience significant logistical difficulties in identifying all staff who work, volunteer or train in these larger facilities. Also, outbreaks generally occur in long term care and the consequences of these outbreaks are especially serious for their frail, elderly residents. Priority should be given to those units within acute care that house frail or elderly persons.

B. ITS IMPORTANCE

8. Why is this policy necessary?

Influenza is a significant cause of hospitalization and death among the frail elderly and persons with chronic health problems, especially those in residential care where outbreaks are common. Vaccinating patients in facilities is not enough to prevent influenza outbreaks; outbreaks can occur even when 100% of residents are vaccinated because the vaccine may be only 30-40% effective in the elderly.

Because up to 25% of non-immunized adults may get influenza in any influenza season and because persons are infectious even before they get symptoms, staff can inadvertently introduce the virus into a facility. In one study, 59% of health care workers with documented influenza could not recall influenza symptoms and did not know they had been infected. Persons with mild or unrecognized influenza illness still shed virus and can spread it to others. Most health care workers continue to work even when they develop symptoms. In this way, staff may introduce influenza into facilities and spread it amongst patients and co-workers. When outbreaks occur in confined settings such as long term care (LTC) facilities, they spread very quickly and as many as 50% of residents can be affected. These residents are at highest risk of developing serious and sometimes fatal complications related to influenza.

Recent meta-analysis found vaccine protection against laboratory-confirmed influenza in young adults of 80% (95%CI 56-91%) when measured during certain seasons of match and 50% (95%CI 27-65%) during certain seasons of mismatch. The vaccine is also effective in reducing absenteeism and febrile respiratory illness among health care workers and other working adults. Influenza immunization reduces not only the duration and severity of illness, but also the amount of viral shedding. Because influenza vaccine is less effective in protecting older frail adults from infection, influenza immunization of health care workers is important to protect these vulnerable patients from influenza and its complications, including death. Several studies have now shown that immunizing health care workers protects patients from the serious outcomes of influenza. Immunizing both care providers and residents of care facilities reduces the risk of outbreaks and the disruption, illness and death these outbreaks cause.

9. Why not just educate staff about the importance of influenza immunization to improve coverage?

With increasing evidence in recent years of the importance of health care staff receiving influenza immunization, significant educational and promotional efforts have been undertaken by many regions and facilities and evaluation of additional options and approaches to encourage influenza immunization are ongoing. Expanded efforts to inform health care workers about the benefits of influenza vaccination and to address their concerns are being explored and evaluated. Education is an important tool in improving coverage, but it may not be enough on its own. Multi-faceted approaches are needed.

10. How effective is the vaccine?

Vaccine effectiveness varies from year-to-year with the degree of match between vaccine components and circulating strains and with the population and outcomes evaluated. Recent meta-analysis found vaccine protection against laboratory-confirmed influenza in young adults of 80% (95%CI 56-91%) when measured during certain seasons of match and 50% (95%CI 27-65%) during certain seasons of mismatch. Accordingly, some vaccinated people will still get influenza. The vaccine protects only against the 3 included strains of influenza virus. Many other viruses circulate during the winter months that may cause flu-like symptoms (although generally milder than true influenza) and the vaccine will not protect against these viruses. If a strain of influenza not contained in the vaccine circulates, the vaccine efficacy may be reduced but cross-protection is still anticipated depending upon how different the circulating strain is from the vaccine component.

11. Is there evidence to support the benefits of staff influenza immunization?

Yes. Influenza vaccination is effective in preventing infection by influenza A and B in health care staff and reduces staff absenteeism. Several studies, including three cluster randomized controlled trials and two cohort studies, have shown that immunizing health care workers against influenza reduces the risk of death amongst residents of care facilities.

12. Is there an economic benefit to influenza immunization?

Yes. Some studies have shown that influenza vaccination results in a cost saving, as much as \$40 per vaccinated employee. Costs saved consist of payment for sicktime, other benefits, and wages of agency staff replacing your employee.

C. APPLYING THE POLICY

13. Who is capable of transmitting influenza to those at high risk?

Influenza is spread in the following ways:

- By inhalation of tiny droplets of respiratory secretions.
- Direct person-to-person contact
- Contact with soiled articles
- Virus can persist in dried mucus for hours

Anyone who has significant contact with people in high-risk groups, can transmit influenza to them. Significant contact means spending time on a regular basis in close proximity in the same home or other close quarters. All staff of health care facilities are included because they can introduce influenza into a facility and sustain its transmission from person-to-person within the facility.

14. Which staff members are included in the policy?

The policy applies to all people who work, volunteer or train in the health care facility during the typical influenza season (November – April, inclusive), regardless of whether they have direct or indirect contact with patients or residents. Enforcement of the exclusion policy may be restricted to specific wards or units within a facility at the discretion of the Medical Health Officer (in consultation with the physician/nurse responsible for infection control within the facility).

15. Have similar policies been implemented elsewhere?

Yes. A similar policy has been in place in regions for several years, and throughout Ontario for several influenza seasons. In BC, this policy has been in place since the 2000-2001 influenza season.

16. How should staff be advised of the policy?

All employers should advise staff of the policy in the summer or early fall, prior to the influenza season. They should be provided with the rationale for the policy, information on influenza vaccine and the consequences of refusing immunization. Mechanisms to inform staff include a staff information sheet included with pay cheques, posted notices and staff meetings.

17. Are staff members required to be immunized at the facility?

All facilities should offer clearly advertised, easily accessible on-site immunization clinics. This should include a number of clinics that will cover all staff shifts. However, staff may choose to get vaccinated at their family doctor or at a community clinic. Staff

vaccinated off-site must provide written documentation of vaccination, including the date they were immunized.

18. Is there a charge for influenza vaccination?

No. Influenza vaccine is provided free of charge to people who work, volunteer or train in the health care facility during the typical influenza season. There will be no charge regardless of where they receive their vaccine.

19. When should influenza vaccine be given?

Influenza vaccine should be given as soon as it becomes locally available in the fall; check with your local health authority about the exact timing. Decisions about the exact time of vaccination may sometimes be modified depending upon local epidemiology, feasibility, or logistics. Because the types of circulating influenza viruses change, it is necessary to get an influenza vaccination each year.

20. What kind of records must the facility keep?

All facilities must maintain a list or database of all staff, including volunteers and trainees, and indicate their name, date of birth, job title, location of work within the facility and the date they receive their influenza vaccination each year.

21. Should a physician be present in the building when the vaccination clinic is being run?

No, it is not necessary for a physician to be present during clinics.

D. MANAGING STAFF WHO SHOULD NOT BE VACCINATED

22. Are there any contraindications to influenza vaccination?

The **only** valid medical contraindications to influenza vaccination are a known anaphylactic allergy to eggs or a previous anaphylactic reaction to influenza vaccine or its components. Anaphylaxis is a life-threatening allergic reaction manifested by generalized hives, swelling of the mouth and throat, difficulty breathing, hypotension and shock. Allergic reactions of this severity are extremely rare, so there will be few people who cannot receive the vaccine.

Persons with severe symptoms of oculo-respiratory syndrome (ORS) (see question #26 below), such as wheeze, chest tightness/discomfort, difficulty breathing or severe throat constriction/difficulty swallowing after a previous dose of influenza vaccine should discuss the benefits and risks of immunization with their physician. ORS is not anaphylactic in nature and is not an absolute contraindication to revaccinating.

23. Can influenza vaccine be given to pregnant or breast-feeding women?

Yes. The vaccine, which does not contain live virus, is considered safe for pregnant and breast-feeding women. For several years, the National Advisory Committee on Immunization (NACI) has recommended that pregnant women with high risk conditions, such as heart or lung disease, kidney disease, diabetes or immune-related conditions

receive influenza vaccine. In addition, women in their third trimester of pregnancy during the influenza season are at higher risk of hospitalization due to respiratory illness. Pregnant women who will be in their third trimester during the influenza season (typically spanning November to April) are therefore now routinely recommended to receive influenza vaccine in BC. For more information or if you are concerned about influenza vaccine during pregnancy, talk to your doctor.

24. What are the side effects of influenza vaccination?

Most people will have no side effects from influenza vaccination other than transient injection site reaction for which acetaminophen works well in controlling associated discomfort. Influenza vaccine cannot cause influenza as it does not contain live virus. Fever, malaise, myalgia, and fatigue beginning 6-12 hours after vaccination and lasting about 1-2 days may be noted especially in people receiving influenza vaccine for the first time. Studies in adults generally, however, have shown that fever occurs no more frequently after influenza vaccine than after placebo.

During the late summer, a clinical trial of the 2010-2011 seasonal influenza vaccine was conducted in Canada among several hundred adults who had previously received the 2009 adjuvanted pandemic H1N1 vaccine. Muscle aches were reported more often among people getting vaccine than placebo (about one in five vaccinated people) but symptoms were short-lived and non-severe. About one in twenty people experienced cough or other symptoms consistent with “oculo-respiratory syndrome” but these were mild (see #26 below). Generalized itching was noted by a few participants but was uncommon. No serious adverse events were identified.

25. I’ve heard that influenza vaccine can cause Guillain-Barre syndrome (GBS). Is this true?

GBS is an acute paralytic condition with associated sensory disturbances which usually begins in the lower limbs. In North America, it occurs at a rate of one case per million population per month. Over two-thirds of the cases occur after an infection such as herpes viruses (cytomegalovirus, Epstein-Barr virus) or *Campylobacter jejuni* gastroenteritis. In 1976 to 1977 the incidence of GBS in the United States was increased and this was attributed to the swine flu vaccine, although causality was not proven. A study published in 1998 estimated that the risk of GBS following influenza vaccination is slightly more than one additional case of GBS per million persons vaccinated.

26. I had red itchy eyes and breathing symptoms after the vaccine given in 2000/01. Should I get vaccinated again?

During the 2000 and 2001 influenza seasons, some people who got the influenza vaccine had a reaction called oculo-respiratory syndrome (ORS). The syndrome involved redness of both eyes and /or - in some people - a cough, sore throat, wheeze, chest tightness, difficulty breathing, throat tightness or facial swelling. ORS is not anaphylactic in nature and is not an absolute contraindication to revaccinating. Studies have found that most people who have had ORS after a previous dose of influenza vaccine do not experience it again – about 5-34% experience another episode but this is

usually milder.

Most people who had ORS can be safely revaccinated but people who had severe symptoms such as wheeze, chest tightness/discomfort, difficulty breathing or severe throat constriction/difficulty swallowing should review with a physician. It is important to distinguish ORS from a risk of anaphylaxis. Evaluation by an expert and detailed risk-benefit assessment to aid in deciding about re-vaccination is recommended for these persons. Until evaluation of such individuals is completed, a physician's letter may be accepted as reason for deferral.

27. Are staff required to produce documentation if they have a true contraindication to influenza vaccination?

Yes. Documentation from their family physician should be requested and added to the facility record. Note: Many people who report contraindications to vaccination do not have true contraindications and can be safely vaccinated. If there is any question as to whether a contraindication is valid, contact your local health unit for advice.

28. Are staff with true contraindications to vaccination subject to this policy?

Staff with true medical contraindications to influenza vaccination will still be excluded or required to take anti-viral medication in the event of an outbreak.

E. NON-IMMUNIZED STAFF AND ANTI-VIRAL MEDICATION

29. Can unvaccinated staff who take anti-viral medication continue working in an outbreak?

Unvaccinated staff on anti-viral medication can return to work if they take a neuraminidase inhibitor as prescribed until the outbreak is officially declared over (up to eight weeks of oseltamivir). If they receive vaccine during the outbreak, the neuraminidase inhibitor must be continued for 14 days after vaccination or until the end of the outbreak, whichever occurs earlier. These workers must be alert to the symptoms and signs of influenza, particularly within the first 48 hours after starting antiviral prophylaxis and should be excluded from the patient care environment if these develop. Careful assessment for symptoms of influenza-like illness is also important in case the antiviral schedule for treatment rather than prophylaxis of influenza infection is warranted and in order to reduce the likelihood of resistance emerging due to suboptimal dosing in persons already infected.

30. Why can't unvaccinated staff get vaccinated when the outbreak is identified and return to work immediately?

Because it takes up to 14 days to develop protective antibodies after vaccination, staff who decide to get vaccinated once an outbreak is identified must wait 14 days before returning to work. Alternatively, unvaccinated staff can take anti-viral medication (neuraminidase inhibitor). Unvaccinated staff who take antivirals may return to work if free of symptoms and they continue the antiviral medication until the outbreak is officially declared over (maximum duration of eight weeks if oseltamivir). If they have

been vaccinated when the outbreak is identified, they must continue to take the antiviral medication for 14 days after vaccination. The same recommendation applies to staff who were vaccinated less than 14 days before an outbreak is declared. These workers must be alert to the symptoms and signs of influenza, particularly within the first 48 hours after starting antiviral prophylaxis and should be excluded from the patient care environment if these develop. Careful assessment for symptoms of influenza-like illness is also important in case the antiviral schedule for treatment rather than prophylaxis of influenza infection is warranted and in order to reduce the likelihood of resistance emerging due to suboptimal dosing in persons already infected.

31. Should the facility provide anti-viral medication to staff?

Facilities may choose to supply staff with anti-virals, or may refer them to their family doctor for a prescription. Because there are some contraindications to (including pregnancy) and side effects from anti-virals, and because the dosage might require adjustment, it is best given under the direction of a physician. Anti-viral medication is not provided free of charge to staff by the Ministry of Health Services.

F. OTHER OUTBREAK ISSUES

32. If staff get sick during an influenza outbreak, how long should they be off work?

They should remain off work for at least 5 days or until the acute symptoms resolve completely, whichever is longer. This applies whether or not the staff member has been previously vaccinated or has taken anti-viral medication.

33. What happens during an outbreak if exclusion of unvaccinated staff results in unacceptably low staffing levels?

If this situation arises, discuss immediately with your local Medical Health Officer, who will develop alternative recommendations.

34. If casual staff are brought in during an influenza outbreak, should they be vaccinated?

Yes, they should have received the vaccine at least 14 days before working in the facility. All casuals should be asked if and when they were vaccinated, and added to the facility's records. Agencies supplying casual nursing staff to facilities should be advised of the region's influenza immunization policy and asked to keep records of staff vaccination. They should not supply casual staff to outbreak facilities if they have not been vaccinated at least 14 days in advance.

35. If staff are excluded, what prevents them from working in another facility?

All non-immunized staff should be notified that they cannot work in another facility for at least 3 full days and up to four days after stopping work in the outbreak facility. This time period will determine whether or not they are incubating the virus as symptoms typically develop within 3-4 days of exposure. Failure to adhere to exclusion recommendations can result in penalties under the Public Health Act enforced by the

Medical Health Officer.

36. Why is pneumococcal vaccine recommended for residents but not for staff of long-term care facilities?

Pneumococcal disease is not as infectious as influenza and does not have the same outbreak potential. Complications occur primarily among the elderly and those with certain underlying medical conditions, and therefore the pneumococcal vaccine is recommended for these persons. This is in keeping with recommendations of the National Advisory Committee on Immunization.

37. What is the role of the local health unit in controlling influenza?

Your local health unit's role is to:

- assist in education and information related to influenza vaccine
- ensure that sufficient doses of vaccine are available in all long-term care facilities
- provide consultation about appropriate data collection (surveillance)
- provide consultation on the development and revision of outbreak prevention and control plans related to influenza
- provide assistance and direction in outbreak management, including investigation of the cause of the outbreak and implementation of control measures
- provide you or your medical director with information on influenza and its control
- report local influenza activity to the BC Centre for Disease Control
- report influenza immunization coverage data to the Ministry of Health Services