



**衛生防護中心**  
Centre for Health Protection

## **Scientific Committee on Vaccine Preventable Diseases**

### **Recommendations on Seasonal Influenza Vaccination for the 2009/10 Season**

#### **Introduction**

Influenza is a common viral illness. It usually presents with fever, sore throat, cough, and malaise and the illness may last for about a week. Influenza affects the population in general. When influenza occurs in certain at risk population, it is associated with increased risk of complications.

2. In Hong Kong, seasonal influenza is more prevalent in January to March and July to August as reflected by the increase in influenza virus detection from laboratory surveillance, increase in outbreak occurrence reported to the Department of Health and the influenza-like illness consultation rates from sentinel general practitioners and general outpatient clinics.

3. There are three types of influenza virus: A, B and C causing human illness and types A and B are of concerns in being associated with widespread outbreaks. Influenza A is further divided into different subtypes on the basis of surface antigens haemagglutinin and neuraminidase. Human disease historically has been caused by three haemagglutinin subtypes (H1, H2 and H3), although diseases caused by H5, H7 and H9 have also been recognised.

4. Influenza type A and type B viruses evolve constantly and hence generation of new viral strains. The influenza laboratory network of World Health Organization (WHO) monitors the circulating and emerging influenza strains around the globe for antigenic changes.



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For the 2008/09 influenza season, the circulating and emerging strains according to WHO is summarised below.

## Seasonal Influenza

- a) Influenza A (H1N1) viruses  
The majority of influenza A (H1N1) viruses were closely related to the northern hemisphere 2008-2009 vaccine strain A/Brisbane/59/2007. Phylogenetically the haemagglutinins of recent viruses belonged to one of two distinct clades represented by A/Brisbane/59/2007 and A/Hong Kong/2652/2006, with most belonging to the A/Brisbane/59/2007 clade.
- b) Influenza A (H3N2) viruses  
The majority of recent influenza A (H3N2) viruses were antigenically similar to the vaccine viruses A/Brisbane/10/2007 and A/Uruguay/716/2007, and phylogenetically belonged to the A/Brisbane/10/2007 clade.
- c) Influenza B viruses  
Influenza B viruses of both the B/Yamagata/16/88 and the B/Victoria/2/87 lineages continued to circulate. The proportion of B/Victoria/2/87 lineage viruses has continued to increase and these viruses have become predominant in many countries.

## The Seasonal Influenza Vaccine

5. Influenza vaccination is one of the effective means in preventing influenza and its complications. In Hong Kong, inactivated influenza vaccine has been registered for use in individuals above 6 months of age. The seasonal influenza vaccine requires annual administration and the protective efficacy varies depending partly on whether the vaccine strain matches with the circulating strain.

6. According to the WHO, influenza vaccination may reduce the number of hospitalisations by 25-39% among elderly people not living in institutions. It has also been shown to reduce overall mortality by 39-75% during influenza seasons.

7. The effectiveness of influenza vaccination in other healthy population has been reviewed recently by an international authority dedicated to evidence-based medicine. For healthy children 2 to 15 years, the use of inactivated vaccine was found to be able to reduce laboratory-confirmed influenza by 59% and to reduce clinical influenza-like illness by 36%.

8. For healthy individuals aged 16 to 65 years, the inactivated vaccine

was 30% effective in reducing influenza-like illness. The vaccine may reduce laboratory-confirmed influenza by 50% to 80% of laboratory-confirmed influenza depending on matching between the vaccine and circulating strains.

## **Role of Seasonal Influenza Vaccine in Pandemic**

9. Seasonal influenza vaccination in groups at risk for severe influenza complications should be encouraged during the interpandemic period. Continued immunisation against seasonal influenza is important even during a pandemic. Seasonal influenza vaccines will offer little or no protection against pandemic influenza strains, therefore the use of both seasonal and pandemic vaccines for high risk groups should be considered in a pandemic. WHO will announce its recommendations on whether and when to switch production to pandemic vaccine from seasonal influenza vaccine if necessary.

## **Recommendation**

10. Recommendations on the use of seasonal influenza vaccination in the local context have been developed by the Scientific Committee on Vaccine Preventable Diseases (SCVPD). The SCVPD recommends the following on seasonal influenza vaccination for the 2009/10 season.

### Vaccine Composition

11. Recommended vaccines to be used in the 2009–2010 season (northern hemisphere winter) comprise A/Brisbane/59/2007 (H1N1)-like virus, A/Brisbane/10/2007 (H3N2)-like virus and B/Brisbane/60/2008-like virus.

### Vaccine Precautions

12. Influenza vaccine is contraindicated for those with history of hypersensitivity to eggs or other components of the vaccine. The most common adverse effects following influenza vaccination include local reactions such as pain, swelling (15-20%), systemic side effects such as fever, malaise, and myalgia (1-10%), Guillain-Barré syndrome (1 to 2 per 1 million vaccinees), meningitis or encephalopathy (1 in 3 million doses distributed), and anaphylaxis (9 in 10 million doses distributed).

13. Guillain-Barré syndrome (GBS) is a polyneuritis which may follow about 2 weeks after viral infection, surgery or rarely after immunisation. It is characterised by progressive weakness of all limbs and areflexia. A history of GBS developed within 8 weeks after receiving inactivated influenza vaccine is a contraindication for further use of the vaccine.

### Dosing Schedule

14. Single dose is the standard regimen for inactivated influenza

vaccine. For vaccine-naive children aged below 9 years, two doses with an interval of 4 weeks are required. Half the adult dose is recommended for children below 3 years.

15. Inactivated seasonal influenza vaccine is recommended to be used for target groups annually. The vaccine should be given preferably at least two weeks prior to the anticipated seasonal peak of influenza activity.

### Recommended Target Groups

16. The recommended target groups have been determined based on a range of scientific considerations taking into account local disease burden and international experience. Use of seasonal influenza vaccination for individual protection is recommended for these target groups. There is no change in target group recommendation for seasonal influenza vaccination in 2009/10 season when compared to 2008/09 season.

17. Recommendations on the target groups for seasonal influenza vaccination are summarised below:

- a. Elderly Persons Living in Residential Care Homes: Seasonal influenza vaccination is recommended for elderly persons living in residential care homes for reducing the risk of complications from influenza including hospitalisation and pneumonia in influenza outbreaks.
- b. Long-stay Residents of Institutions for the Disabled: Seasonal influenza vaccination is recommended for long-stay residents of institutions for the mentally and physically disabled for reducing influenza related hospitalisation during influenza outbreaks. The disability of the residents hinders them from undertaking adequate hygiene measures in an institutional environment which favours the transmission of influenza.
- c. Elderly Persons Aged 65 Years or Above: Seasonal influenza vaccination is recommended for elderly persons aged 65 years or above because of their high risk of complications and excess hospital admissions and death from influenza.
- d. Persons with Chronic Illness: Seasonal influenza vaccination is recommended for persons aged >6 months having chronic cardiovascular (except hypertension without complication), pulmonary, metabolic or renal disease, who are immunocompromised, children and adolescents (aged 6 months to 18 years) on long-term aspirin therapy, and those with chronic neurological condition that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration or those who lack

the ability to care for themselves for their increased risk of complications and death associated with influenza infection.

- e. Health Care Workers: Seasonal influenza vaccination is recommended for healthcare workers to reduce morbidity and hence reduce absenteeism among health care workers related to respiratory infections. It is also to reduce the risk of transmitting influenza to patients who are at high risk of complications and mortality from influenza.
- f. Poultry Workers: Seasonal influenza vaccination is recommended for poultry workers and persons involved in slaughtering of animals potentially infected with highly pathogenic avian influenza virus for minimizing the risk of re-assortment and eventual emergence of a novel influenza virus with pandemic potential through preventing concomitant infections by the human influenza and avian influenza viruses in humans.
- g. Children Aged 6 to 23 Months: Seasonal influenza vaccination is recommended for children aged 6 to 23 months for reducing excess hospitalisations and deaths associated with influenza.
- h. Pregnant Women: Seasonal influenza vaccination is recommended for all pregnant women for reduction of cardiopulmonary complications and the associated hospitalisations. The vaccine is considered safe by the WHO for use at any gestational age of pregnancy and there is no evidence indicating that inactivated influenza vaccine is teratogenic even when given during the first trimester.
- i. Children Aged 2 to 5 years: Seasonal influenza vaccination is recommended for children aged 2 to 5 years for reduction of hospitalisation.
- j. Others: Members of the other groups who wish to obtain seasonal influenza vaccine for their personal protection can consult their general practitioners

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## Correspondence:

Address : CHP Scientific Committee Secretariat  
4/F Programme Management and Professional Development  
Branch,  
Centre for Health Protection, Department of Health,  
147C Argyle Street, Kowloon, Hong Kong

Telephone : 2125 2182

Facsimile : 2761 3272

Email : [sc\\_chairman@dh.gov.hk](mailto:sc_chairman@dh.gov.hk)

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