



衛生防護中心
Centre for Health Protection

Scientific Committee on Vaccine Preventable Diseases

**Recommendations on Seasonal Influenza Vaccination
for the 2020-21 Season in Hong Kong**

(As of May 29, 2020)

Introduction

Seasonal influenza causes a significant disease burden in Hong Kong. Since 2004, the Scientific Committee on Vaccine Preventable Diseases (SCVPD) reviews the scientific evidence of influenza vaccination and makes recommendations on influenza vaccination in Hong Kong annually. This document sets out the scientific evidence, local data as well as overseas practices, and provides recommendations in relation to seasonal influenza vaccination in Hong Kong for the 2020-21 season.

Global Situation of the 2019/20 Winter Influenza Season

2. In the temperate zone of the Northern Hemisphere, influenza activity started to increase in late November to early December 2019. Both influenza A and B viruses co-circulated in this season, with variable proportions of virus types in different countries and areas. The activity had been decreasing since early March 2020 and returned to a low level in April.

3. In the United States (US), the 2019/20 winter influenza season started in December 2019. Influenza B/Victoria lineage predominated in the beginning of the season and influenza A(H1) had been more commonly detected since February 2020. More than 70% of the



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laboratory-confirmed influenza-associated hospitalisations were caused by influenza A infections. The highest rate of hospitalisation was among adults aged 65 years or above, followed by children aged 0-4 years and adults aged 50-64 years. In Canada, influenza activity started to increase in mid-December 2019 and peaked in early January 2020, with co-circulation of influenza A and B viruses. The activity returned to the baseline level in late March.

4. In Europe, influenza activity based on sentinel sampling exceeded a positivity rate of 10% in mid-November 2019 and peaked in early February 2020. Both influenza A and B viruses co-circulated with a higher proportion of influenza A detected in some countries of the Region, except that influenza A(H3) predominated in the United Kingdom (UK). In eastern Asian countries, influenza activities were elevated between December 2019 and February 2020. Influenza A(H1) predominated in Japan and Korea, and influenza A(H3) and influenza B/Victoria co-circulated in Mainland China. Some countries in South-east Asia (e.g. Singapore and Malaysia) had higher influenza activity between December 2019 and January 2020 with influenza A(H1) predominating.

Summary of the 2019/20 Winter Influenza Season in Hong Kong

5. The 2019/20 winter influenza season in Hong Kong arrived in the second week of 2020. The overall seasonal influenza activity increased above the baseline level in January and peaked in the last week of the month. It then rapidly returned to the baseline level in mid-February. This winter influenza season spanned for five weeks, which was much shorter than the previous two winter seasons (12 weeks in 2017/18 winter and 14 weeks in 2018/19 winter seasons).

6. The laboratory surveillance data of the Centre for Health Protection (CHP) of the Department of Health showed that the percentage of respiratory specimens tested positive for influenza viruses by the Public Health Laboratory Services Branch (PHLSB) reached the peak of about 19% in late January. In this season, the majority of positive influenza detections (about 80%) were influenza A(H1), followed by influenza A(H3) (16%), while influenza B remained low throughout the season (4%).

7. Antigenic characterisation of influenza viruses performed by the PHLSB revealed that the majority of influenza A(H1) and influenza B viruses detected between late November 2019 to March 2020 were antigenically similar to the vaccine strains contained in the 2019-20 Northern Hemisphere seasonal influenza vaccine (SIV) used in Hong Kong. However, the majority (85%) of influenza A(H3) viruses detected were antigenically dissimilar from the H3

vaccine strain. The results were largely similar to the findings in Mainland China and some overseas countries such as the US and Canada.

8. The influenza-associated hospital admission rates in public hospitals reached the peak of 0.92 admitted cases per 10,000 population in late January 2020. The peak rate was lower than that recorded in major influenza seasons from 2017 to 2019 (ranging from 1.50 to 1.91). The peak weekly rate was highest among young children ≤ 5 years, followed by elderly ≥ 65 years and children 6-11 years. For the assessment of influenza-associated admission rates by the moving epidemic method (MEM)*, the highest weekly rates among young children ≤ 5 years, children aged 6-11 years and elderly ≥ 65 years were all at the medium intensity level.

9. The number of institutional outbreaks of influenza-like illness (ILI) increased in January with the majority occurring in kindergartens/child care centres (KG/CCC) and primary schools. It decreased dramatically since the Lunar New Year holiday in late January and the subsequent territory-wide school closure as a control measure for coronavirus disease 2019 (COVID-19). The last ILI outbreak was recorded from a residential care home for elderly (RCHE) on February 11. A total of 153 ILI outbreaks were recorded in this season, which was lower than the range of 401-862 outbreaks recorded during major influenza seasons in the past five years. For the assessment of ILI outbreaks by MEM, the highest weekly numbers in KG/CCC and primary schools were at the medium intensity level while that in RCHE was at the low intensity level.

10. For the surveillance of severe influenza cases requiring intensive care unit (ICU) admission or death among adult patients (≥ 18 years), a total of 169 cases (including 103 deaths) were recorded in this season. The number of adult severe influenza cases was much lower than those recorded in major seasons in the past five years (ranging from 409 to 647). About 66% and 22% of the adult severe cases affected persons aged ≥ 65 years and 50-64 years respectively. Most of the deaths (81%) affected elderly ≥ 65 years. About 78% had pre-existing chronic medical diseases. Only 25% of the cases were known to have received the SIV for the 2019-20 season.

* CHP has adopted to use intensity levels established by MEM for two influenza surveillance parameters in Hong Kong since 2019: (i) weekly number of ILI outbreaks (reflecting the transmissibility of seasonal influenza in the community); and (ii) weekly influenza-associated admission rate in public hospitals (reflecting the clinical severity of season influenza). Three intensity thresholds, namely medium, high and very high, were calculated using MEM for each of the above surveillance parameters based on the corresponding historical data for objective comparisons of the current data with the historical data.

11. For paediatric cases of influenza-associated severe complications, five cases[†] were recorded in this season with no deaths recorded. The number of cases was lower than the range of 18-27 cases recorded in major influenza seasons in the past five years. The last case was reported on February 3. The ages of the five cases ranged from 26 months to 8 years with a median of five years. Three and two cases were aged 0-5 and 6-11 years respectively. Only one of the five cases had received the SIV for the 2019-20 season.

Influenza Vaccines

Vaccine Types

12. Influenza vaccination is one of the effective means in preventing influenza and its complications together with reduction in influenza-associated hospitalisation and death. In Hong Kong, currently registered SIV include inactivated influenza vaccines (IIV) and a live attenuated influenza vaccine (LAIV)[‡].

13. Two distinct lineages of influenza B (namely the Yamagata and Victoria lineages) circulate worldwide. Trivalent SIV consist of three seasonal influenza viruses: one influenza A (H1N1)pdm09 virus, one influenza A (H3N2) virus and one influenza B virus (either a Yamagata or Victoria lineage), while quadrivalent SIV consist of an additional influenza B virus of the lineage not contained in the trivalent SIV. It is expected that quadrivalent SIV could provide additional protection against influenza B, especially in seasons predominated by influenza B viruses[§]. For the 2020-21 season, **all** available SIV in Hong Kong are quadrivalent SIV.

14. SIV requires annual administration. Most IIV are given via the intramuscular route and are recommended for use in individuals six months of age or above except those with known contraindications (depending on individual brand). Only one type of LAIV (FluMist Quadrivalent) is available on the local market for use in individuals aged two to 49 years, and it should be given intranasally.

[†] Excluding a 17-month case reported one week before the start of 2019/20 winter season, who contracted influenza A(H3) infection and was complicated with shock. He had good past health and did not receive SIV for this season.

[‡] Adjuvanted IIV, high-dose IIV and recombinant influenza vaccine are not available in Hong Kong in the upcoming 2020-21 season.

[§] The 2017/18 winter season in Hong Kong was predominated by influenza B which constituted about 75% of the positive influenza detections. Among the influenza B detections, about 95% belonged to the Yamagata lineage which was only included in the quadrivalent SIV in that season.

Vaccine Effectiveness

15. Vaccination remains one of the most efficacious public health tools currently available to protect individuals against influenza. While vaccine efficacy measures how well the vaccine works in clinical trials under optimal and monitored conditions, vaccine effectiveness (VE) measures the protection when it is used in general population under real-world conditions and depends on factors including the similarity between the virus strains present in the vaccine and those circulating in the community as well as the characteristics of recipients (e.g. age)**.

16. According to the World Health Organization (WHO), when the vaccine strains closely match the circulating influenza viruses, efficacy of IIV in individuals younger than 65 years of age typically range from 70% to 90%, whereas the protection that IIV offers in prevention of influenza infection in individuals aged 65 years or above is at best modest, irrespective of setting, population and study design. For elderly, a meta-analysis study found that the VE of SIV against laboratory confirmed influenza in community-dwelling elderly people during influenza seasons was 44% in matched seasons and 20% in mismatched seasons^{††}. Another meta-analysis study showed that the pooled VE of SIV against influenza-associated hospitalisations was 37% among adults aged 65 years or above between the 2010/11 and 2014/15 season^{‡‡}.

17. For LAIV, overseas studies and clinical experience had generally indicated LAIV to be a safe vaccine, providing comparable protection against influenza to that afforded by IIV. The previous concerns on poor VE of LAIV against influenza A(H1N1)pdm09 were mainly from data in the US before the 2016/17 season and was postulated to be related to the influenza A(H1) vaccine strain. The manufacturer has replaced the previous H1 vaccine strain (A/Bolivia/559/2013) with a new strain (A/Slovenia/2903/2015) since the 2017/18 season. Data from the manufacturer indicated that the new influenza A(H1) component would improve effectiveness of the vaccine against influenza A(H1) viruses, therefore the Advisory Committee on Immunization Practices (ACIP) subsequently voted to resume the recommendation of LAIV in the

** US Centers for Disease Control and Prevention. How Flu Vaccine Effectiveness and Efficacy are Measured. Available at <https://www.cdc.gov/flu/vaccines-work/effectivenessqa.htm>.

†† Darvishian M, van den Heuvel ER, Bissielo A, et al. Effectiveness of seasonal influenza vaccination in community-dwelling elderly people: an individual participant data meta-analysis of test-negative design case-control studies. *Lancet Respir Med*. 2017 Mar;5(3):200-211.

‡‡ Rony M, El Omeiri N, Thompson MG, et al. Effectiveness of influenza vaccines in preventing severe influenza illness among adults: A systematic review and meta-analysis of test-negative design case-control studies. *J Infect*. 2017 Nov;75(5):381-394.

2018/19 and 2019/20 seasons. However, to date there have been no US studies evaluating VE of this LAIV with the new H1N1 component and the US Centers for Disease Control and Prevention did not have preferential recommendation for LAIV than other influenza vaccine products^{§§}. Similarly, the American Academy of Pediatrics also continues not to express a preference for the type of SIV to be used in children during the coming 2020/21 season^{***}.

18. In the UK, LAIV has been extensively in use among children. For the 2017/18 season, the adjusted VE of LAIV against medically-attended laboratory confirmed influenza among children and adolescents aged 2-17 years was 90.3% (95% confidence interval [CI]: 16.4 to 98.9) against influenza A(H1N1)pdm09 and 60.8% (95% CI: 8.2 to 83.3) against influenza B^{†††}. These were higher than the corresponding figures for adults aged 18-64 years in which IIV were mainly used: 69.1% (95% CI: 11.4 to 89.2) against influenza A(H1N1)pdm09 and 18.2% (95% CI: -15.1 to 41.9) against influenza B. In the 2018/19 season, the adjusted VE of LAIV in primary care setting in the UK among persons aged 2-17 years was 49.9% (95% CI: -14.3 to 78.0) against influenza A(H1N1)pdm09, which was comparable to the 40.3% (95% CI: 13.6 to 58.8) among adults aged 18-64 years in which IIV were mainly used^{†††}.

19. Locally, since the 2017/18 season, the CHP has been collaborating with private medical practitioners participating in the sentinel surveillance system to estimate the VE of SIV at the local primary care setting using the test-negative case-control method. In the 2019/20 season, a similar study was conducted and 467 specimens collected from November 2019 to February 2020 were analysed, with 46% tested positive for influenza viruses. The results showed that the overall VE among all ages was 33.6% (95% CI: -3.0 to 57.6) against all influenza viruses, 25.6% (95% CI: -19.9 to 54.3) against influenza A(H1) and 50.9% (95% CI: -5.4 to 79.6) against influenza A(H3). Unlike the previous season of 2018/19 in which SIV offered moderate to good protection against laboratory-confirmed influenza at primary care level, the results of the 2019/20 season showed low to

§§ Centers for Disease Control and Prevention. Influenza (Flu), Live Attenuated Influenza Vaccine [LAIV] (The Nasal Spray Flu Vaccine). Available at <https://www.cdc.gov/flu/prevent/nasalspray.htm>. Accessed on 7 May 2020.

*** AAP News “No flu vaccine preference for 2020-21 season”. Available at <https://www.aappublications.org/news/2020/03/27/flu vaccine032720>

††† Public Health England. Influenza vaccine effectiveness in adults and children in primary care in the United Kingdom: provisional end-of-season results 2017-18. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779474/Influenza_vaccine_effectiveness_in_primary_care_2017_2018.pdf

††† Pebody RG, Whitaker H, Ellis J, et al. End of season influenza vaccine effectiveness in primary care in adults and children in the United Kingdom in 2018/19. *Vaccine*. 2020 Jan;38(3):489-497. DOI: 10.1016/j.vaccine.2019.10.071.

moderate level of protection.

20. In the US, according to data from the U.S. Influenza Vaccine Effectiveness Network on 4,112 children and adults with acute respiratory illness during October 23, 2019 - January 25, 2020, the overall VE against any influenza virus associated with medically attended, laboratory-confirmed influenza virus infection was 45% (95% CI: 36 to 53). Notably, vaccination provided substantial protection (VE: 55%; 95% CI: 42 to 65) among children and adolescents aged 6 months-17 years. VE was estimated to be 50% (95% CI: 39 to 59) against influenza B/Victoria viruses and 37% (95% CI: 19 to 52) against influenza A(H1N1)pdm09, indicating that vaccine has significantly reduced medical visits associated with influenza so far this season^{§§§}.

21. In Canada, interim results from Sentinel Practitioner Surveillance Network showed that SIV has provided substantial protection against medically-attended influenza illness in the 2019/20 season. Adjusted VE overall was 58% (95% CI: 47 to 66): 44% (95% CI: 26 to 58) for A(H1N1)pdm09, 62% (95% CI: 37 to 77) for A(H3N2) and 69% (95% CI: 57 to 77) for influenza B viruses^{****}.

22. In Europe, results from six studies showed that the interim VE estimates were 29% to 61% against any influenza in the primary care setting for all ages and 35% to 60% in hospitalised older adults (≥ 65 years) for the 2019/20 season. The VE point estimates against A(H1N1)pdm09 (all ages, both settings) was 48% to 75%, and against A(H3N2) ranged from -58% to 57% (primary care) and -16% to 60% (hospital). Against influenza B, VE for all ages was 62% to 83% (primary care only)^{††††}.

Adverse Events

23. The most common adverse events following IIV administration are local reactions including pain, redness and swelling at the site of injection and may occur at more than 10% of IIV recipients. Non-specific systemic symptoms including fever, chills, malaise and myalgia are uncommon and reported in less than 1%. Other rare adverse events may include anaphylaxis (nine per ten

^{§§§} Dawood FS, Chung JR, Kim SS, et al. Interim Estimates of 2019-20 Seasonal Influenza Vaccine Effectiveness — United States, February 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:177-182.

^{****} Skowronski Danuta M, Zou Macy, Sabaiduc Suzana, et al. Interim estimates of 2019/20 vaccine effectiveness during early-season co-circulation of influenza A and B viruses, Canada, February 2020. *Euro Surveill.* 2020;25(7):pii=2000103.

^{††††} Rose Angela, Kissling Esther, Emborg Hanne-Dorthe, et al. Interim 2019/20 influenza vaccine effectiveness: six European studies, September 2019 to January 2020. *Euro Surveill.* 2020;25(10):pii=2000153.

million doses distributed) and Guillain-Barré syndrome (GBS).

24. GBS is an acute paralyzing illness, usually provoked by a preceding infection, surgery or rarely after immunisation. It is characterised by progressive weakness of all limbs and areflexia. Recent extensive review which evaluated the risk of GBS after administration of influenza vaccines (excluding the 1976-1977 swine influenza vaccine) concluded that the evidence was inadequate to accept or reject a causal relationship between influenza vaccine and GBS.

25. Scientific studies over the years have shown an increased risk of GBS following influenza infection, and the magnitude of risk is much greater than that following influenza vaccination. Overseas studies have estimated that the risk of GBS following influenza vaccination was about one to two GBS cases per million vaccine recipients. This is much lower than the influenza mortality rates of 33.4-79.9 deaths per million population in Hong Kong among people aged ≥ 18 years during influenza seasons between 2014/15 and 2018/19, and the most recent rate of 15.9 deaths per million in the 2019/20 season. Locally, one case of GBS (in 2015/16) was recorded among persons who had received SIV (within the period of five days and six weeks after seasonal influenza vaccination) within the past five seasons^{††††}. In Hong Kong, the number of GBS (all causes) admitted to public hospitals ranged from 51 to 88 cases per year between 2015 and 2019^{§§§§}.

26. For LAIV, the most common adverse reactions following LAIV administration are nasal congestion or runny nose in all ages, fever in children and sore throat in adults. The safety in pregnant women has not been established. Children aged below five years with recurrent wheezing / persons of any age with asthma may be at increased risk of wheezing following administration. As this is a live vaccine, there is potential for transmission of the vaccine viruses to immunocompromised individuals.

Recommendations

27. The SCVPD made the following recommendations on seasonal influenza vaccination for the 2020/21 season in Hong Kong.

^{††††} Causality assessment based on the WHO's classification

(http://www.who.int/vaccine_safety/publications/gvs_aefi/en/): B1 (Indeterminate; temporal relationship is consistent but there is insufficient definitive evidence for vaccine causing event)

^{§§§§} Details are available from <https://www.chp.gov.hk/en/features/26736.html>

Vaccine Composition

28. The composition follows the recommendations by the WHO for the 2020-21 Northern Hemisphere influenza season. The composition recommended for egg-based versus cell- or recombinant-based vaccines were different for influenza A (H1N1)pdm09 and A(H3N2) viruses, as the WHO considered the same virus may not be optimal for both production systems in some instances. In Hong Kong, only egg-based SIV will be available in the coming 2020/21 season. The egg-based quadrivalent SIV to be used in the 2020-21 season (Northern Hemisphere winter) comprise an A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus, an A/Hong Kong/2671/2019 (H3N2)-like virus, a B/Washington/02/2019-like virus (B/Victoria lineage), and a B/Phuket/3073/2013-like virus (B/Yamagata lineage).

Vaccine Type

29. Both IIV and LAIV are recommended for use in Hong Kong. Depending on individual brand, IIV are recommended for use among people aged six months of age or older, including healthy people and those with chronic medical problems. LAIV, which is a quadrivalent SIV, can be used for people aged 2-49 years except those who are pregnant, immunocompromised or with other contraindications (refer to paragraph 35 below). When deciding which SIV to give, the package inserts for individual products should always be referred to for indications, precautions and contraindications.

Dosage and Dosing Schedule

30. Given that SIV offer protection against clinical influenza and severe cases do occur in previously healthy persons, all members of the public except those with known contraindications should receive SIV annually for personal protection, which is in line with the recommendation by the WHO. Members of the public should only receive SIV once in the 2020-21 season, which is expected to offer protection for both winter and summer seasons.

31. Healthcare providers should follow the age-appropriate dosage of individual vaccine in the respective package insert. A single dose of SIV is the standard regimen for persons aged nine years or above. Children below nine years of age who have received one or more doses of SIVs before are recommended to receive one dose of SIV in the 2020-21 season. For children below nine years of age who have not received any SIV before, two doses of

SIVs with an interval of at least four weeks are required****.

32. For individuals receiving LAIV, other live vaccines not administered on the same day should be administered at least four weeks apart. For individuals receiving inactivated SIV, other inactivated or live vaccines may be administered simultaneously or at any interval between doses.

Vaccine Precautions

33. SIV is contraindicated for those with a history of severe hypersensitivity to any of the vaccine components or a previous dose of influenza vaccination. Individuals with mild egg allergy who are considering an influenza vaccination can be given SIV in primary care setting. Individuals with a history of anaphylaxis to egg should have SIV administered by health care professionals in appropriate medical facilities with capacity to recognise and manage severe allergic reactions.

34. A study has shown that there may be a small increased risk of febrile convulsion following concomitant administration of IIV and pneumococcal vaccine in young children in the US, but the increased risk was not observed during subsequent influenza season and the overall risk remains acceptable. Given the obvious benefit of on-time vaccination with the two vaccines, it is recommended that IIV and pneumococcal vaccine can be given concomitantly.

**** For the 2019-20 influenza season, most health authorities including the UK, Ireland, Canada, Australia and New Zealand recommended only 1 dose for children aged 6 months to 8 years who had received any SIV in the past. The UK recommended that only a single dose of LAIV was required for children aged 2-17 years who were not in clinical risk groups, even for those who have not received any SIV in the past. However, the US Centers for Disease Control and Prevention recommended that children aged 6 months through 8 years who had previously received *less than 2* total doses of trivalent or quadrivalent SIV at least 4 weeks apart before July 1, 2019 required 2 doses in the 2019-20 season.

35. LAIV is a live vaccine and is generally contraindicated in the following conditions, taking reference from recommendations of the US, UK and Canada:

- History of severe allergic reaction to any vaccine component or after previous dose of any influenza vaccine;
- Concomitant aspirin or salicylate-containing therapy in children and adolescents;
- Children 2 years through 4 years who have asthma or who have had a history of wheezing in the past 12 months^{†††††};
- Children and adults who are immunocompromised due to any cause;
- Close contacts and caregivers of severely immunosuppressed persons who require a protected environment;
- Pregnancy; and
- Receipt of influenza antiviral medication within previous 48 hours.

Priority Groups

36. People who are in the priority groups are generally at increased risk of severe influenza or transmitting influenza to those at high risk. Therefore, they shall have higher priority for seasonal influenza vaccination. These priority groups have been determined based on a range of scientific considerations taking into account local disease burden and international experience.

37. The priority groups recommended in the 2019-20 season will continue to be included as priority groups^{†††††} for influenza vaccination in the 2020-21 season. Recommendations on the priority groups for seasonal influenza vaccination are summarised below:

- (a) Pregnant Women: Pregnant women are recommended to have the highest priority for vaccination. Seasonal influenza vaccination is recommended for all pregnant women for benefits in terms of reduced acute respiratory infection for both mothers and infants, and reduction of cardiopulmonary complications and the associated hospitalisations in

^{†††††}The UK recommended the use of IIV instead of LAIV for children with increased wheezing and/or needed additional bronchodilator treatment in previous 72 hours. Also, specialist advice should be sought on giving LAIV for children who require regular oral steroid for maintenance of asthma control or who have previously required intensive care for asthmatic attack. Canada recommended that individuals with severe asthma (currently on oral or high-dose inhaled glucocorticosteroids or active wheezing) or those with medically attended wheezing in the 7 days prior to vaccination should not use LAIV.

^{†††††} The two priority groups “Elderly Persons Living in Residential Care Homes” and “Long-stay Residents of Institutions for Persons with Disability” stated in the recommendation of 2019-20 season is now combined to one priority group “Residents of Residential Care Homes”.

pregnant women. IIV is considered to be safe by the WHO for use at any gestational age of pregnancy and there is no evidence indicating that IIV is teratogenic even when given during the first trimester. However, LAIV should **not** be used in pregnant women.

- (b) Residents of Residential Care Homes (such as Residential Care Homes for the Elderly [RCHE] or Residential Care Homes for Persons with Disabilities [RCHD]): For elderly, seasonal influenza vaccination is recommended for reducing the risk of complications from influenza including hospitalisation, pneumonia and death. For residents in RCHD, their disability hinders them from undertaking adequate hygiene measures in an institutional environment which favours the transmission of influenza. Seasonal influenza vaccination is therefore recommended for reducing influenza related hospitalisation during influenza outbreaks.
- (c) Persons Aged 50 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 deaths from influenza. Persons aged 50-64 years are also recommended for influenza vaccination because local influenza epidemiology showed that people aged 50-64 years, irrespective of chronic medical problems, were having a higher risk of influenza-related ICU admission and death during seasons predominated by influenza A(H1N1)pdm09.
- (d) Persons with Chronic Medical Problems: Seasonal influenza vaccination is recommended for persons aged six months or above having chronic cardiovascular (except hypertension without complication), lung, metabolic or kidney disease, obesity (body mass index 30 or above) §§§§§, who are immunocompromised***** , children and adolescents (aged six 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 take care for themselves. Seasonal influenza vaccination is recommended in view of their

§§§§§ Obesity is considered as an independent risk factor for influenza complication and thus people with body mass index of ≥ 30 are included for seasonal influenza vaccination.

***** People who are immunocompromised refer to those with a weakened immune system due to disease (such as HIV/AIDS) or treatment (such as cancer treatment).

increased risk of complications and death associated with influenza infection. Of note, LAIV should not be used in immunocompromised persons.

- (e) Health Care Workers †††††: Seasonal influenza vaccination is recommended for health care workers to reduce morbidity and hence reduce absenteeism related to respiratory infections. It is also recommended in order to reduce the risk of transmitting influenza to patients who are at high risk of complications and mortality from influenza.
- (f) Children Aged Six Months to 11 Years: Seasonal influenza vaccination is recommended for children aged six months to 11 years for reducing influenza related complications such as excess hospitalisations or deaths. Studies in overseas have shown that vaccinating young school children may potentially reduce school absenteeism and influenza transmission in the community.
- (g) 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 minimising 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.
- (h) Pig Farmers and Pig-slaughtering Industry Personnel: Pig farmers and pig-slaughtering industry personnel are recommended to receive SIV to prevent emergence of new influenza A virus in either human or pig hosts.

††††† Including care workers in RCHEs and RCHDs.

Influenza Vaccine and COVID-19

38. In the context of the global pandemic of COVID-19 and when a COVID-19 vaccine is yet to be available, it is important to ensure people who are at greater risk of influenza infection (e.g. health workers, older adults and pregnant women) are prioritised to access and receive SIV^{*****}. SIV can reduce the risk of influenza infection and related complications, which could relieve the burden on healthcare system during the COVID-19 pandemic.

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***** World Health Organization. (2020). Guiding principles for immunization activities during the COVID-19 pandemic: interim guidance, 26 March 2020. World Health Organization. Available at <https://apps.who.int/iris/handle/10665/331590>.