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HEALTH UPDATE: INFLUENZA AND RESPIRATORY ILLNESS 2017-18 OCTOBER 31, 2017

Visit <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Influenza.aspx> for updates about current seasonal influenza activity in California.

ACTIONS REQUESTED OF ALL CLINICIANS

- 1. Report influenza deaths in persons aged 0-64 years and influenza and other acute respiratory outbreaks** to SFDPH Disease Control at (415) 554-2830 according to guidance below. **Report RSV-associated deaths in children** ages 0-4 years.
- 2. Encourage and provide inactivated influenza vaccine** for all persons aged ≥ 6 months and pneumococcal vaccination for those at increased risk of invasive pneumococcal disease. Do not use live attenuated influenza vaccine (FluMist) this year.
- 3. Prescribe antiviral treatment** for patients with suspected or confirmed influenza who are hospitalized for severe illness or who are at higher risk for influenza-related complications. Treat early and empirically, without waiting for lab test results.
- 4. Prescribe antiviral chemoprophylaxis** to prevent influenza among vulnerable patients exposed to influenza, especially those in congregate care settings.
- 5. Implement infection control precautions** as described on page 4 below. Note:
 - ALL PERSONS with fever & cough should wear a face mask in all health care settings.
 - ALL PERSONS with Influenza-like illness (ILI)¹ should be instructed to stay at home until 24 hours after fever resolves, except patients who require medical evaluation and care.

SURVEILLANCE AND REPORTING

Goals for public health influenza surveillance this season are to: (a) prevent and curb outbreaks in confined settings where the risk of transmission is high; and (b) investigate fatal, severe, and novel cases of influenza.

PLEASE REPORT:

- A) Outbreaks of influenza or acute respiratory illness occurring in institutions or congregate settings (e.g. closed populations such as long-term care, rehab, assisted living, jails) in San Francisco.**
- Report by telephone promptly (within 24 hr.) to SFDPH Disease Control at (415) 554-2830. For licensed Long-Term Care Facilities (LTCFs), an outbreak recommendations checklist and other resources are available at <http://sfcdcp.org/longtermcare>.

¹ Influenza-like-illness (ILI) is defined as fever $\geq 100^{\circ}$ F (37.8° C) and cough or sore throat, in the absence of a known cause other than influenza.

Categories of urgency levels

Health Alert: conveys the highest level of importance; warrants immediate action or attention

Health Advisory: provides important information for a specific incident or situation; may not require immediate action

Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action

B) Fatal laboratory-confirmed influenza cases aged 0 - 64 years.

- Report within 7 days. Complete a case history form (www.sfdcdp.org/influenzareporting.html) and fax to (415) 554-2848 or call (415) 554-2830 during business hours.
- Note: SFDPH may request retained specimens from fatal cases, to be sent to CDPH for viral culture, strain typing and antiviral resistance testing. Goals are to characterize circulating strains, guide antiviral treatment recommendations and look for emergence of novel strains.

C) Avian Influenza A(H7N9) or A(H5N1) variant or other novel influenza infections must be reported to SFDPH immediately if suspected.

- Characterized by: ILI severe enough to require inpatient medical care in a person with: (a) recent close contact² with a confirmed or suspected case of infection with influenza A(H7N9) or A(H5N1) while the case was ill; OR (b) recent travel⁴ to areas where humans have been infected with influenza A(H7N9) or A(H5N1) or where one of these subtypes is circulating in poultry.³

D) Respiratory Syncytial Virus (RSV)-Associated Deaths in Children Age 0-4 Years. This is a new reporting requirement as of 2016-17.**TESTING, SPECIMEN COLLECTION AND SUBMISSION**

Influenza testing is indicated when it will help guide clinical decision-making. Testing may be most useful in hospitalized and/or critically ill patients, and at the beginning and end of influenza season when the pre-test probability is lower. Treatment with antivirals should not be delayed pending testing results.

Rapid influenza diagnostic tests (RIDT) and reverse transcription polymerase chain reaction tests (RT-PCR): A positive RIDT result is 90-95% likely to be true positive, but a negative result is only 50-70% likely to be true negative. To minimize false negative results: follow the manufacturer's instructions closely; collect respiratory specimens for RIDT within 3-4 days of illness onset; and consider confirmatory testing with RT-PCR, particularly if an RIDT result is negative during a period of high community influenza activity.⁴

Influenza testing by RT-PCR is readily available at hospital and commercial laboratories, and is particularly encouraged: (1) for hospitalized, intensive care, and fatal cases of ILI; (2) for acute respiratory outbreaks; and (3) in persons with ILI whose history of travel or contacts suggests concern for variant or novel influenza. SFDPH Laboratory offers influenza testing by RT-PCR only in special situations, for example for residents of large group or institutional settings that are experiencing an ILI outbreak. *All requests for influenza RT-PCR testing by SFDPH must be coordinated through and approved by SFDPH Disease Control at (415)554-2830.* Instructions and SFDPH Lab forms can be found at: www.sfdcdp.org/influenzareporting.html.

VACCINATION

Influenza Vaccination: Annual vaccination is recommended for everyone age 6 months and older, regardless of risk group, to ensure protection throughout the 2017-18 influenza season. For a complete list of recommendations and vaccine products for 2017-18, see: <https://www.cdc.gov/mmwr/volumes/66/rr/rr6602a1.htm>.

For 2017-18, trivalent influenza vaccines have 2 different virus strains as compared with 2016-17, and quadrivalent vaccines contain both influenza B strains from the prior year.⁵ There is no preferential recommendation for trivalent vs. quadrivalent vaccine; either is acceptable. Other recommendations:

- A) **The live, attenuated intranasal flu vaccine (LAIV; FluMist) is still not recommended this year** due to its low effectiveness against influenza A (H1N1) strains during the 2013-14 and 2014-15 flu seasons.

² For avian flu strains, recent contact or travel = within 10 days of illness onset

³ For info see [https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH Document Library/Immunization/NovelFluQuicksheet.pdf](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/NovelFluQuicksheet.pdf) and www.sfdcdp.org/avianflu.html

⁴ Further information: http://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm

⁵ For 2017-18 trivalent vaccines contain an A/Michigan/45/2015 (H1N1) pdm09–like virus; an A/Hong Kong/4801/2014 (H3N2)-like virus; and a B/Phuket/3073/2013-like virus. Quadrivalent vaccines also contain a B/Brisbane/60/2008-like virus.

- B) **Children age 6 months through 8 years** who previously received 0-1 lifetime doses of influenza vaccine should receive 2 doses of the 2017-18 formulation, given at least 4 weeks apart. Those with ≥ 2 prior lifetime doses require just 1 dose this year.
- C) **Children aged 6-35 months** may receive FluLaval Quadrivalent at the same 0.5 mL per dose as is used for older children and adults. The dose of Fluzone Quadrivalent for children aged 6-35 months remains 0.25 mL
- D) **Persons with a history of severe allergic reaction to egg (any symptom beside hives)** should be vaccinated in a medical setting supervised by a provider who is able to recognize and manage severe allergic conditions.

Health Care Workers (HCW): By order of the Health Officer, dated 8/24/2017, all hospitals, skilled nursing, and other long term care facilities in San Francisco must require their HCW to receive an annual flu vaccination or, if they decline, to wear a mask in patient care areas during the influenza season. The full document is available at www.sfcpcb.org/fluproviders.html. In addition, CA law (Health & Safety Code §1288.7 / Cal OSHA §5199) mandates either flu vaccination or a signed declination form for all acute-care hospital workers and most other HCW including skilled nursing facility, long-term care facility, and clinic and office-based staff.

Pneumococcal Vaccination: All persons age 65+ years and most persons age 6+ years with immune system compromise, should receive 13-valent pneumococcal conjugate vaccine (Prevnar13) if they have not received it previously. The 23-valent pneumococcal polysaccharide vaccine (Pneumovax23) is also indicated for these and other individuals; see the following algorithms to determine eligibility, sequencing, and timing of these vaccines: adults (eziz.org/assets/docs/IMM-1152.pdf) and children (eziz.org/assets/docs/IMM-1159.pdf).

For vaccination locations in San Francisco, see: www.sfcpcb.org/IZlocations.html.

ANTIVIRAL TREATMENT & CHEMOPROPHYLAXIS

Recommendations for 2017-18 have not yet been published by CDC but are unlikely to change substantially from the 2015-16 recommendations (below). For additional information and future updates, please see: <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

Summary of Treatment Recommendations: Antiviral medications can reduce illness severity, shorten duration of illness and hospitalization, and reduce risk of complications and mortality from influenza. Antiviral treatment with **oseltamivir, zanamivir, or peramivir** is recommended for persons ill with **suspected or confirmed influenza** who are hospitalized, have severe complicated or progressive illness, or who are at higher risk for influenza-related complications. Those at higher risk for influenza-related complications include:

- Children younger than age 2 years and adults aged 65 years and older;
- Persons with chronic pulmonary, cardiovascular, renal, hepatic, hematological, neurologic (including neurodevelopmental), and metabolic disorders
- Persons with immunosuppression, including from medications or by HIV infection;
- Women who are pregnant or postpartum (within 2 weeks after delivery);
- Persons age younger than 19 years who are receiving long-term aspirin therapy;
- American Indians/Alaska Natives;
- Persons who are morbidly obese (i.e., BMI ≥ 40); and
- Residents of nursing homes and other chronic-care facilities.

Treatment decisions should be made empirically and should not await lab confirmation of influenza since testing could delay treatment and a negative rapid test does not rule out influenza. Treatment should be initiated **as early as possible** as benefit is greatest when started within 48 hours of illness onset. However for hospitalized patients and those with severe, complicated, or progressive illness, antiviral treatment might still be beneficial if started up to 4-5 days after illness onset. Duration of treatment is 5 days (but may be extended for those still severely ill after 5 days of treatment). Oseltamivir is FDA-approved for treatment of infants as young as 2 weeks of age and preferred for treatment of pregnant women. Consult the package inserts for antiviral dosing and adjustment for renal impairment.

Summary of Chemoprophylaxis Recommendations: Antiviral medications are 70-90% effective in preventing influenza and are useful adjuncts to vaccination. Chemoprophylaxis is recommended if it can be initiated within 48 hours after exposure to influenza, among:

- Persons with severe immune deficiencies who might not respond to influenza vaccination
- Persons at high risk of influenza complications who have a contraindication to influenza vaccination
- Residents of institutions such as nursing homes, regardless whether they have received influenza vaccine, once influenza cases have been identified at the facility. Chemoprophylaxis should also be considered for unvaccinated institutional staff.

Duration of chemoprophylaxis is until 7 days after the last known exposure to a person with influenza, and should be continued for a minimum of 14 days for residents of LTCF. Consult the package inserts for antiviral dosing and adjustment for renal impairment.

INFECTION CONTROL PRECAUTIONS FOR HEALTHCARE SETTINGS

All healthcare facilities should adopt standard and droplet precautions when caring for patients with ILI, or with suspected or confirmed seasonal influenza infection. Specifically:

- Request that all persons with fever and cough wear a face mask;
- Isolate unmasked patients with ILI as soon as possible, ideally in a private exam room or at a distance of at least 3 feet from others;
- Staff entering the exam room of any patient with influenza or ILI should wear a face mask.
- When patients with suspected or confirmed influenza are to be subjected to aerosol-generating procedures, airborne precautions should be added to standard and droplet precautions.
- See www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm for detailed guidance on infection prevention strategies for seasonal influenza.

For the more highly pathogenic H7N9 or H5N1 avian flu strains, standard plus contact and airborne precautions are recommended (<https://www.cdc.gov/flu/avianflu/novel-flu-infection-control.htm>).

REMINDERS

- SFDPH influenza webpage: www.sfdcp.org/flu
- To report influenza deaths and/or cases or outbreaks as described above, call (415) 554-2830.
- Within San Francisco, the public can call 311 for basic information about influenza.