Influenza Prevention and Outbreak Management in SNF 2021-22

10.27.2021
Objectives

• Describe the epidemiology of influenza, SARS-CoV-2, and other respiratory viruses in California

• Describe background and key messages about prevention of influenza during the COVID-19 pandemic

• Describe guidance for planning and managing influenza and SARS-CoV-2 co-circulation in SNF

• Describe the role of the local health department (LHD) in influenza prevention and outbreak management
What will be different this flu season?

- Influenza seasons vary in severity from year to year, based on the characteristics of the circulating influenza virus strains and how well the vaccine matches the circulating strains.
- Co-circulation of influenza and SARS-CoV-2 viruses has been documented.
- Frequency, severity, risk factors, interactions unpredictable.
  - Concern about predominance of A(H3N2) influenza A strain in the southern hemisphere 2021.
Globally: Flu activity lower than expected for time of year
< 1% flu tests 9/27-10/10/21 pos.
Flu B 66% (Victoria)  Flu A 34%, 66% A(H3N2)
RSV increased in many areas

WHO Global Influenza
SARS-CoV-2 in California SNF as of 10/25/2021

COVID-19 SKILLED NURSING FACILITIES TRENDS

- SNF New COVID-19 Cases (7-Day Moving Average)
- SNF COVID-19 Deaths (7-Day Moving Average)
- Statewide Daily Case Increase (7-Day Moving Average)
Influenza and Other Respiratory Viruses Weekly Report (PDF)
(www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/week2021-2241_FINALReport.pdf)
Percentage of Influenza Detections at Clinical Sentinel Labs 2017-2022

Season to date: pos. 0.4%, sporadic, 3 cases Flu B in 3 different LTCF
As of 10/16/21: 8.2% RSV pos. (decreasing; usual peak Dec-March pre-COVID
Parainfluenza, non SARS-CoV-2 coronaviruses, rhino/entero increased

*Coronaviruses identified include common human coronaviruses 229E, NL63, OC43, and HKU1 and do NOT include SARS-CoV-2
Reasons for Low Influenza Activity During 2020-21 Season

- COVID-19 mitigation measures
  - Wearing face masks
  - Staying home
  - Hand hygiene
  - School closures
  - Reduced travel
  - Increased ventilation of indoor spaces
  - Physical distancing
  - ? Viral interference

- How will COVID-19 vaccine and changes in behaviors affect influenza circulation this season????
Key Message: Nonpharmaceutical Interventions

Nonpharmaceutical interventions (NPI) for prevention of COVID-19 such as universal masking*, physical distancing, avoiding group gatherings, staying home when sick, and limiting travel will likely contribute to prevention of influenza, but do not replace influenza vaccination and chemoprophylaxis with influenza antivirals.

*CDPH FAQs on Face Coverings 9/1/2021 (www.cdph.ca.gov/ Programs/CID/DCDC/Pages/COVID-19/Face-Coverings-QA.aspx)
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Key Messages: Influenza Vaccination

• **Vaccination** is the most effective tool to prevent influenza and its serious complications

• While the effectiveness of influenza vaccines for prevention of influenza infections varies by season, these vaccines prevent severe disease, ICU admissions, and death

• **Influenza vaccine is especially important for**
  • SNF residents at risk of severe illness and death
  • SNF HCP to protect themselves and their vulnerable residents

CDPH Flu Campaign Communications
(www.cdph.ca.gov/Programs/OPA/Pages/Communications-Toolkits/Fight-Flu-Together.aspx)

Letter to the Editor; Journal of Medical Virology (PDF)
(www.ncbi.nlm.nih.gov/pmc/articles/PMC7300995/pdf)

Inactivated trivalent influenza vaccine is associated with lower mortality among Covid-19 patients in Brazil (PDF)
(www.medrxiv.org/content/10.1101/2020.06.29.20142505v1.full.pdf)
Key Messages: Influenza Vaccination (cont’d.)

• Influenza vaccine may be given at the same time as SARS-CoV-2 vaccine

• Influenza vaccine will neither prevent nor increase the risk of infection with SARS-CoV-2
  • Data from Italy¹ and Brazil² demonstrated a significant reduction in mortality from COVID-19 among influenza vaccine recipients

• See CDPH Communication Tools website (www.cdph.ca.gov/Programs/OPA/Pages/Communications-Toolkits/Fight-Flu-Together.aspx) for communication tools in Spanish and English, updated 9/21/2021

¹Letter to the Editor; Journal of Medical Virology (PDF) (www.ncbi.nlm.nih.gov/pmc/articles/PMC7300995/pdf)
²Inactivated trivalent influenza vaccine is associated with lower mortality among Covid-19 patients in Brazil (PDF) (www.medrxiv.org/content/10.1101/2020.06.29.20142505v1.full.pdf)
Key Message: Provide Influenza Vaccine to SNF HCP

- **2018-2019:** 67.9% of HCP working in long term care facilities (LTCF) in the U.S. were vaccinated against influenza during the 2018-19 season, compared with 95% coverage in acute care hospitals.

- **2019-20:** vaccination coverage in LTCF was 69.3%, but 85-89% in LTCF with employer requirement and programs on site.

[CDC Influenza (Oct. 1, 2020)](www.cdc.gov/flu/fluvaxview/hcp-coverage_1920estimates.htm#five)
Flu Vaccine Coverage During 2020-21 Season

• Early estimates of flu vaccine coverage during 2020-21 season in the United States
  • Adults: 50-55%
  • Children: 58.2%
  • Pregnant: slight decrease
• HCP in California acute care hospitals: 79%
  • Decreased from 85% pre-pandemic
  • Only 23% of hospitals met goal of 90%
Recommendations for the Prevention and Control of Influenza in CA SNFs during the COVID-19 Pandemic

California Department of Public Health (CDPH)
Updated October 2020

Recommendations for the Prevention and Control of Influenza in CA SNFs during the COVID-19 Pandemic (PDF)
(www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/SNF_DetectAndControlOutbreaks.aspx)
Organization of the Guidance Document

• Introduction
• Key Messages
• **Table 1**: Comparison of clinical characteristics of COVID-19 and influenza
• **Table 2**: Planning for influenza illness and outbreaks in SNF
• **Table 3**: Identifying and Controlling Influenza Outbreaks in SNF
• Glossary
• Resources
• **Appendix A.** Sample Surveillance Case Log of Residents with Acute Respiratory Illness and/or Pneumonia
• **Appendix B.** Sample Surveillance Case Log of Healthcare Personnel with Acute Respiratory Illness and/or Pneumonia

[link](www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-20-80.aspx)
TABLE 1. Similarities and Differences Between Seasonal Influenza Virus and SARS-CoV2

**Same:** Fever, chills, cough, shortness of breath or difficulty breathing, fatigue, sore throat, runny or stuffy nose, myalgias, headache, vomiting and diarrhea, cardiac complications

**Differences:**

<table>
<thead>
<tr>
<th>Select Characteristics</th>
<th>Influenza</th>
<th>COVID-19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peak symptoms</strong></td>
<td>During days 3-7 of illness</td>
<td>During week 2-3 of illness</td>
</tr>
<tr>
<td><strong>Incubation Period</strong></td>
<td>1-4 days (median 2 days)</td>
<td>14 days (median 5 days)</td>
</tr>
<tr>
<td><strong>Case-Fatality Rate</strong></td>
<td>0.1%</td>
<td>0.25-3.0%</td>
</tr>
<tr>
<td><strong>Primary route of transmission</strong></td>
<td>Droplet Short-range aerosol possible</td>
<td>Droplet, short-range aerosol Fomite and fecal-oral less important</td>
</tr>
<tr>
<td><strong>Recommended PPE</strong></td>
<td>Surgical mask; gown and gloves if high contact activity</td>
<td>N95 respirator, eye protection, gown, gloves AIIR if aerosol generating procedure</td>
</tr>
</tbody>
</table>
Key messages: Testing and Resident Placement & Cohorting

• **Testing:** Once influenza is circulating in the community, always test residents with symptoms & signs of COVID-19 or influenza for both viruses

• **Resident placement:** Maintain symptomatic resident in current room and implement COVID-19 transmission-based precautions pending test results

• **Cohorting:** Avoid movement of residents with suspected or confirmed influenza *between* COVID-19 cohorts

[Respiratory Illness Quicksheet](https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/FluAndRespiratoryIllnessOutbreakQuicksheet.pdf) (PDF)
Table 2. Planning for Management of Influenza Illness and Outbreaks in SNF During the COVID-19 Pandemic

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>RESIDENTS</th>
<th>HCP</th>
<th>FAMILY MEMBERS/ VISITORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educate</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Update <em>influenza vaccination</em> plan</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Review <em>pneumococcal vaccination</em> status of residents</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Update plan for daily active <em>ILI surveillance</em></td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>PLAN TO TEST RESIDENTS and HCP WITH SYMPTOMS OF COVID OR FLU FOR BOTH VIRUSES</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Adjust plan for <em>influenza prevention</em> and outbreak management for COVID-19</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Update plan for obtaining and using influenza <em>antiviral agents</em></td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop process for after action <em>evaluation</em> of plan</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
Before an Outbreak Occurs: Plan Your Influenza Vaccination Program

- Key elements of an influenza vaccination plan
  - SNF are responsible for
    - Providing influenza vaccine to residents and HCP on site
    - Providing rationale and referral to sites for vaccine to families
  - Standing orders
  - Minor illness, SARS-CoV-2 exposure are not contraindications; be alert to diagnostic uncertainty if fever post influenza vaccination (uncommon)
  - Designate a specific influenza vaccination week to complete most vaccination, but continue throughout the season
  - Identify flu vaccine champions
  - Track vaccine administrations

CDPH Flu Communications Webpage
(www.cdph.ca.gov/Programs/OPA/Pages/Communications-Toolkits/Fight-Flu-Together.aspx)
Guidance for Leaders/Administrators in Post-Acute and LTCFs Who Plan to Improve Staff Influenza Vaccination Compliance through Vaccination Requirement Policies (PDF)
## Table 3. Identifying Influenza Outbreaks in SNF

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>RECOMMENDATIONS</th>
</tr>
</thead>
</table>
| 1. Perform daily active surveillance for respiratory illness in residents and HCP (Appendix A, B) | • During influenza season, usually October-March, conduct daily active surveillance for acute upper respiratory illness and pneumonia among residents and HCP until at least 1 week after the last confirmed case of influenza using a line list (see Appendices A and B for examples of line lists)  
  ◦ The respiratory illness line lists are different from the line lists used to track serial testing results for COVID-19 (contact covHAL@cdph.ca.gov for COVID-19 line list template); continue to use COVID-19 line list for tracking serial test results  
  ◦ Include individuals with current or recovered COVID-19 who have new onset of respiratory symptoms  
  ◦ Record specific locations of ill residents and HCP assignments and include information about sick HCP and sick visitors, as available  
  • Review line list daily and take actions needed if suspect influenza cases are identified. |
| □ Initiated ________(date) | |
| □ Complete ________(date) | |
| 2. Use diagnostic testing ([www.cdc.gov/flu/professionals/diagnosis/overview-testing-methods.htm](http://www.cdc.gov/flu/professionals/diagnosis/overview-testing-methods.htm)) for influenza and SARS-CoV-2: | • Test residents with onset of respiratory symptoms for both influenza and SARS-CoV-2 at the same time to confirm the diagnosis; contact the local health department for assistance obtaining real-time RT-PCR testing for influenza with rapid turn-around time.  
  • Wherever available, use multiplex influenza A and B and SARS-CoV-2 ([Flu SC2](http://www.cdc.gov/flu/professionals/diagnosis/table-flu-covid19-detection.html)) tests; multiplex point-of-care (POC) testing for both influenza and SARS-CoV-2 should be considered for rapid evaluation of symptomatic individuals, followed by confirmatory real-time RT-PCR testing for negative results.  
  • The lower sensitivity of antigen detection rapid influenza diagnostic tests (RIDTs) increases the risk of not identifying an influenza case; a negative RIDT in a symptomatic individual should be confirmed with real-time RT-PCR testing for influenza, even when the SARS-CoV-2 test is positive.  
  • The lower sensitivity of POC antigen tests for SARS-CoV-2 increases the risk of not identifying a COVID-19 case; a negative POC antigen test for SARS-CoV-2 in a symptomatic individual should be confirmed with real-time RT-PCR testing for SARS-CoV-2, even when the influenza test (RIDT or otherwise) is positive. |
| • Multiplex molecular assays  
  ◦ Influenza A, B, and SARS-CoV-2  
  • Rapid molecular assays  
  • Rapid antigen detection assays |
HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM

Surveillance for Acute Upper Respiratory Illness (URI) and Pneumonia

• Conduct daily active surveillance for acute URI and pneumonia in residents and in HCP
  o Include COVID-19 recovered individuals who develop new onset of respiratory symptoms
  o Review linelist daily to determine if testing or isolation needed, or definition of outbreak is met
  o Review absenteeism of HCP
Testing SNF Residents with Symptoms During the COVID-19 Pandemic

- Test any resident with symptoms of COVID-19 or influenza for both viruses to inform infection control practices and treatment
  - Use flu/SARS-CoV-2 multiplex tests (Flu SC2) whenever possible
  - Rapid influenza molecular tests (NAAT) rather than rapid influenza antigen tests (RIDTs) are preferred for improved sensitivity, at least to establish the presence of an outbreak
  - Confirm a negative rapid antigen test for SARS-CoV-2 in a symptomatic individual with RT-PCR
  - A positive test for either influenza or SARS-CoV-2 does not exclude the possibility of a co-infection
  - Use a broad respiratory virus panel (RVP) to test for other respiratory viruses, e.g., RSV, adenovirus, parainfluenza, human metapneumovirus, if influenza and SARS-CoV-2 tests are negative and an outbreak of respiratory illness is suspected.

CDC Overview of Influenza Testing Methods (www.cdc.gov/flu/professionals/diagnosis/overview-testing-methods.html)
Collection of Specimens for Testing

• Follow directions in test kits used
• Influenza
  - **When:** 24-72 hours after symptom onset is optimal
  - **What:** A nasopharyngeal or combined throat and midturbinate nasal specimens provide the most accurate results
  - **How:** Follow directions that accompany the rapid influenza testing kit; use a swab with a synthetic tip (e.g., polyester or Dacron®) and an aluminum or plastic shaft. Specimens collected with swabs made of calcium alginate are NOT acceptable.

CDC Information for Clinicians on Influenza Virus Testing
(www.cdc.gov/flu/professionals/diagnosis/index.htm)
Establish the Presence of an Influenza Outbreak

• Definition
  o > 2 residents with onset of influenza-like illness within 72 hours of each other AND at least 1 resident with laboratory confirmed influenza, preferably by molecular assay (RT-PCR)
  o Consult LHD for guidance

• *Influenza outbreaks might occur separately or concurrently with COVID-19 outbreaks*
  o *The presence of a confirmed influenza outbreak does not preclude the possibility of a COVID-19 outbreak, nor does a COVID-19 outbreak preclude the possibility of an influenza outbreak*
Communication: This is what you have been planning for!

- As soon as an influenza outbreak is established, notify:
  - Facility infection preventionist, administration, medical director, staff
  - Local health department, CDPH L&C district office
  - Residents, family members, visitors

- Post signs at facility entrances: Reminders about vaccine
  - Add tissues and covered waste receptacles to COVID-19 materials and signage at entrance

- Remind HCP of their specific tasks according to the influenza outbreak plan
  - Document assignments and dates initiated and completed

- Restrict visitation and admissions during an active flu outbreak
Transmission-based Precautions and Cohorting

• General principles
  o PPE practices for SARS-CoV2 will protect against flu, but PPE practices for flu won’t protect against SARS-CoV-2
  o **Do not move residents with suspected or confirmed influenza between COVID-19 cohorts**; for example, do not move a resident with suspected or confirmed influenza from a yellow (COVID-19 exposed or observation) to a green (COVID-19 unexposed or recovered) area
    ▪ Residents with suspected or confirmed influenza may be cohoorted together within the same COVID-19 zone
    ▪ During an outbreak of COVID-19 and flu, each COVID-19 zone (Red, Yellow) may require a separate area for flu
Transmission-based Precautions and Cohorting

• **Source control**
  - Emphasize masks for HCPs, residents, and visitors to prevent transmission of flu, using signage

• **Prioritize single-bed rooms, where available, for residents with suspected flu pending test results**
  - If single rooms are unavailable, ill residents may remain in their room with separation of > 6 feet and privacy curtain between residents

• **Use COVID-19 transmission-based precautions while test results pending**
When Influenza Only is Confirmed: PPE

- Droplet precautions plus face shield
  - Continue for $\geq 7$ days after illness onset (24 hours after resolution of fever and respiratory signs)
- Don N95 plus face shield, gowns and gloves for aerosol generating procedures
- Add gloves and gowns per Standard precautions when contact with blood or body fluids is anticipated; add Enhanced Standard precautions for high contact activities with residents at risk for MDRO
- Maintain residents in their rooms when safe and restrict from activities in common areas including meals
- Place facemask on resident and have resident perform hand hygiene and don clean clothes if he/she needs to leave room for medical reasons
Adherence Monitoring

- Perform repeated **audits of HCP adherence** to masking for source control, hand hygiene and other infection control precautions
  - **Secret Shopper**
  - **Immediate feedback to HCP when lapses are observed**
- Perform audits of residents wearing masks when HCP are in the room with feedback to resident and staff
- Report trends in audit results to SNF administrators and leaders
- Post de-identified adherence monitoring data in HCP break or charting areas
Antiviral Agents for Influenza: Treatment

• Begin anti-viral treatment as soon as possible, but within 48 hours of symptom onset
• When there is ongoing transmission of influenza and not SARS-CoV-2, do not wait for test results before initiating Rx
• Consult resident’s PCP for any necessary dose adjustments in residents with underlying conditions, such as renal impairment
• If illness progresses for 72 hours on therapy, consult LHD for evaluation of possible drug resistance
Antiviral Agents for Influenza: Chemoprophylaxis

- When an influenza outbreak is established, provide influenza antiviral chemoprophylaxis with the currently recommended antiviral agent at the recommended dosage regimen to all non-ill residents in the entire facility or in the building or unit affected, regardless of vaccination status.

- Prioritize as follows:
  - Roommates, residents on the same floor or unit as residents with active influenza
  - Residents in the same building with shared HCP

- Duration: ≥ 14 days and ≥ 7 days after the last known case was identified.

- Re-test for flu and SARS-CoV-2 any resident who develops signs or symptoms of ILI after receiving an antiviral agent for ≥ 72h.
Manage Healthcare Personnel

• Ensure vaccination
• Instruct not to work respiratory infection symptoms
• If symptoms develop at work: ensure face mask in place, notify supervisor, leave promptly, test for SARS-CoV-2 and flu
• If influenza pos. and SARS-CoV-2 neg.
  o HCP follows facility policy for return to work for influenza: at minimum do not return to work until afebrile >24 hours without antipyretic treatment and with improvement in respiratory symptoms or no earlier than 5 days after onset
• Consider referring HCP for antiviral chemoprophylaxis if:
  o < 14 days after receiving vaccine (must be > 14 days after LAIV4)
  o Not vaccinated due to contraindications
  o At high risk for complications
Determine End of Influenza Outbreak

• Consult LHD

• No new cases of influenza identified for at least 1 week after the last confirmed case of influenza

• Resume new admissions to previously affected units, or as determined by COVID-19 status

• Notify:
  - Facility infection preventionist, administration, medical director, HCP
  - Local health department
  - L&C district office
  - Residents, family members, visitors

• Perform assessment of program and begin plan for next year
Conclusions

• Unprecedented times require preparation for flu and SARS-CoV-2 co-circulation: *Prepare for the worst, hope for the best*

• Planning ahead for prevention of adverse outcomes associated with influenza requires a strong flu vaccination program for residents and staff with education for families

• Continue non-pharmaceutical intervention (NPI) practices

• Ongoing surveillance and evaluation will detect unpredicted events

• Communication between LHD and facilities is key