

Influenza-like Illness in Los Angeles County Skilled Nursing Facilities

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Morbidity and Mortality

- Rate of influenza associated hospitalizations
 - 65-69 years: 71.1 per 100,000 person-years
 - ≥ 85 years: 628.6 per 100,000 person-years
- Median length of hospital stay: 7 days
- Nationwide influenza and pneumonia 7th leading cause of death in persons ≥ 65 years
- Approx. 90% of underlying pneumonia and influenza deaths among adults ≥ 65



Respiratory outbreaks in LAC Skilled Nursing Facilities (SNF)

- 2007-2008 Flu Season: 5 respiratory outbreaks reported
 - Total 95 cases; 8 hospitalized; 2 flu related deaths
 - Outbreak etiology identified in 1 outbreak (flu B)
- 2008-2009 Flu Season: 4 respiratory outbreaks reported
 - Total 32 cases; 13 hospitalized; 2 respiratory disease deaths
 - Outbreak etiology identified in 2 outbreaks (adenovirus type 3, flu A)



SNF ILI Outbreaks: Definitions

- Influenza like Illness (ILI) case definition:
 - Temperature of at least 100°F AND new cough and/or sore throat
- ILI Outbreak:
 - 3 or more residents with clinically suspected ILI on the same floor or ward during a 48/72 hour period **OR**
 - One or more residents with laboratory confirmed influenza



SNF Outbreak Investigation

- For individuals that meet the clinical criteria of ILI
 - Complete line list, signs and symptoms, CXR results, and flu vaccination status
 - Identify SNF residents who have been hospitalized and/or died
 - Identify if any lab testing has been done
- Identify if any ILI among SNF staff and determine vaccination status
- Specimen Collection: obtain NP swabs (3-5) from residents and/or staff with most recent onset of illness or those with most severe illness



SNF Outbreak Investigation

- Follow-up with facility to determine if any new cases
- Follow-up on all respiratory specimens
- For influenza positive SNF resident consult with Area Medical Director (AMD) to assess need for influenza prophylaxis
- Complete outbreak form HF1164



SNF Outbreak Investigation

- An outbreak can be closed
 - When there are no new cases of ILI seven days after the last ILI case
 - Hospitalized cases return to facility or are no longer in hospital for respiratory illness



Control Recommendations

- Cohort ill residents when possible
- Cohort staff caring for ill residents
- Advise direct care staff with ILI to return to work 7 days after symptom onset or 24 hrs after resolution of symptoms, whichever is longer
- Emphasize hand hygiene in ALL staff, visitors and other residents



Control Recommendations

- Visitors with ILI should not be allowed to visit residents
- Close facility to new admissions until 1 week after last case
- Cancel group activities until 1 week after last case
- Advise residents to take meals in their rooms (if applicable)
- Evaluate the need for prophylaxis and influenza vaccination



Influenza Prophylaxis in SNF

- Prophylaxis recommended for all residents (vaccinated and unvaccinated) in SNFs that are experiencing influenza outbreaks
- Prophylaxis is a primary tool to prevent influenza
 - Not a substitute for influenza vaccination
- The selection of antiviral prophylaxis will depend on the circulating influenza subtype in the community and the established pattern of resistance



Influenza Prophylaxis in SNF

- In 2008, 90% of the seasonal influenza A was resistant to Oseltamivir; not recommended for prophylaxis
- If subtype unavailable, zanamivir or combination of oseltamivir and rimantadine should be used for influenza A
- If unsure of the community circulating strains of influenza and antiviral susceptibilities, consult with Acute Communicable Disease Control for recommendations on prophylaxis



Influenza Prophylaxis in SNF

- Timing of prophylaxis important
- Retrospective study on influenza A outbreaks compared outcomes associated with prophylaxis given at > 5 days vs. ≤ 5 days after outbreak onset
 - Longer duration of outbreak associated with later intervention (18.3 vs. 6.7 days)
 - Higher incidence rates (10.5 cases vs. 6.2 cases per 100 residents with influenza A)
 - Higher case fatality rates (3.3 deaths vs. 0.5 deaths per 100 residents with influenza A)

Rubin MS, Niviv B et al. *Clinical Infectious Diseases*. 2008;47(1):47-52



Duration of Prophylaxis in SNF

- Prophylaxis should be continued for 14 days or
- 7 days after onset of symptoms in last person infected, whichever is longer
- If new cases continue to occur, continue chemoprophylaxis until 7 days after the last case has been identified



Respiratory Outbreak in SNF- Is it always Influenza?

- Keep influenza in mind and obtain appropriate specimen collection, but remember there are other agents that cause respiratory illness
- 2006-2007 flu season study in residential care homes where infectious agent was identified
 - Infections were 53.3% bacterial vs. 46.7% viral
 - Most frequently identified organisms were *Streptococcus pneumoniae* (13.7%) followed by respiratory syncytial virus (9.3%)
 - Influenza was identified in 7.4% of specimens

Hui DS, Woo J, et al. Influenza-like illness in residential care homes. *Thorax*. 2008;63(8):690-697



Resources

- Acute Communicable Disease Control Manual (B-73) - Influenza and Respiratory Disease Outbreaks Chapters at: www.ph.lacounty.gov/acd/procs/b73/B73Index.htm
- Harper SA, Bradley JS, et al. Seasonal Influenza in Adults and Children – Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management: Clinical Practice Guidelines of the Infectious Diseases Society of America. *Clinical Infectious Diseases*. 2009;48(8):1003-32
- CDPH *Recommendations for the Prevention and Control of Influenza in California Long-Term Care Facilities, 2008-2009* at: http://www.cahealthdownload.com/cahf/dpp/Attachment2008_InfluenzaGuidelines.pdf



Interactive Activity

- Elderly Care LA
 - 60 bed SNF for older adults
 - Provides round the clock nursing care
 - 2-3 residents per room
- February 14, 2009 – Valentine’s Day Party
 - Visitors bring refreshments and party favors
 - Ambulatory residents gather in communal dining room
 - Non-ambulatory residents visited in their rooms



Interactive Activity

- Tuesday, February 17
 - 9am: resident in unit A presents with fever and productive cough
- Wednesday, February 18
 - Afternoon: another resident in unit A presents with low-grade fever, sore throat, cough
- Thursday, February 19
 - Total of 3 residents ill with fever, cough, sore throat



Outbreak Epi Curve

