



# Influenza: 2015-2016 Wrap- Up and Preview of the Upcoming Season

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# NC SHARPPS

- Surveillance for Healthcare-Associated Infections and Resistant Pathogens Patient Safety (SHARPPS) Program
  - Conducts surveillance
  - Provides guidance, education, and training
  - Assists with outbreak investigations

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# Outline

- I. 2015 -16 Flu Season Summary:  
Lessons Learned
- II. Influenza Surveillance
- III. Vaccine Effectiveness
- IV. Flu is Reportable?

# 2015-16 Flu Season: Lessons Learned

- 2015-16 flu activity remained low from October 2015- December 2015
- Compared to recent seasons this was a moderate season- low activity and late peak  
During the most recent 18 flu seasons, only two other seasons have peaked in March (2011- 2012 and 2005- 2006)!
- The season was also less severe- lower outpatient visits, lower hospitalizations, and lower percentage of deaths

# 2015-16 Flu Season: Lessons Learned

Saw mostly Flu A (H1N1) followed by Flu B nationally and in NC

Antigenic and genetic characterization indicated that most circulating viruses were well-matched to the 2015-16 influenza vaccine formulation

CDC estimates that last season, almost half (45.6%) of the U.S. population 6 months and older got vaccinated against flu.

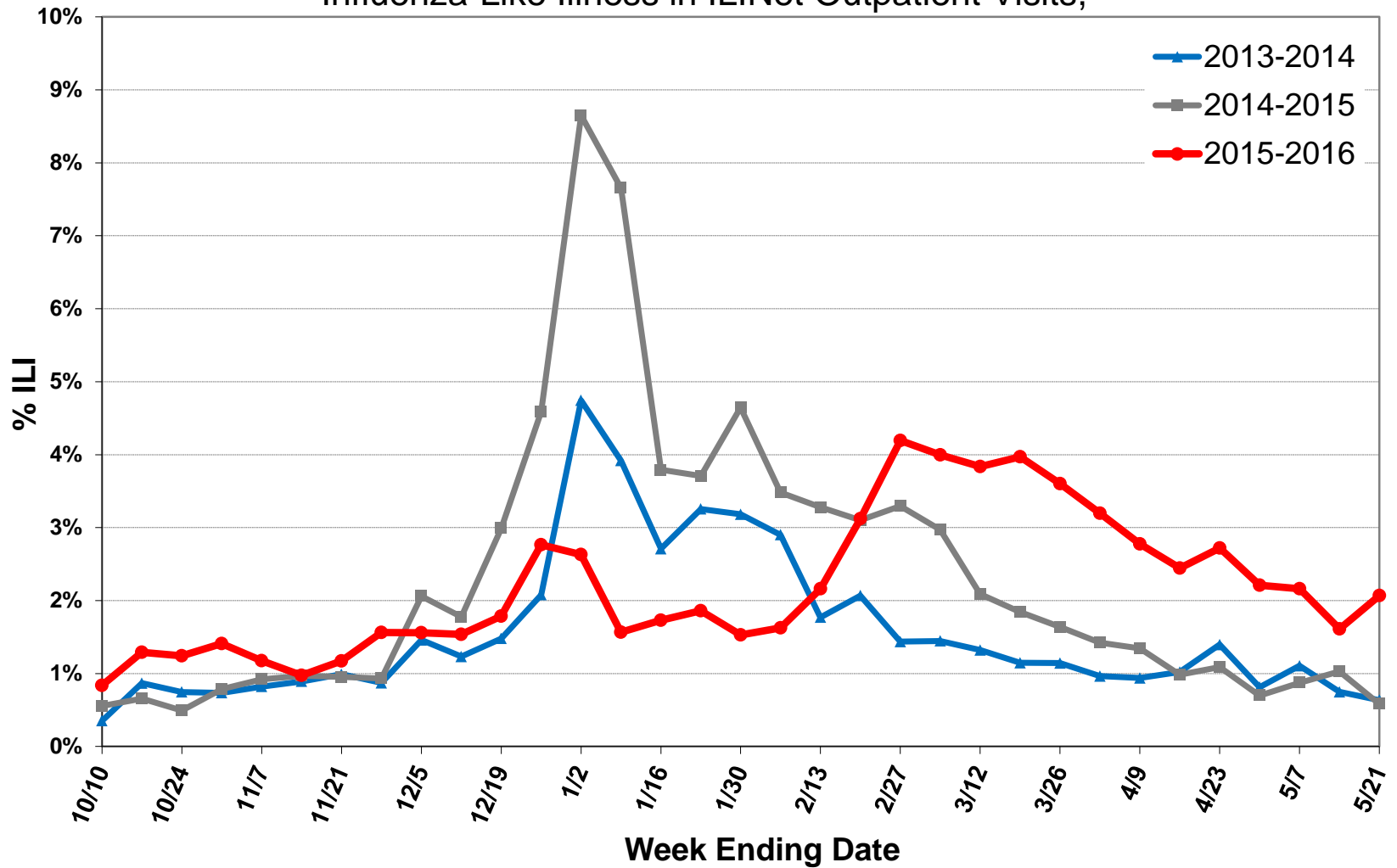
# 2015-16 Flu Season: Lessons Learned

61 total deaths reported for  
2015-16 flu season in NC

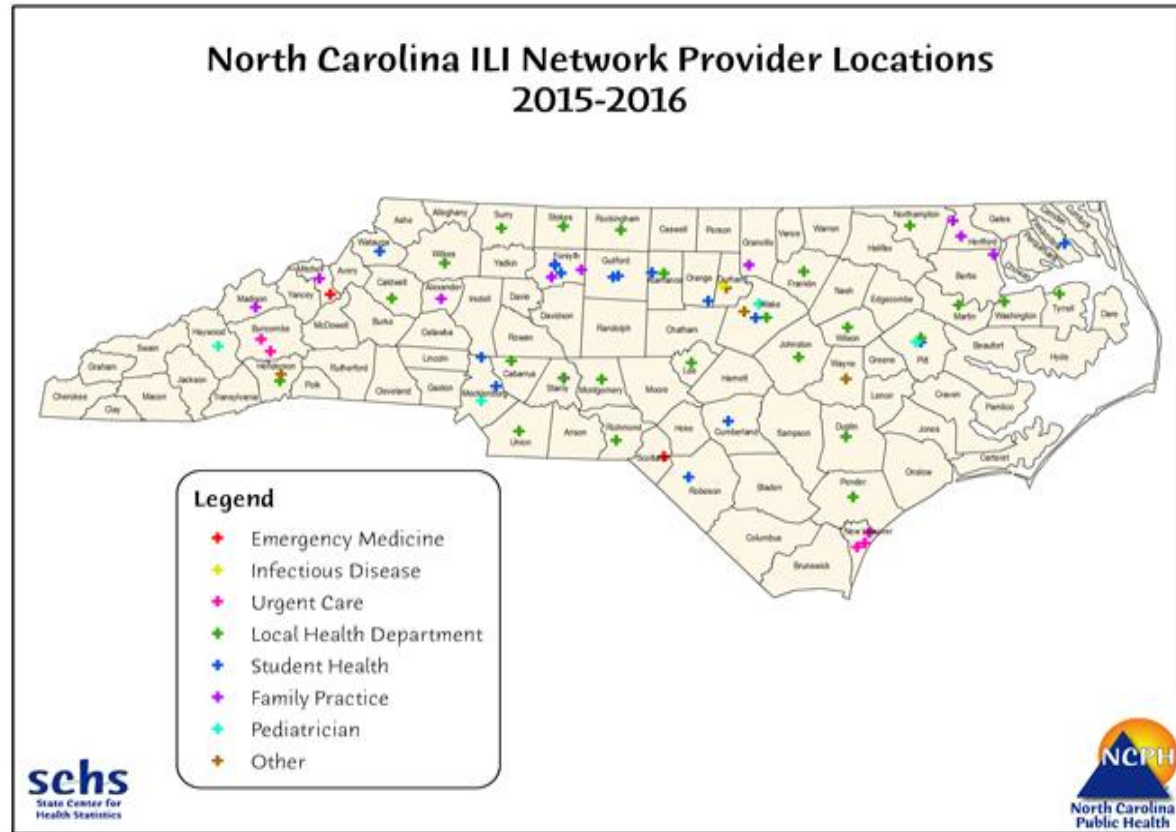
- 31 females; 30 males
- 1 pediatric death
- 53/61 (87%) were Flu A
  - 31 (51%) were Flu A (H1N1)
- Vaccination status is known for 41 cases
  - 25 (61%) were unvaccinated
  - 16 (39%) were vaccinated

# Influenza Surveillance

**INFLUENZA SURVEILLANCE, NC 2013-2016**  
Influenza-Like Illness in ILINet Outpatient Visits,



# Influenza Surveillance



67 sites participated in 2015 – 16:

- ✓ 37% are local health departments
- ✓ 40% of the sites send specimens to the state lab\*
- ✓ 81% report data via CDC at least 10 times per season



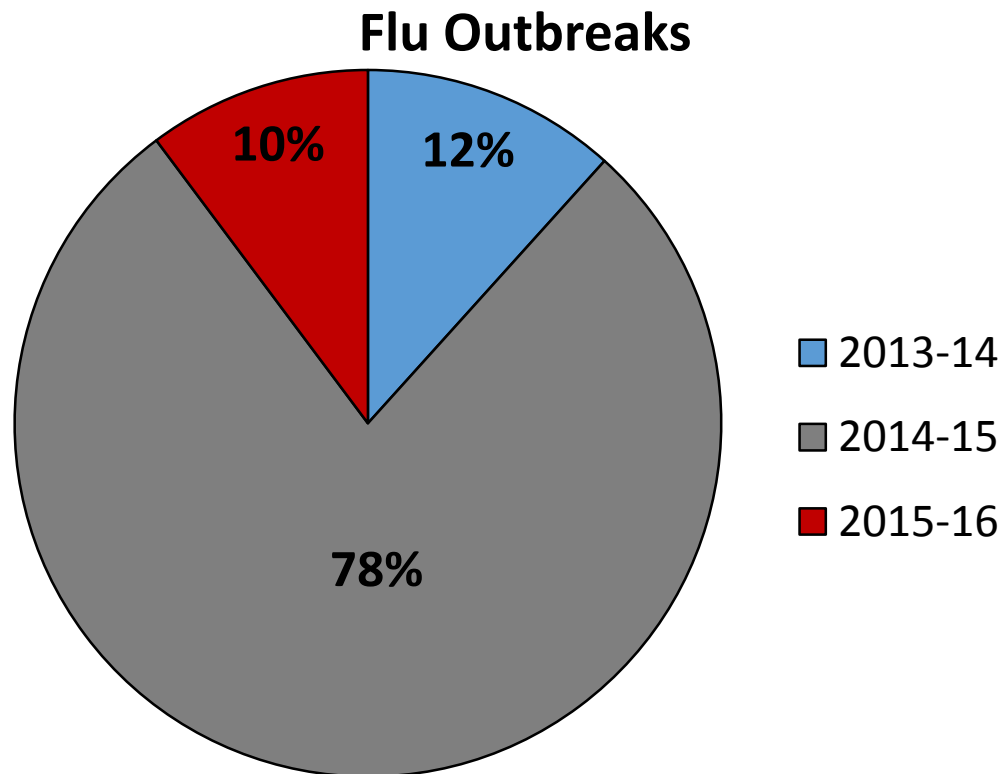
# Influenza Surveillance

Influenza outbreaks reported over the last 3 seasons-

2013-14: H1N1 predominant season

2014-15: H3N2 predominant season

2015-16: H1N1 & B predominant season



# Influenza Vaccine: 2016-17 components

## **The Trivalent vaccine contains:**

- A/California/7/2009 (H1N1)pdm09-like virus,
- A/Hong Kong/4801/2014 (H3N2)-like virus and a
- B/Brisbane/60/2008-like virus (B/Victoria lineage)

## **The Quadrivalent vaccine also includes:**

- B/Phuket/3073/2013-like virus (B/Yamagata lineage)

# Influenza Vaccine: New this Season

## **The Advisory Committee on Immunization Practices (ACIP) and the CDC recommend:**

- Use of injectable flu vaccine (IIV or RIV)
- LAIV should NOT be used based on concerns about effectiveness

## **For 65 and over:**

- Get any injectable vaccine that is approved.
- Two vaccines are designed for 65+
  1. High dose vaccine
  2. Adjuvant flu vaccine, Flud

# Influenza Vaccine: New this Season

## **For people with egg allergy**

Anyone with egg allergy can receive any licensed flu vaccine, however the vaccine should be administered in an inpatient or outpatient medical setting and they should be supervised by health care provider who is able to recognize and manage severe allergic reactions.

<http://www.cdc.gov/flu/protect/vaccine/egg-allergies.htm#algorithm>

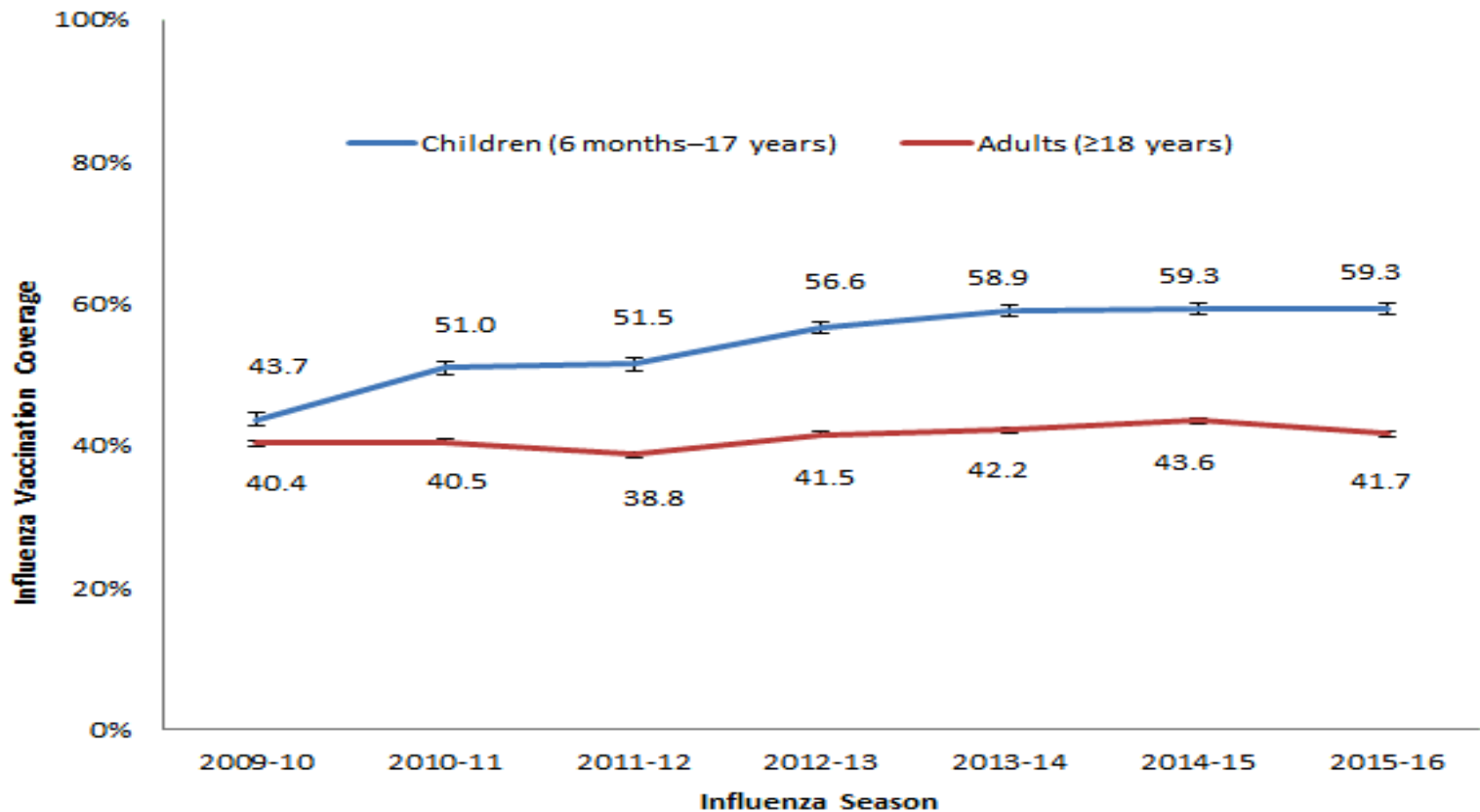
# Influenza Vaccine: New this Season

## **Two new flu vaccine options this season:**

1. FLUAD which contains MF59, a type of adjuvant\*, and is licensed for use in people 65 years and older
2. Quadrivalent flu shot made with virus grown in cell culture and is licensed for use in people 4 years and older

# Influenza Vaccine Coverage (national)

**Figure 1. Seasonal Flu Vaccination Coverage by Age Group and Season, United States, 2009–2016**



Error bars represent 95% confidence intervals around the estimates.

The 2009-10 estimates do not include the influenza A (H1N1) pdm09 monovalent vaccine.

Starting with the 2011-12 season, adult estimates reflect changes in BRFSS survey methods: the addition of cellular telephone samples and a new weighting method.

# Influenza Vaccine

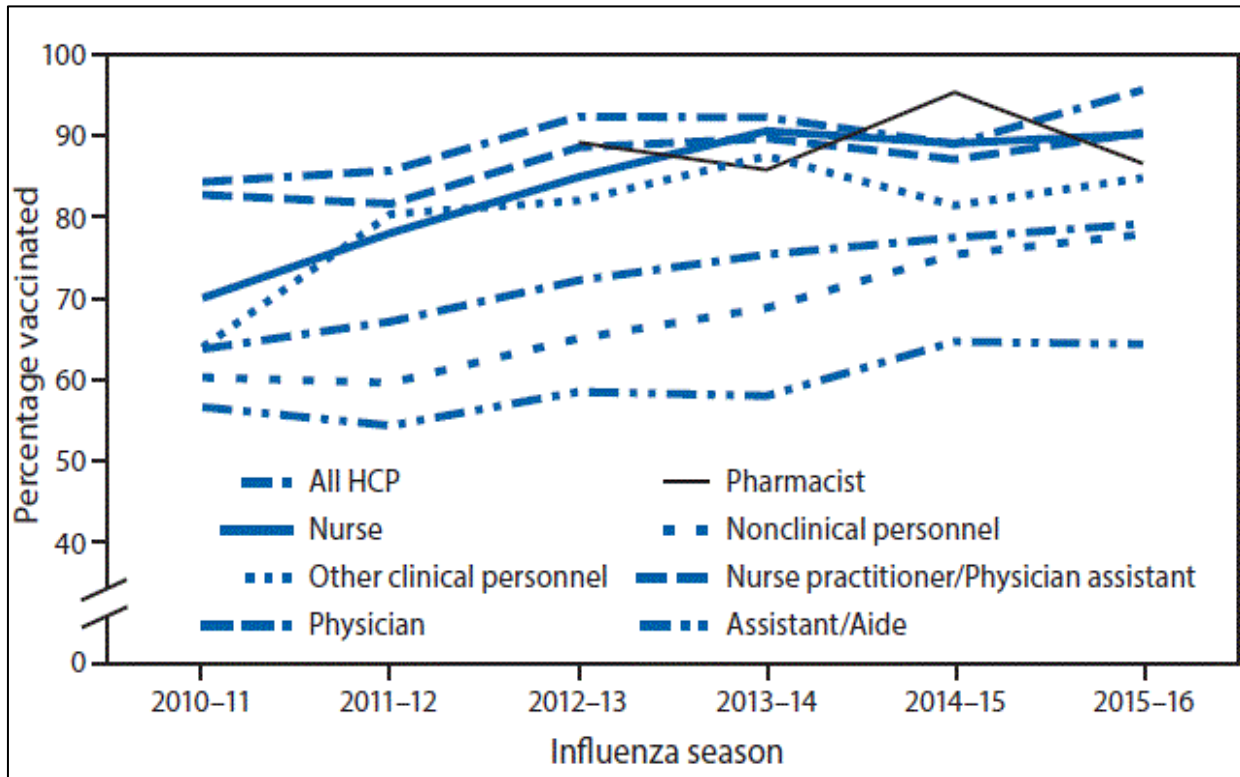
Age Group	National	North Carolina
Overall (6 mos and over)	45.6%	50.9%
Children (6 mos – 17 yrs)	59.3%	60.6%
Adults (18 years and over)	41.8%	48.2%

# Influenza Vaccine

Coverage in Adults	National	North Carolina
<b>18 – 49 years</b>	32.7%	39.4%
<b>50 – 64 years</b>	43.6%	49.0%
<b>65 years and over</b>	63.4%	68.6%



# Influenza Vaccine Coverage (among health care providers)



Provider Type	% vaccinated
Physician	95.6
NP/PA	90.3
Nurse	90.1
Pharmacist	86.5
Assistant/Aide	64.1

# Is Flu Reportable?

FLU POSITIVES ARE **NOT** REPORTABLE IN NC!

Flu deaths are reportable

Flu outbreaks are reportable

And novel flu cases are reportable



# Flu deaths are reportable in NC

## **Clinical description:**

An influenza-associated death (pediatric and adult) is defined for surveillance purposes as a death resulting from a clinically compatible illness that was confirmed to be influenza (either seasonal or pandemic) by an appropriate laboratory or rapid diagnostic test. There should be no period of complete recovery between the illness and death.

A death should not be reported if:

1. There is no laboratory confirmation of influenza virus infection.
2. The influenza illness is followed by full recovery to baseline health status prior to death.
3. After review and consultation there is an alternative agreed upon cause of death.

# Flu outbreaks are reportable in NC

Can occur in long term care facilities, skilled nursing, acute care, schools, daycare, etc.

- When you hear of a respiratory outbreak ask for a line list with a minimum of onset date, symptoms, number of ill patients and staff, and if any testing was done
- Use the flu outbreak worksheet to help gather information

INFLUENZA OUTBREAK WORKSHEET-INITIAL NOTIFICATION					
<b>INFLUENZA OUTBREAK:</b> If there is one laboratory-confirmed influenza positive case along with other cases of respiratory infection in a unit of a long-term care facility, an influenza outbreak might be occurring.					
DISEASE: <u>Influenza</u>			CALL TAKEN BY:		
CALL DATE:			CALL TIME:		
CALLER INFO					
NAME:			PHONE:		
TITLE:			COUNTY:		
FACILITY INFO					
FACILITY NAME:					
FACILITY TYPE:					
FIRST RESIDENT SYMPTOM ONSET DATE:					
LAST RESIDENT SYMPTOM ONSET DATE:					
# of ill residents: _____			Total # of residents: _____		
# of ill staff: _____			Total # of staff: _____		
CLINICAL INFO					
<u>Symptoms:</u>		Fever	Cough	Sore throat	Body aches
<u>Other:</u>					
% of residents vaccinated: _____					
No. of cases hospitalized: _____					
No. of deaths associated this outbreak: _____					
TREATMENT NOTES					
TESTING					
CASE	DATE	TYPE: <input type="checkbox"/> Rapid <input type="checkbox"/> PCR <input type="checkbox"/> Other <input type="checkbox"/> Unknown			RESULTS
1		TYPE: <input type="checkbox"/> Rapid <input type="checkbox"/> PCR <input type="checkbox"/> Other <input type="checkbox"/> Unknown			
2		TYPE: <input type="checkbox"/> Rapid <input type="checkbox"/> PCR <input type="checkbox"/> Other <input type="checkbox"/> Unknown			
3		TYPE: <input type="checkbox"/> Rapid <input type="checkbox"/> PCR <input type="checkbox"/> Other <input type="checkbox"/> Unknown			
NOTES					



# Interim Guidance for Influenza Outbreak Management in LTCF

Taken from- <http://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm>



# Interim Guidance for Influenza Outbreak Management in LTCF

Preventing transmission of influenza viruses and other infectious agents within health care settings, including in long-term care facilities, requires a multi-faceted approach that includes the following:

1. Vaccination
2. Testing
3. Infection Control
4. Antiviral Treatment
5. Antiviral Chemoprophylaxis



# 1. Vaccination

Influenza vaccination should be provided routinely to all residents and health care workers of long-term care facilities annually before influenza season.

Higher vaccination levels among personnel have been associated with a lower risk of health care facility-associated influenza cases.

## 2. Testing

If there is one laboratory-confirmed influenza positive case along with other cases of respiratory infection in a unit of a long-term care facility, an influenza outbreak might be occurring.

Even if its not flu season, testing should occur. In order of priority, following influenza tests are recommended: RT-PCR; immunofluorescence; rapid influenza diagnostic tests



# 3. Infection Control

- Implement daily active surveillance for respiratory illness among ill residents, health care personnel and visitors.
- Implement **Standard** and **Droplet** Precautions for all residents with suspected or confirmed influenza
  - Standard Precautions –  
[http://www.cdc.gov/hicpac/2007IP/2007ip\\_part3.html#a](http://www.cdc.gov/hicpac/2007IP/2007ip_part3.html#a)
  - Droplet Precautions –  
[http://www.cdc.gov/hicpac/2007IP/2007ip\\_part4.html#5](http://www.cdc.gov/hicpac/2007IP/2007ip_part4.html#5)

## 4. Antiviral treatment

All long-term care facility residents who have confirmed or suspected influenza should receive antiviral treatment immediately.

- Treatment should not wait for laboratory confirmation
- Best started within first 2 days of symptoms
- Recommended dosing and duration is twice daily for 5 days

# 5. Antiviral chemoprophylaxis

All eligible residents in the entire long-term care facility (not just currently impacted wards) should receive antiviral chemoprophylaxis as soon as an influenza outbreak is determined.

CDC recommends antiviral chemoprophylaxis for a minimum of 2 weeks, and continuing for at least 7 days after the last known case was identified.

# Additional Measures to Consider

Have symptomatic residents stay in their own rooms as much as possible.

Limit the number of large group activities in the facility.

Avoid new admissions or transfers to wards with symptomatic residents.

# Additional Measures to Consider (cont'd.)

Monitor personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from work until at least 24 hours after they no longer have a fever.

Restrict personnel movement from areas of the facility having illness to areas not affected by the outbreak.

# Novel Flu

There are many different influenza A viruses, some are found in humans and others in animals such as birds and swine.

State lab of public health can test for the novel strains upon request and approval from CDB.



# Novel Influenza A Virus

## **Clinical Description**

An illness compatible with influenza virus infection (fever >100 degrees Fahrenheit, with cough and/or sore throat).

## **Case Classification**

Suspected: A case meeting the clinical criteria, pending laboratory confirmation. Any case of human infection with an influenza A virus that is different from currently circulating human influenza H1 and H3 viruses is classified as a suspected case.

Probable: A case meeting the clinical criteria and epidemiologically linked to a confirmed case, but for which no confirmatory laboratory testing for influenza virus infection has been performed or test results are inconclusive for a novel influenza A virus infection.

Confirmed: A case of human infection with a novel influenza A virus confirmed by CDC's influenza laboratory or using methods agreed upon by CDC and CSTE as noted in Laboratory Criteria, above.

# Local Health Department Roles For novel Flu A cases of avian flu

## 1. Investigation

- a. Identify community members exposed to HPAI

## 2. Monitoring and management of exposed persons

- a. Community members
- b. Responders from their county (if any) after the event

## 3. Communication

- a. Public
- b. Providers



# Identifying Potential Contacts

Contact with potentially-infected birds

- Handling, slaughtering, de-feathering, butchering, culling, preparation for consumption

Direct contact with surfaces contaminated with feces or parts of potentially-infected birds

- Carcasses, internal organs

Prolonged exposure to potentially-infected birds in a confined space

# What's next?

Administer exposure questionnaire and start a line list

If proper personal protective equipment was used consistently, then self-monitoring can occur

- There may be a request for follow up call at the end of the monitoring period

If proper personal protective equipment was not used consistently, then active monitoring will occur

# CD NURSE TOOLKIT

The tool kit for avian influenza is posted online:

- Symptom monitoring log
- Monitoring instructions for exposed people
- Provider memo on HPAI
- Line list shell
- HPAI contact questionnaire

Any other documents that are needed will be added.

[http://epi.publichealth.nc.gov/cd/lhds/manuals/cd/other\\_diseases.html](http://epi.publichealth.nc.gov/cd/lhds/manuals/cd/other_diseases.html)

# NCEDSS Reporting

When reporting flu associated deaths in NCEDSS please note the following is entered:

- ✓ Name of case
- ✓ Date of Birth
- ✓ **Date of Death**
- ✓ **Labs-** rapid, PCR, or culture
- ✓ Vaccine status
- ✓ Any underlying conditions



# Questions? Comments?

