



# Preparing for the Return of H3N2v



## Variant Influenza A Virus Infections: H3N2v

1. Human infections with influenza A virus subtypes different from currently circulating human subtypes (A/H1 and A/H3)
2. Swine-origin, triple reassortant viruses with swine, avian and human influenza genes
3. Influenza viruses known to circulate in pigs are called “swine influenza viruses” when isolated from pigs, but are called “variant viruses” when isolated from humans (e.g., H3N2v)





# Influenza A Viruses in US Swine

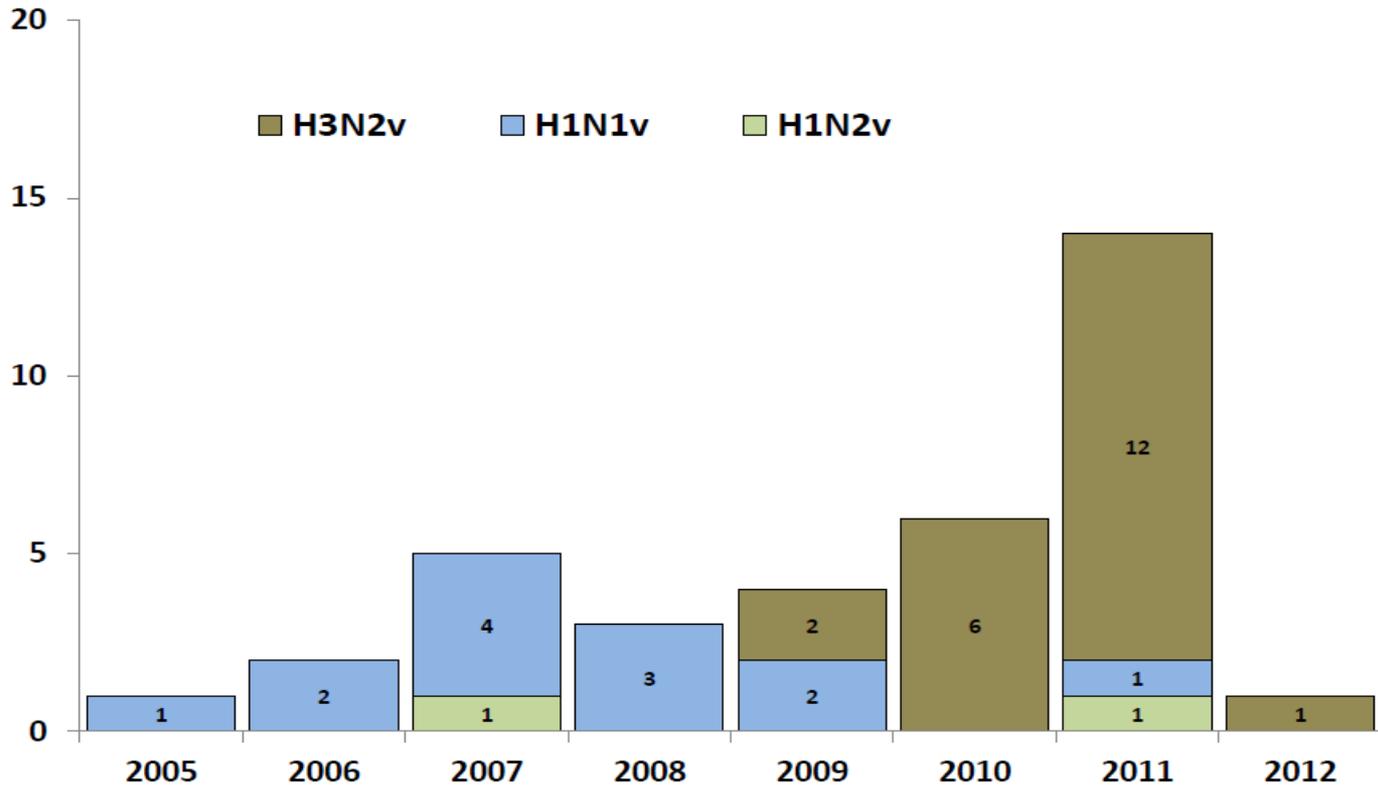
## 1. Swine influenza virus

- Causes respiratory symptoms.
- Not often fatal.
- Secondary bacterial infections common.
- Endemic in pig herds (seroprevalence 50–90%).
- Can be carried and spread from asymptomatic pigs.



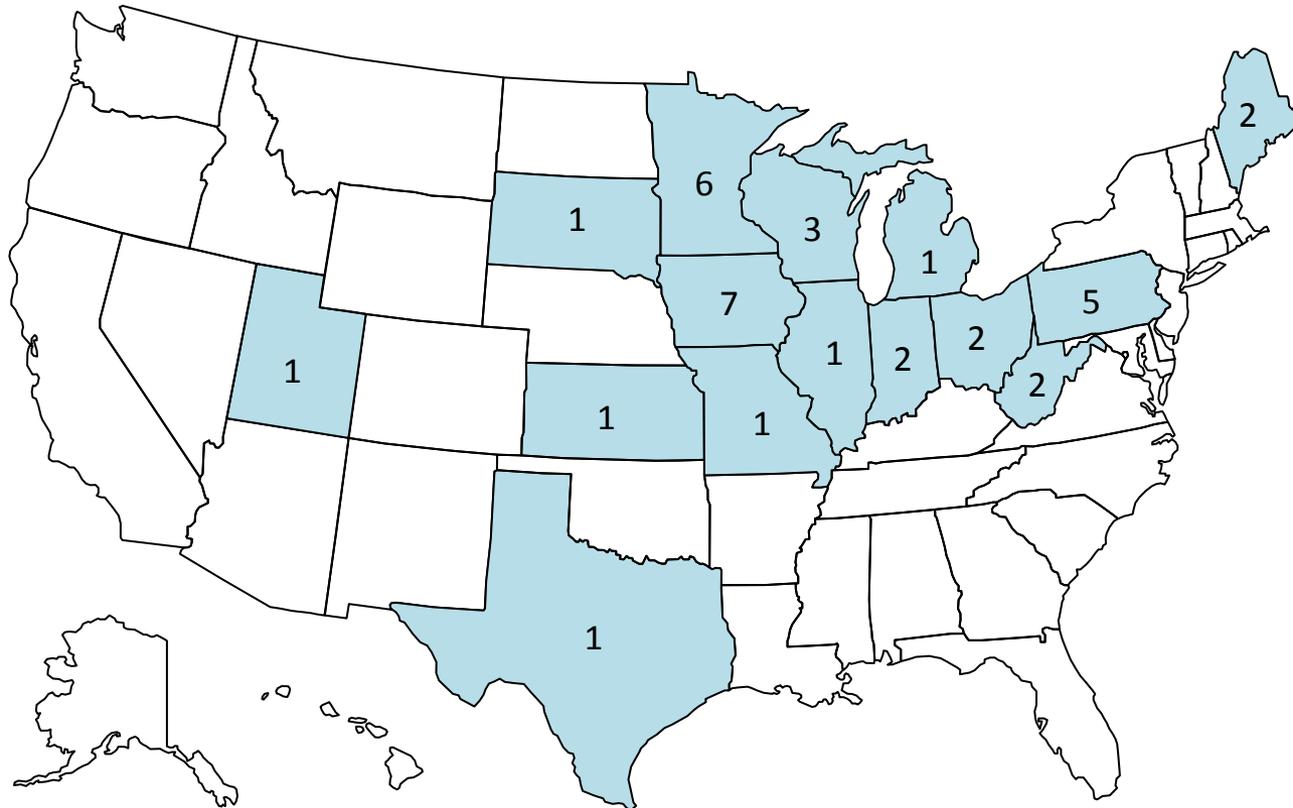


## Subtypes of US Variant Influenza A Cases, 2005 – June 2012 (N=36)



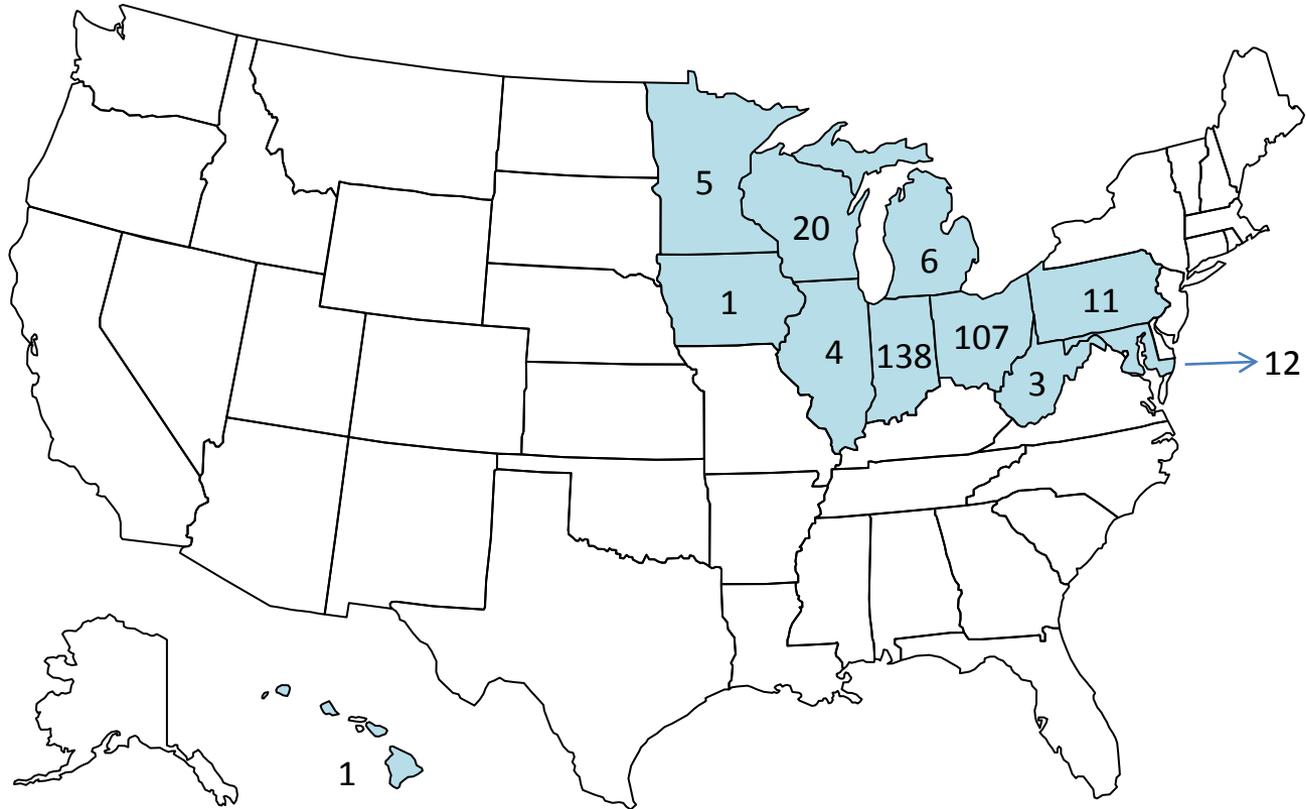


# Variant Influenza Cases Detected in 15 States 2005-June 2012 (n=36)





# H3N2v Cases Detected in 11 States July-September, 2012 (n=308)





## 2012 H3N2v Outbreak Epidemiologic Parameters USA and Wisconsin

	USA	Wisconsin
Number of cases	308 (11 states)	20
Average age	8 years	9 years
Age range	4-74 years	1.5- 41 years
Hospitalizations/fatalities	16/1	1/0
Signs and symptoms		
• Fever	97%	100% (Avg 103.1, highest 106)
• Cough	84%	89%
• Sore throat	67%	56%
• Headache	67%	56%
• Vomit	31%	56%



## 2012 Wisconsin H3N2v Case Data

1. 20 confirmed cases
  - 5 associated with Wisconsin State Fair.
  - 8 associated with Manitowoc Fair.
  - 3 associated with Dodge Fair.
  - 3 associated with Kenosha Fair.
  - 1 probable person to person.
2. Both direct contact (exhibitor) and indirect (visit swine barn, but no contact) associated with cases.



# 2012 H3N2v Outbreak Epidemiologic Parameters

1. Incubation period 2-3 days.
2. Duration of illness 3-4 days.
3. Secondary attack rate is low.
  - 15 probable cases of human to human transmission nationwide.
4. Period of infectiousness is unknown.
  - Not enough secondary transmission to determine.



# Public Health Preparation

1. Local public health to meet with fair boards, fair veterinarian and (if possible) Department of Agriculture Trade and Consumer Protection (DATCP)/United States Department of Agriculture (USDA) regional veterinarians
  - Explain the purpose of enhanced surveillance (prevention, identification and contact investigation).
  - Explain how the surveillance and case follow-up will be done.
  - Encourage communication between public health and fair boards.
  - Encourage the use of DATCP recommendations for swine holding.
  - Encourage the use of signage upon entry to the swine area.

Joint memo from DPH and DATCP to local public health to be sent out soon.



# Public Health Preparation

2. Communication with local medical facilities
  - Encourage continued testing for influenza.
  - Encourage providers to ask patients who present with influenza-like illness about travel and exposure to swine or agricultural events. Emphasis is especially on children with ILI.



# Public Health Preparation

- Prior approval from the Wisconsin Division of Public Health, Bureau of Communicable Diseases and Emergency Response (BCDER) for testing to be done at the WSLH.
- Criteria for testing.
  - 2 of the following signs and symptoms (fever, cough, sore throat, myalgia, rhinorrhea).
  - Exposure within 7 days of illness onset to swine or other agricultural event where swine were present.
- Discuss transport options for submission of specimens.
- Assure the facility has or is able to obtain viral transport media and shippers.



## H3N2v Case Follow-up

1. If possible, local/tribal health department staff should complete the Influenza A Novel Case Report Form on every suspected or confirmed case of H3N2v infection within 24 hours of notification.
2. Completed Case Report Forms can either be:
  - Faxed to BCDER at 608-261-4976, or
  - Placed into the file cabinet of the Wisconsin Electronic Disease Surveillance System (WEDSS) incident.
3. Local/tribal health department staff should follow up with the confirmed patient 5-7 days after the first contact to determine if others in the household became ill with ILI.
4. Those who develop ILI symptoms should be recommended for testing at the WSLH.
5. If follow-up calls are scheduled to occur during weekends, it is acceptable to wait until the next business day.



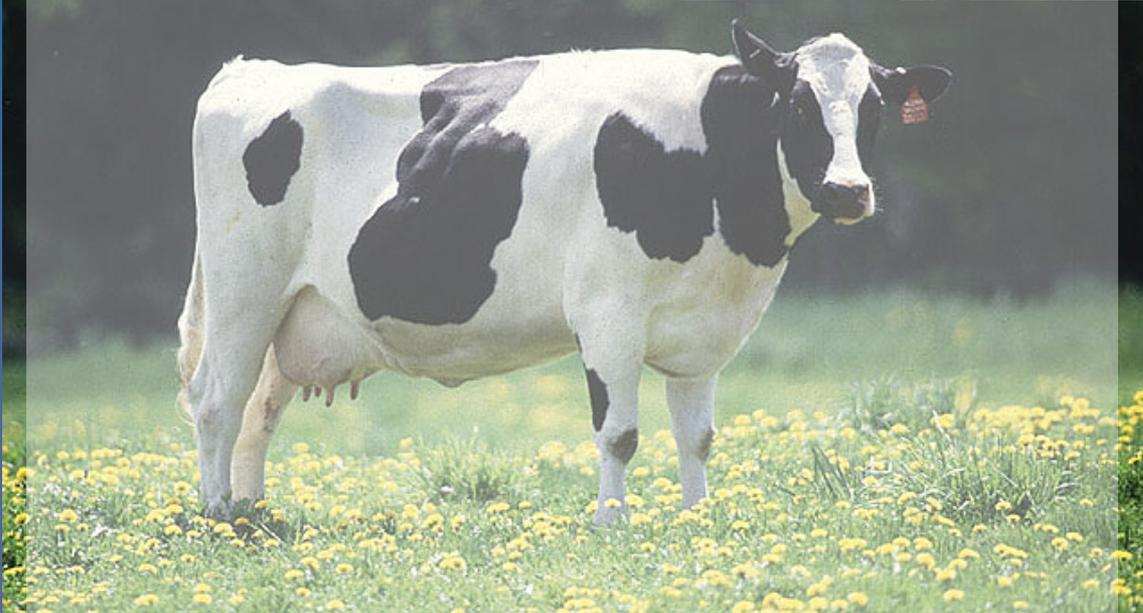
# Reporting Cases of H3N2v

1. Most (likely all) cases of H3N2v will be identified at the WSLH.
  - The WSLH will notify BCDER of test results by telephone and, if positive, create a new incident in WEDSS.
  - BCDER will notify the local/tribal health department where the patient resides of the positive result.
  - BCDER will not leave voice messages and will make every attempt to notify staff directly.
2. No influenza testing will occur on weekends. This means no reporting will be done on weekends.



# Conclusions

1. Swine gather at fairs; may be transmission of H3N2v among pigs and sometimes from pigs to people.
2. People with direct and prolonged swine exposure are at greatest risk of H3N2v infection.
3. Children are most at risk due to little to no pre-existing immunity.
4. Evidence of limited person-to-person transmission.
5. In most people illness is short in duration; few are hospitalized and so far only one death has occurred.



# Wisconsin Animal Health Division Fair Requirements

Paul J. McGraw, DVM  
State Veterinarian



## Fair Organizer

- Obtain, review and keep required records
- Keep records 5 years
- Make records available upon request



## Fair Organizer

- If fair lasts more than 24 hours; Appoint Veterinarian
  - Conduct daily inspection
    - How extensive, reporting of findings, DATCP?
  - Review health records



## Exhibitor Requirements

- Comply with movement requirements
- Provide to Organizer:
  - Name and Address
  - Identification of Animals, number, type and description



## Exhibitor Requirements

- Documents to show disease testing and health requirements
- Livestock premises code, if any
- If applicable documents to show animals were imported legally



## Swine Requirements

- Certificate of Veterinary Inspection
  - Herd of origin inspected
  - No apparent disease in herd in past 30 days
  - Done by accredited veterinarian, filed within 7 days



- General Risk Management Recommendations
  - Veterinarian on call, besides daily inspection
  - Develop a plan for disease identification and response
  - Hold terminal shows after breeding animal shows
  - Educate exhibitors and animal caretakers about flu transmission



## ■ General Risk Mgmt. Recommendations (cont.)

- Discourage the following in swine areas:
  - Eating, drinking, smoking
  - Food and drinks
  - Pacifiers, baby bottles, drink cups, utensils
  - Sleeping



- General Risk Mgmt. Recommendations (cont.)
  - Adequate hand-washing stations available
  - Barn hygiene and maintenance in public areas



## ■ Influenza Risk Management Recommendations

- **Vaccination:** Require 2 vaccinations 3 to 6 weeks apart within 120 days of opening day. Do not allow unvaccinated swine into the exhibition.
- Some protection within 2 weeks, 60% effective???



## ■ Influenza Risk Management Recommendations

- **Length of stay and multiple shows:** Limit stays to not more than 72 hours and allow 7 or more days between shows.
- Reduces viral “cycles” in barn and eliminates virus between shows



- Influenza Risk Management Recommendations
  - **Barn monitoring:** Observe pigs 2-3 times daily for sickness. Isolate sick pigs and consult with a veterinarian to determine if pig should remain on premises.



## ■ Influenza Risk Management Recommendations

- **Sick Pigs:** Sampling, isolation or removal from exhibition
- Fair Veterinarian's decision
  - Notifications – DATCP – Public Health????
  - Test Results if collected.....Public Record / timing / Lab



## ■ Influenza Risk Management Recommendations

- AVIC role
- DATCP role
  - Consultation
  - Education / Outreach
  - Quarantine???



- Obtain, review and keep required records
- Keep records 5 years
- Make records available upon request

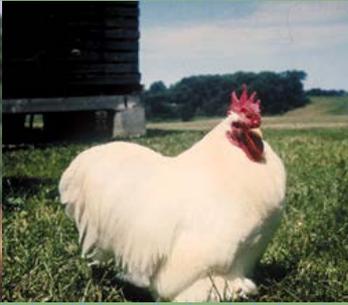


DATCP Web Site      <http://datcp.wi.gov>

Link to Fair/Show Requirements

[datcp.wi.gov/Animals/Animal\\_Movement/Fairs\\_Shows](http://datcp.wi.gov/Animals/Animal_Movement/Fairs_Shows)

Call Division of Animal Health 608-224-4872



# Questions



## Upcoming Division of Public Health Webinar

Description: DPH Staff will present information to summer camp staff on reporting communicable diseases and food safety

Title: Communicable Disease 101 for Camp Staff

Date: 6/18/2013

Time: 10:30 AM

Duration: 1:0 hours

Link:

<http://dhsmedia.wi.gov/main/Play/524352d1a9df47acb69e78092561ed7f1d>