

AVIAN INFLUENZA MONITORING

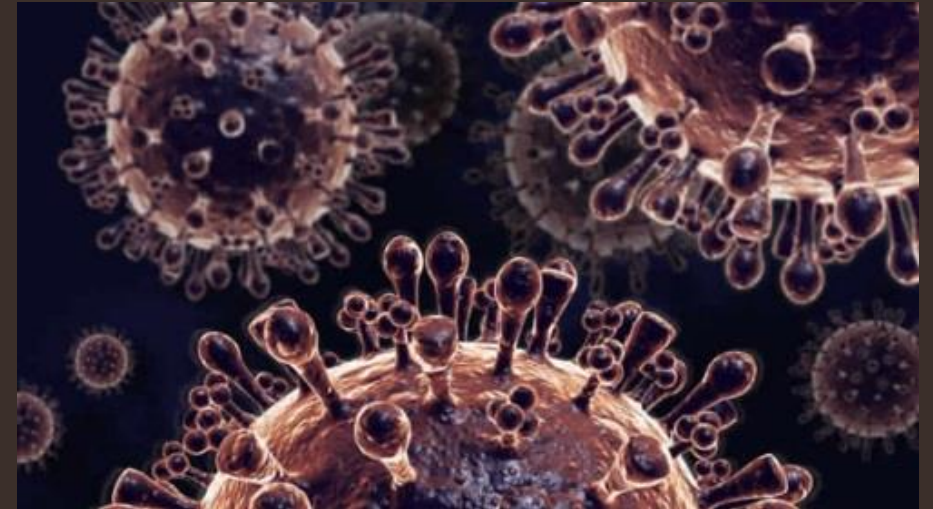
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WHAT IS AVIAN INFLUENZA?

- Refers to a collection of strains of influenza viruses that cause disease in birds (H5N1, H7N9, H5N6, H9N2, etc.)
 - High pathogenic avian influenza (HPAI)
 - Highly contagious
 - High mortality rate (90-100%)
 - Low pathogenic avian influenza (LPAI)
 - Less contagious
 - Less severe, rarely fatal
 - Certain subtypes known to be more likely to mutate into HPAI – H5 and H7



PRIOR OUTBREAKS IN THE UNITED STATES

1924

- H7 HPAI outbreak was detected in and contained to East Coast live bird markets

1983-84

- H5N2 HPAI outbreak in chickens, turkeys, and guinea fowl in the northeastern United States
 - 17 million birds destroyed

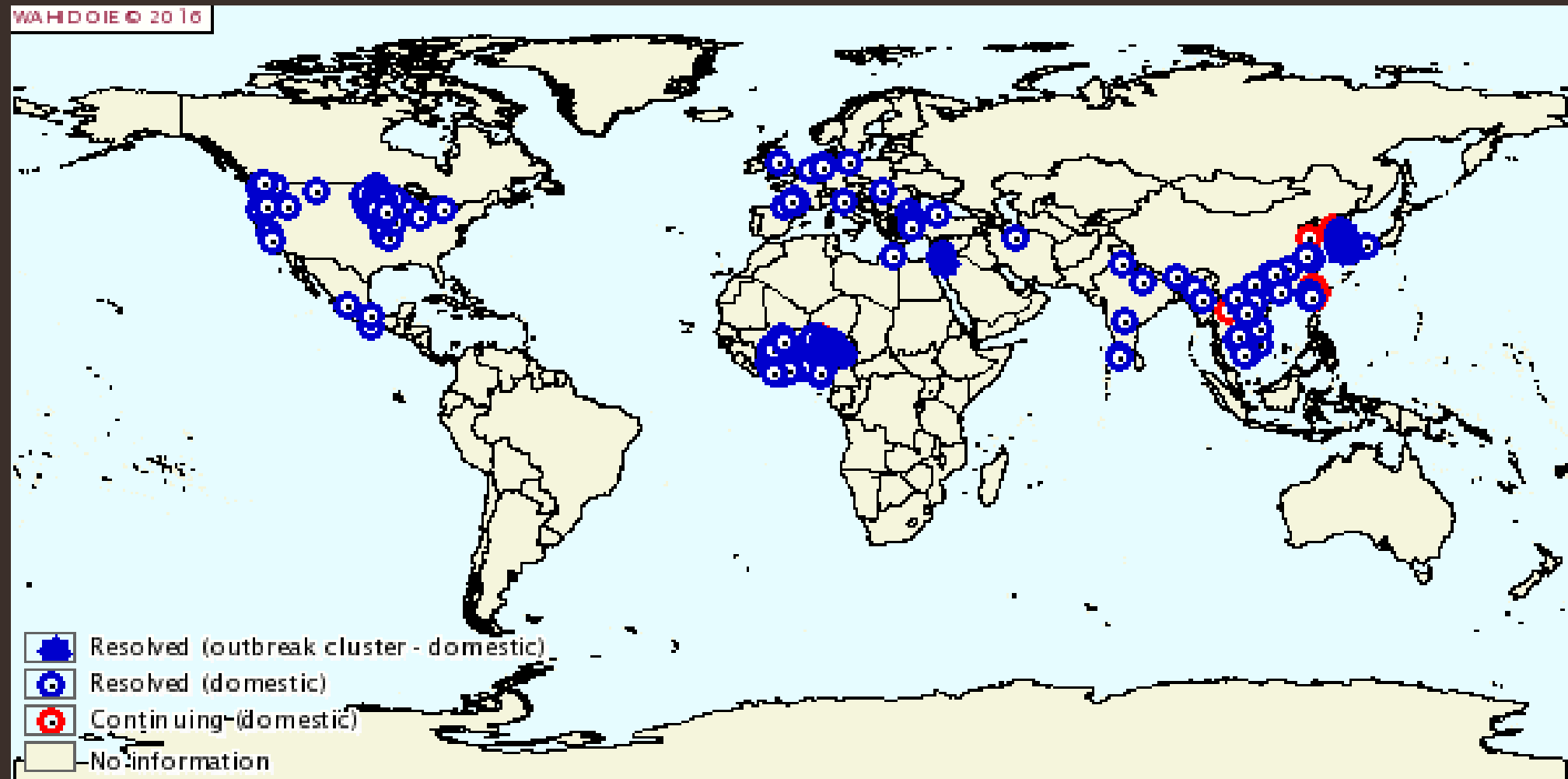
2004

- H5N2 HPAI outbreak in chickens in Texas limited to one flock

HPAI OUTBREAKS IN BIRDS JAN. 1, 2015 –DEC. 31, 2015

In the United States

- 232 flocks
- 50,400,000 birds
- 21 states

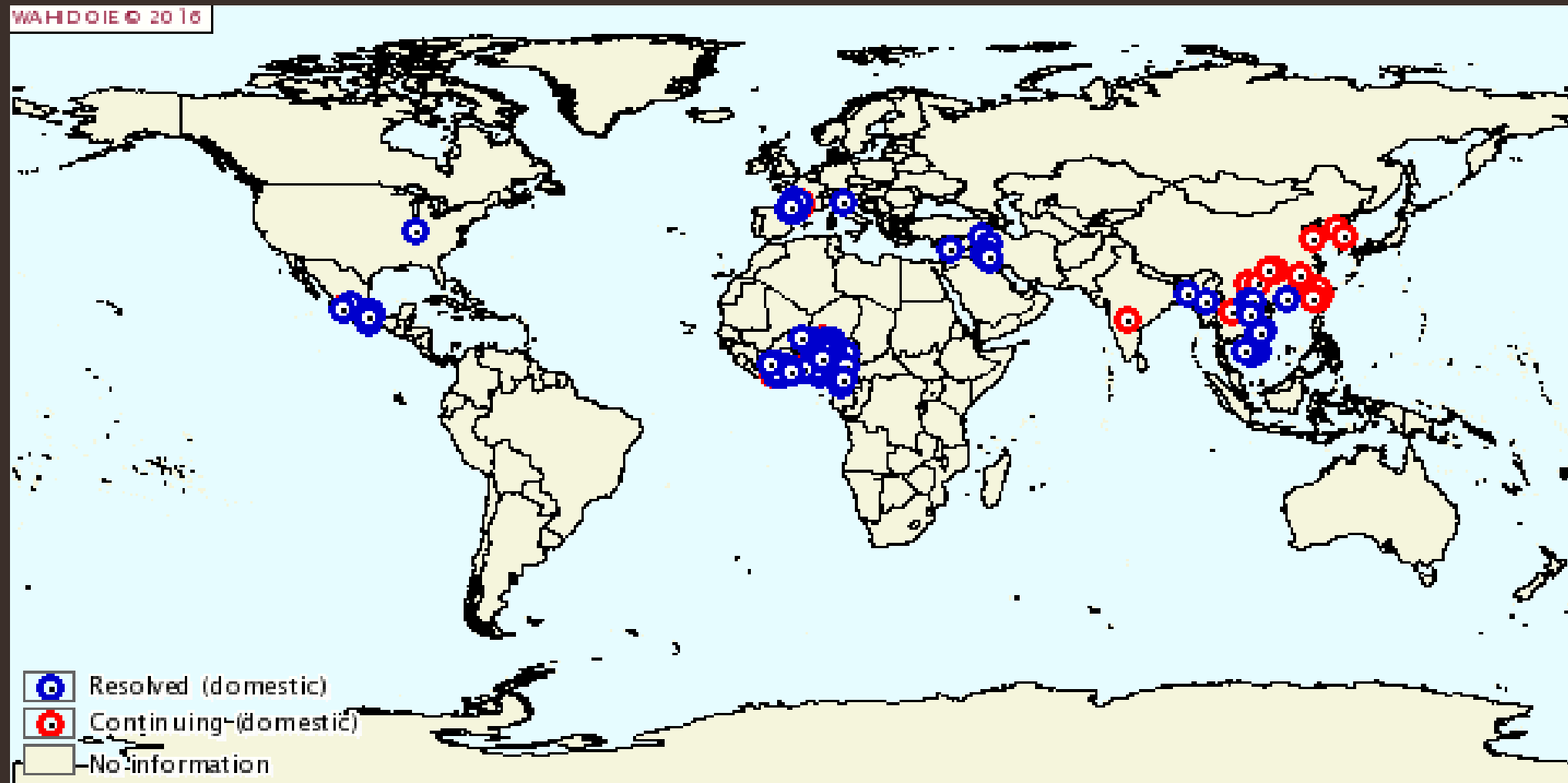


HPAI OUTBREAKS IN BIRDS

JAN. 1, 2016 –JULY 31, 2015

In the United States

- 1 flock
- 43,000 birds
- 1 state



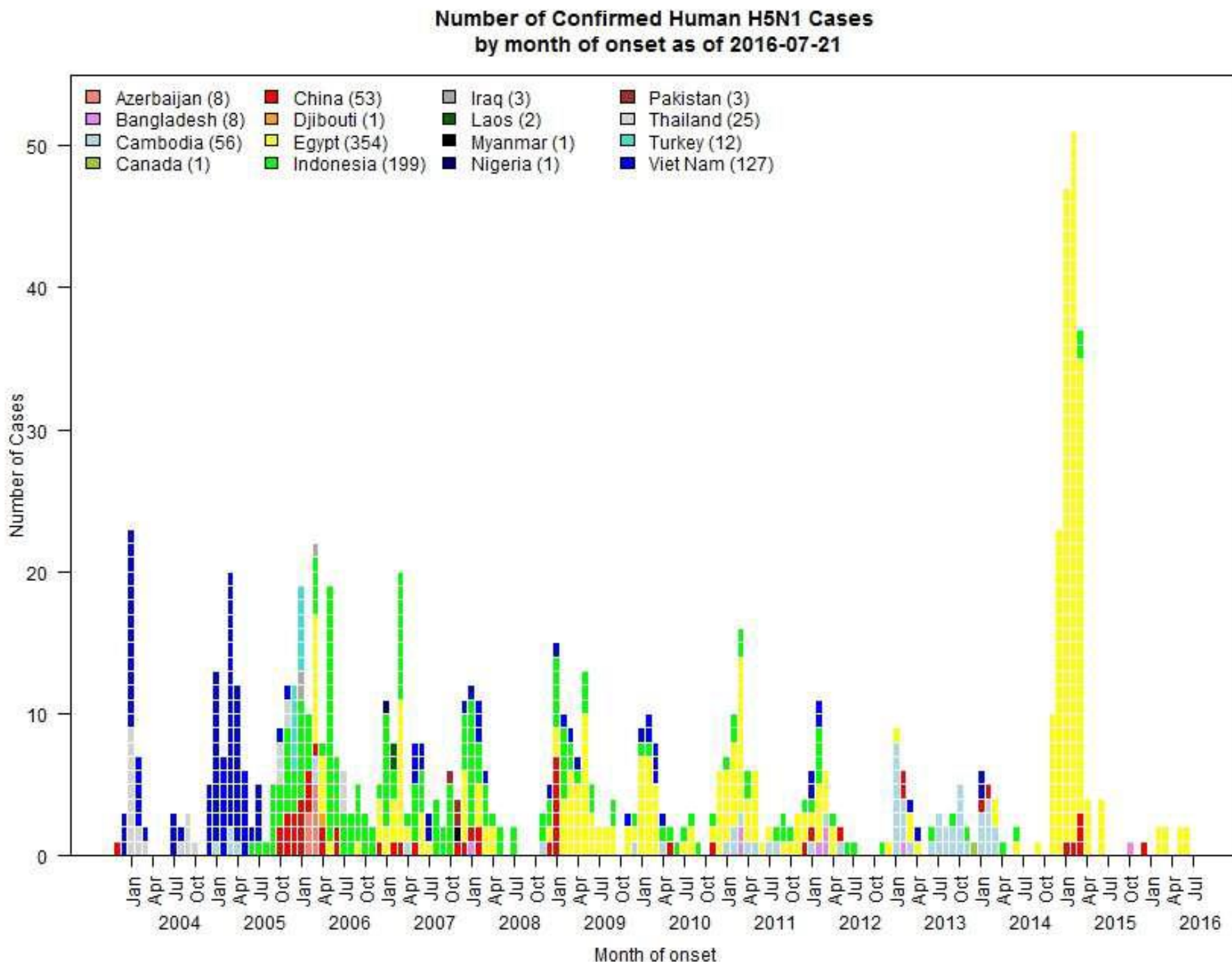
AVIAN INFLUENZA IN HUMANS

- Both HPAI and LPAI can cause disease in humans
- First human case of H₅N₁ avian influenza occurred in 1997 in Hong Kong
 - Coincided with an HPAI outbreak in birds
 - Total of 18 human cases
 - Case fatality 18% in children and 57% in adults
 - All had contact with infected birds
- In 2013, H₇N₉ causes 3 human cases in China



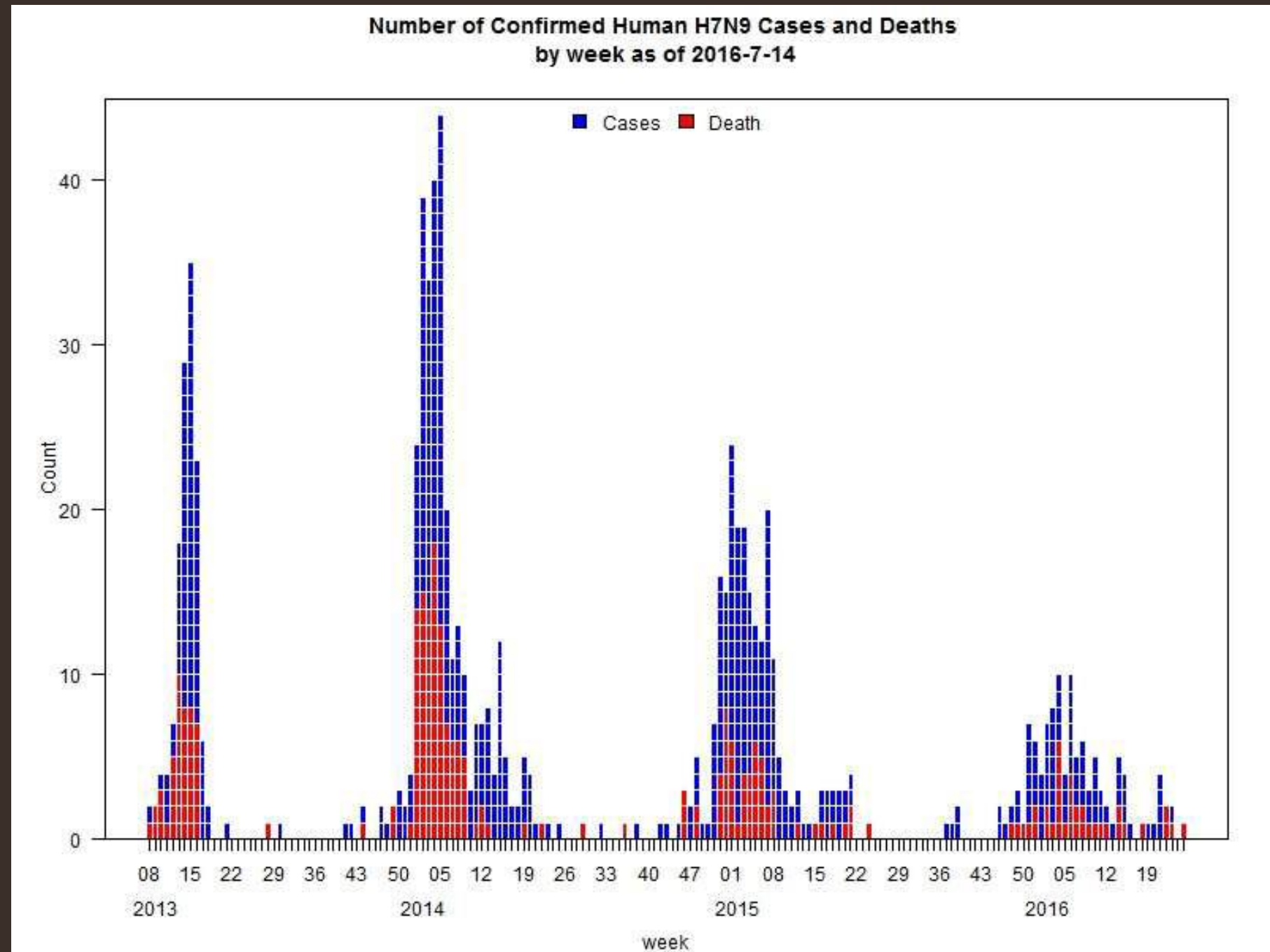
854 lab-confirmed cases of human infection H5N1

- 450 deaths
- 53% mortality rate



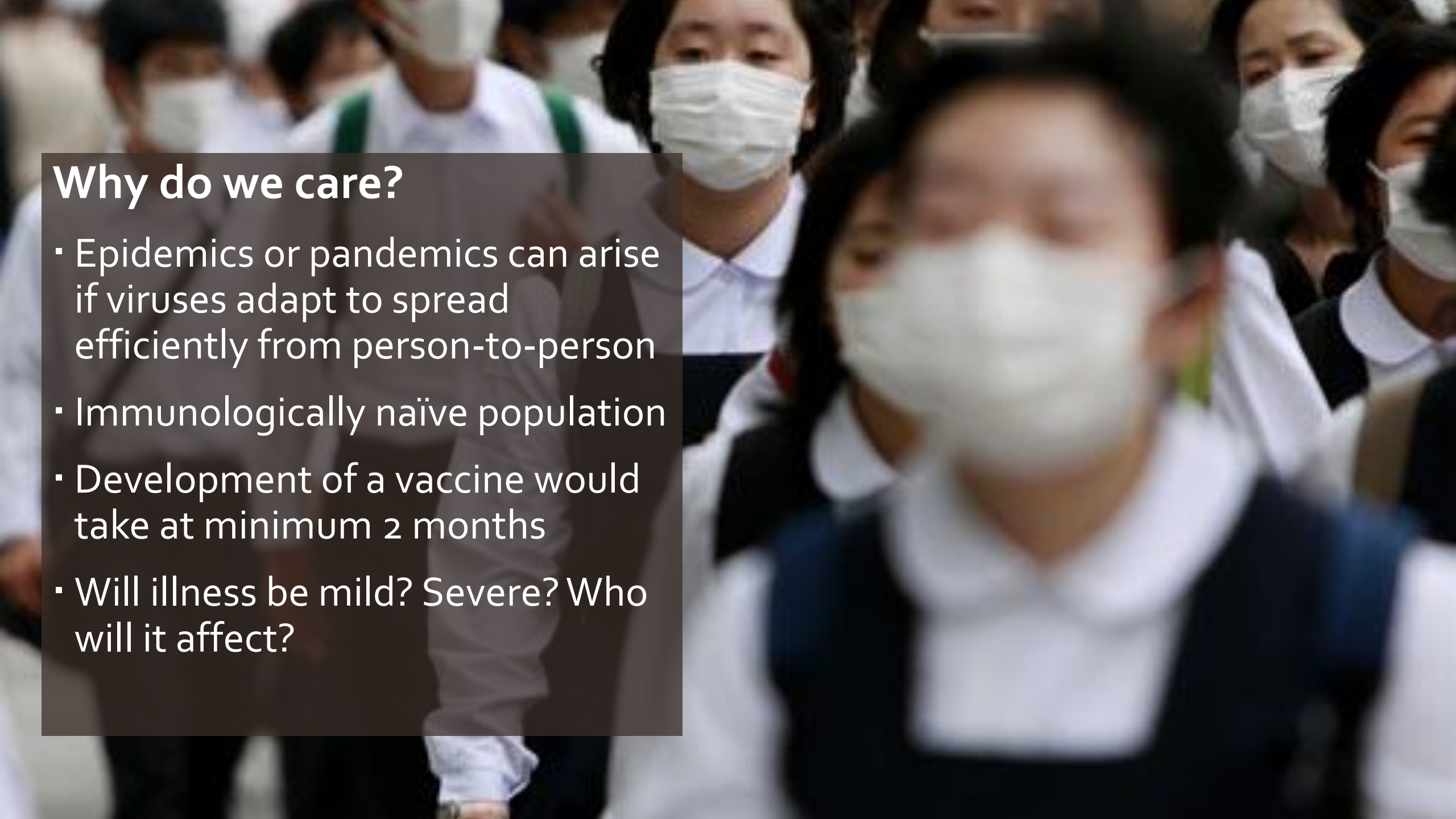
793 lab-confirmed cases of human infection H7N9 viruses

- 319 deaths
- 40% mortality rate



Why do we care?

- Epidemics or pandemics can arise if viruses adapt to spread efficiently from person-to-person
- Immunologically naïve population
- Development of a vaccine would take at minimum 2 months
- Will illness be mild? Severe? Who will it affect?



USDA/APHIS AND CDC MONITORING PLAN

Demobilized Responders to an Outbreak of HPAI in Birds

GUIDANCE PROVIDED TO USDA/APHIS EMPLOYEES AND CONTRACTORS

- Upon mobilization
 - Description of the monitoring plan
 - List of signs and symptoms consistent with influenza
 - Instructions to report symptoms to Safety Officers immediately
- At demobilization
 - Instructions for reporting illness to the state/local public health office of their state of destination
 - Workers/Safety Officers provide detailed contact information to CDC for each demobilizing employee

GUIDANCE TO STATE AND LOCAL HEALTH DEPARTMENTS

- Share responsibility with USDA/APHIS and Contractor Safety Officers for monitoring ALL individuals responding to an HPAI flock in their state
- Responsible for monitoring of demobilized responders returning to their state
- CDC would notify states daily of demobilizing responders via Epi-X



GUIDANCE TO STATE AND LOCAL HEALTH DEPARTMENTS CONTINUED

- Local health departments would contact responders within 24 hours of arrival to assess for symptoms and establish level of exposure
- LHDs would monitor for signs and symptoms for 10-days
 - Fever or feeling feverish and/or chills
 - Cough
 - Runny or stuffy nose
 - Eye tearing, redness, irritation
 - Sneezing
 - Sore throat
 - Difficulty Breathing
 - Shortness of breath
 - Fatigue
 - Muscle or body aches
 - Headaches
 - Nausea
 - Vomiting
 - Diarrhea
 - Seizures
 - Rash
- LHDs would ensure prompt testing of any symptomatic responders
- State health departments will notify CDC immediately of any responders eligible for testing
- State health departments will send a daily line list of any avian influenza PUIs

NOTIFICATION PROCESS IN TEXAS

USDA sends
CDC a list of
demobilizing
responders.



CDC notifies
states via Epi-X
of all
responders
returning to
their state.



State central
office assigns
responder to their
local jurisdiction
based on Epi-X
notification.

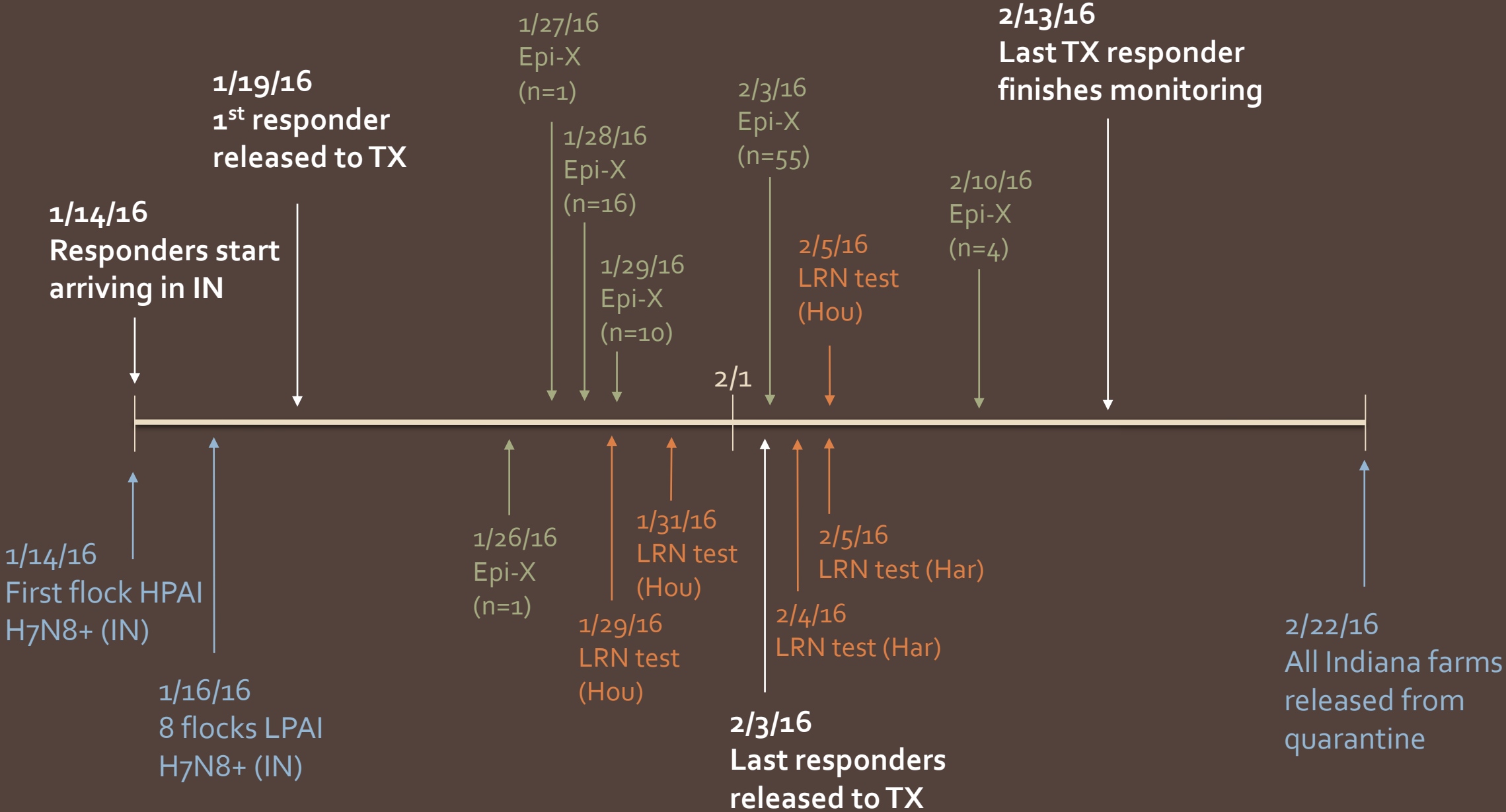


LHDs contact
responders for
daily monitoring
for 10-day
incubation
period.

DEMOBILIZED AVIAN INFLUENZA RESPONDER MONITORING SUMMARY

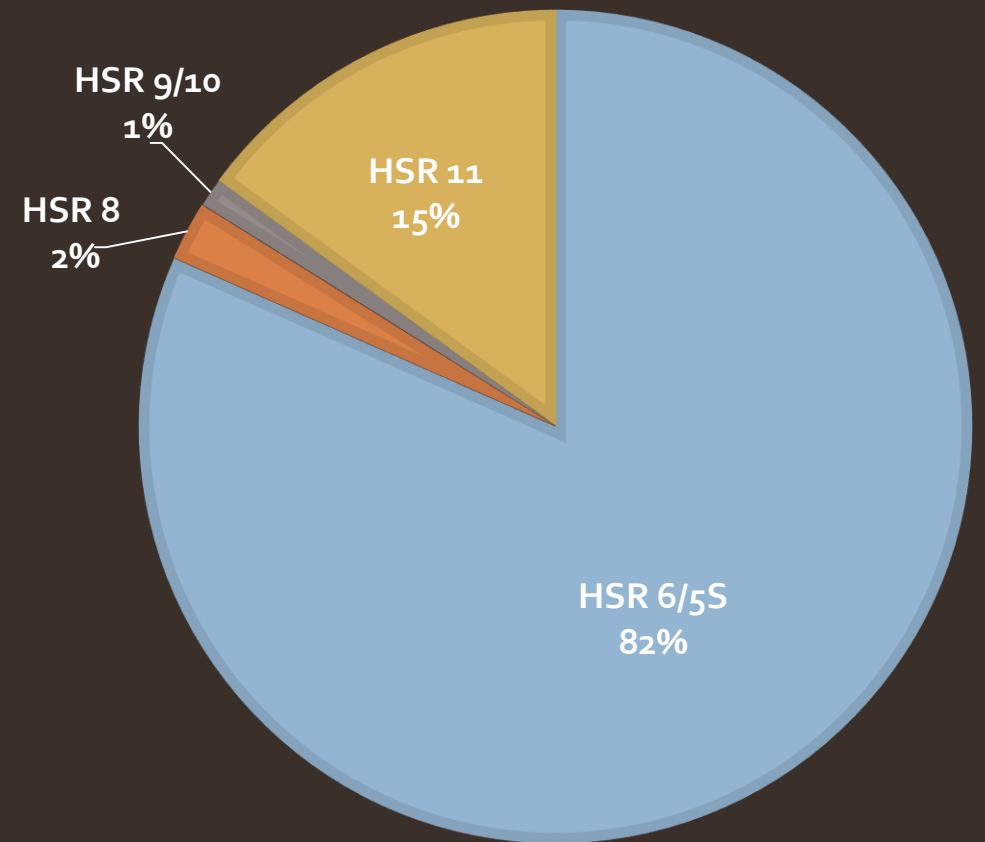
January 2016 Dubois County Outbreak

TIMELINE OF EVENTS



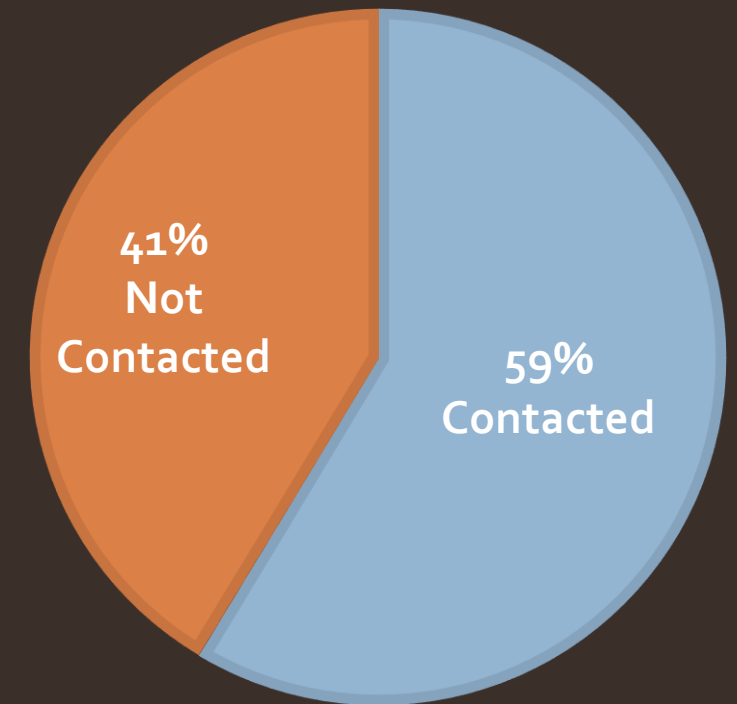
NUMBER OF RESPONDERS BY REGION

HSR	Number of Responders
6/5S	72
8	2
9/10	1
11	13
Grand Total	88



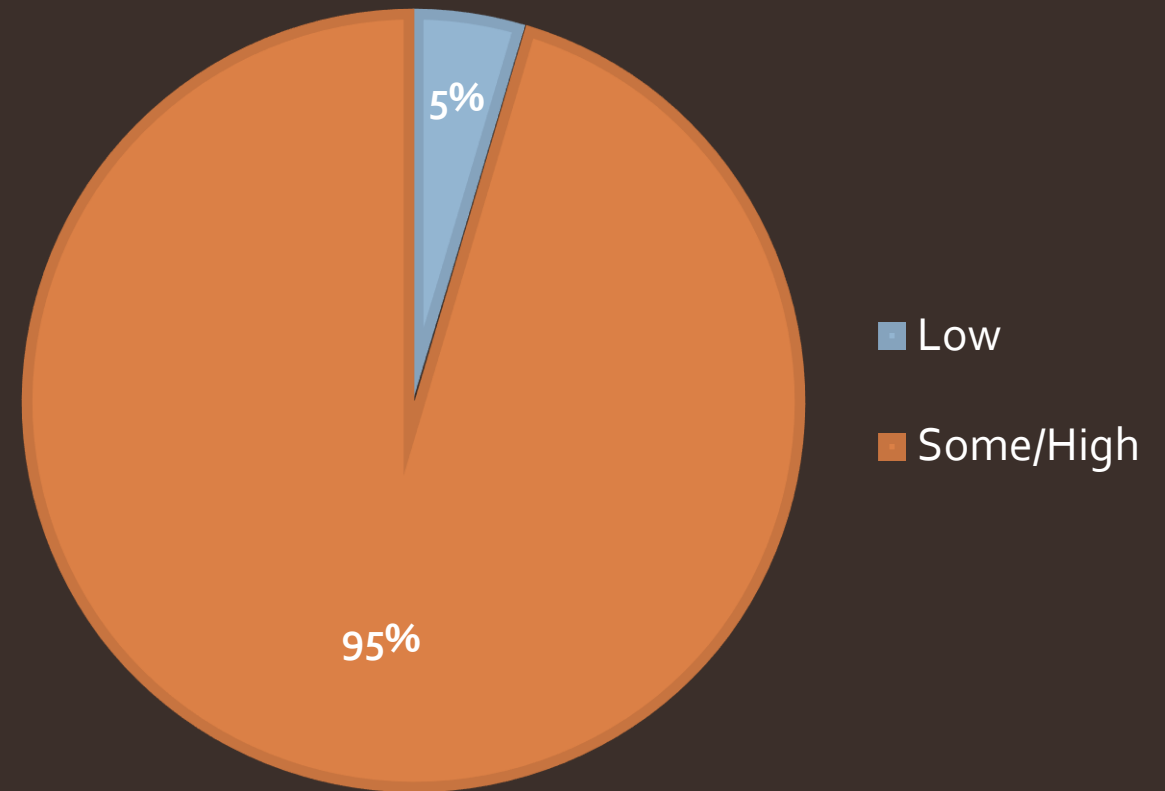
AVIAN INFLUENZA MONITORING IN THE REAL WORLD

- LHDs attempt to contact responders within 24 hours of Epi-X notification
 - Some Epi-X notifications arrive several days after responders arrive
 - Many have incomplete contact information.
 - Notification does not detail individuals risk exposures
- Responders prove very difficult to contact
 - Some report being unaware of monitoring requirements
 - Other indicated they have been told not to talk about their activities



AVIAN INFLUENZA MONITORING IN THE REAL WORLD

- Initially, LHDs attempted to conduct risk assessment but found nearly all would fall in the high risk category
 - Low risk – involved in response activities but no contact with birds
 - Some risk – exposure to birds while wearing adequate PPE at all times
 - High risk – exposure to birds with a known break in PPE or unknown level of PPE coverage at any time





AVIAN INFLUENZA MONITORING IN THE REAL WORLD

- Many individuals report symptoms on initial contact
- CDC recommends a low-testing threshold
 - Test for seasonal and novel influenza by PCR at DSHS lab or LRNs
 - At DSHS all Influenza A unsubtypeable forwarded to CDC for further testing
 - Culture testing should not be done
- Collecting swabs proves to be difficult
 - Many of the demobilized responders lack health insurance
 - Demanding jobs with the inability to ask off work
 - May be collected by health department but N-95 respirator PPE recommended



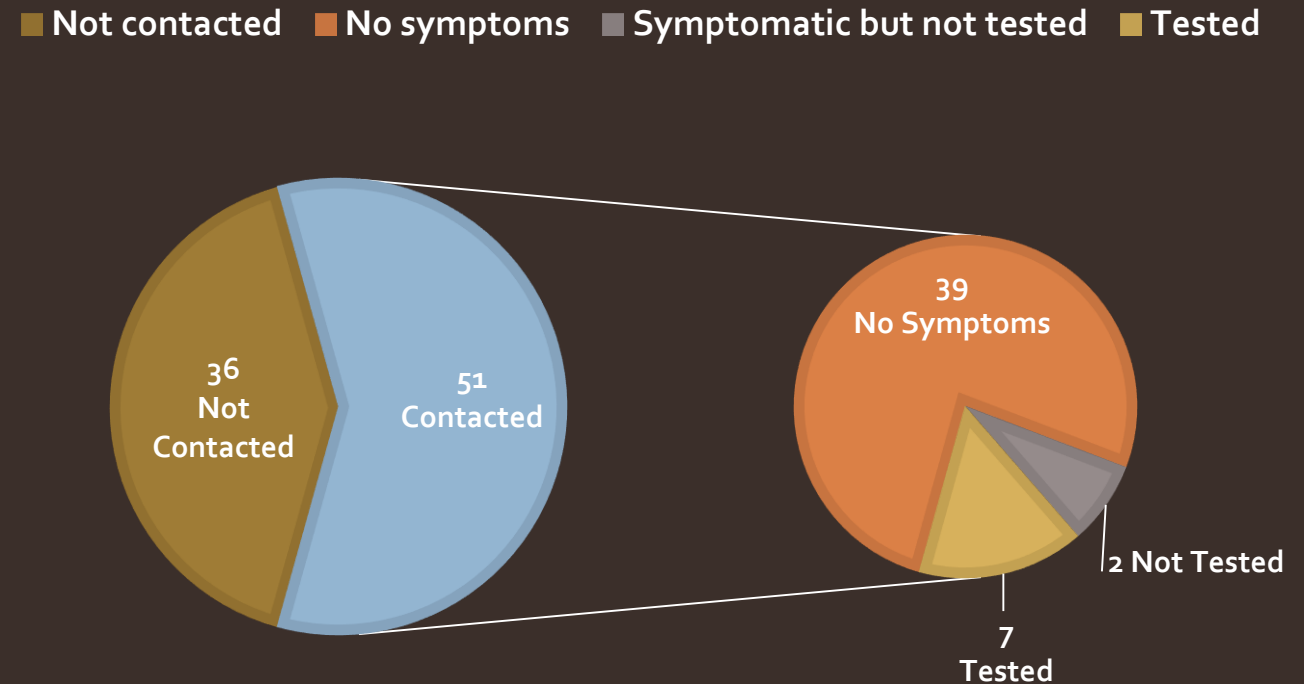
SYMPTOMATIC INDIVIDUALS

- PUIs should be provided antiviral treatment as soon as possible
- PUIs needing care at a healthcare facility should be placed under airborne isolation precautions
- During Jan 2016 response most individuals did not need medical care



SYMPTOMATIC PERSONS UNDER INVESTIGATION

- 9 individuals identified to have symptoms eligible for testing
 - 7 individuals tested for influenza and novel influenza
 - 2 refused testing
- All tested PUIs negative for flu and novel flu



RESOURCES

- <https://www.dshs.texas.gov/AIResponderMonitoring.aspx>
 - Monitoring Documents
 - Guidance
 - Monitoring Call Checklist
 - Symptom Tracking Form
 - Responder Notification of Travel Form
 - Case Investigation Form
 - Laboratory Testing Guidance
 - Infection Control Guidance

QUESTIONS?

