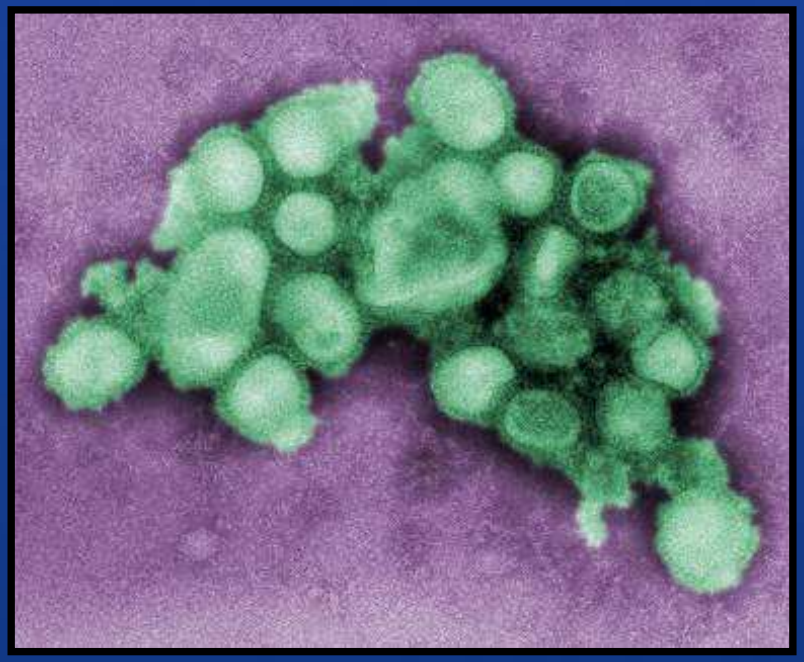
Pandemic Novel H1N1 Influenza Surveillance, United States



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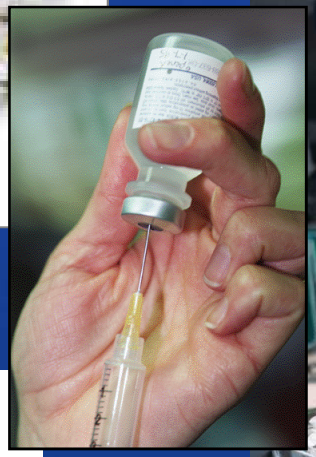
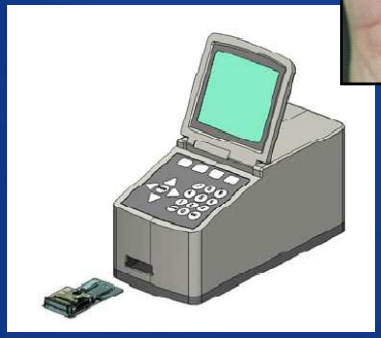
Pandemic Influenza Virus Surveillance: Goals

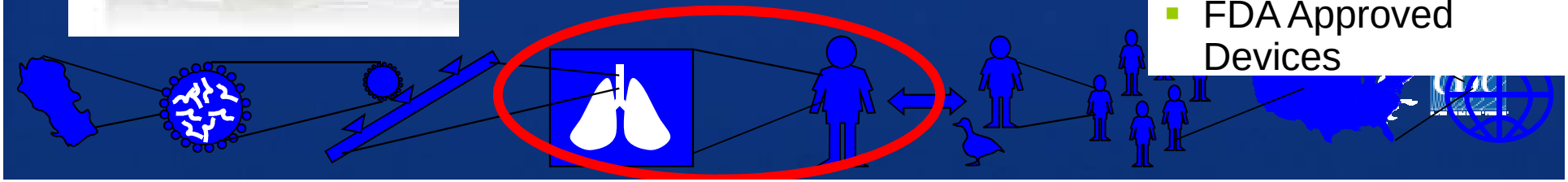
- To rapidly detect the introduction and early cases of a pandemic influenza virus into the country
- To track the virus' introduction into local areas
- To monitor changes in the pandemic virus, including development of antiviral resistance and changes in antigenicity and virulence
- To help to identify effective control strategies and re-evaluate recommended priority groups for vaccination and antiviral therapy

Improving Disease Detection, Treatment, and Prevention





- Vaccine Policy-ACIP
- Vaccine and Antiviral Effectiveness Studies
- Characterization of seasonal and avian influenza
- Outbreak Investigations
- Improved Diagnostics at point of care
- FDA Approved Devices



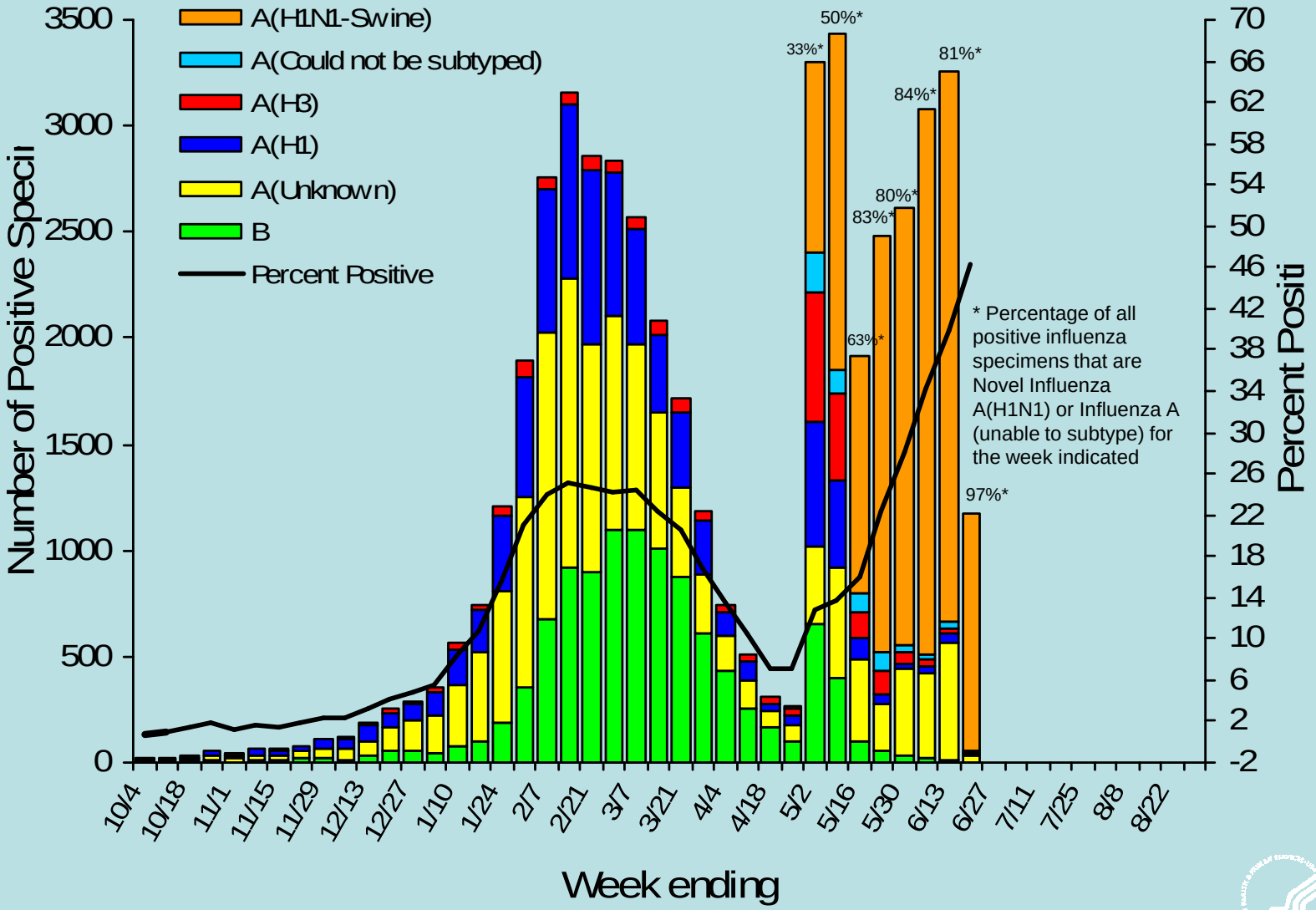
Summary of Early Events in the U.S.

- Between April 15-17, 2009
  - 2 cases of febrile respiratory illness
  - Residents of adjacent counties in southern California
  - Swine influenza A (H1N1) virus
- Both viruses are genetically closely related to each other
  - Resistant to amantadine and rimantadine
  - Contain a unique combination of gene segments previously not recognized among swine or human influenza viruses in the United States
- Neither child had contact with pigs

Influenza Surveillance Goals and Uses of Data

- Identify and characterize circulating viruses
- Determine the timing of influenza activity
- Identify location of activity and track geographic spread
  - Informs policy recommendations for use of antivirals and vaccines
  - Data for public health communications to partners / public

Epidemiology/Surveillance
Pandemic (H1N1) - 25 JUN 2009
U.S. WHO/NREVSS Collaborating Laboratories Summary, 2008-09

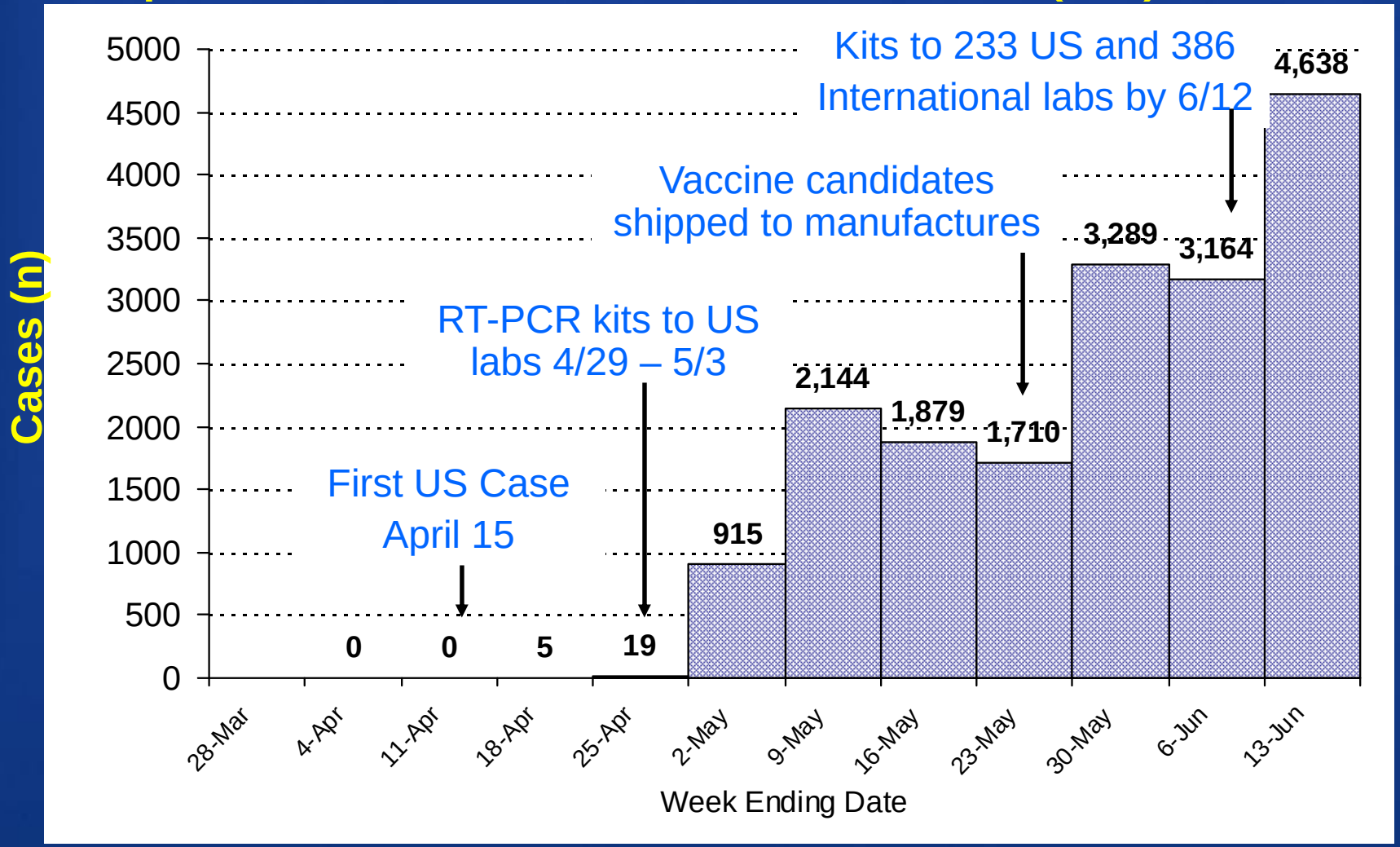


Surveillance for Influenza Antiviral Resistance United States as of 24 JUN 2009

	Isolates tested (n)	Resistant Viruses, Number (%)		Isolates tested (n)	Resistant Viruses, Number (%)
		Oseltamivir	Zanamivir		Adamantanes
Seasonal Influenza A (H1N1)	1010	1055 (99.5%)	0 (0)	1012	6 (0.6%)
Influenza A (H3N2)	187	0 (0)	0 (0)	187	187 (100%)
Influenza B	550	0 (0)	0 (0)	N/A*	N/A*
Global Novel Influenza A (H1N1)	216	0 (0)	0 (0)	216	216 (100%)

*The adamantanes (amantadine and rimantadine) are not effective against influenza B viruses.

Novel Influenza A (H1N1) Cases by Weekly Report Date as of 19 JUN 2009 (n=)*21,449



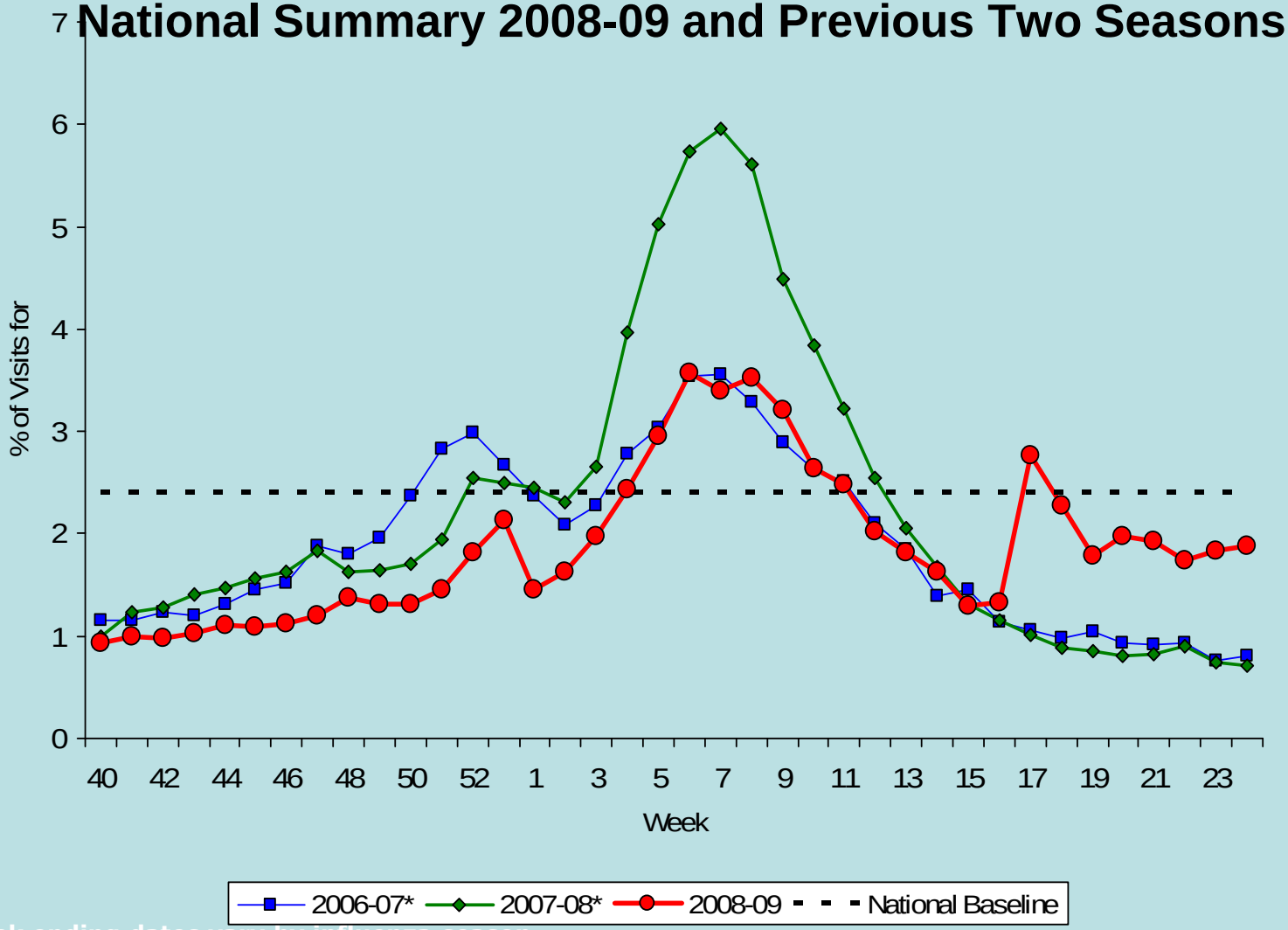
***Data for week ending 19 June 2009.**

Dates not available for 92 cases.

Influenza Surveillance Goals and Uses of Data

- Identify and characterize circulating viruses
- Determine the timing of influenza activity
- Identify location of activity and track geographic spread
  - Informs policy recommendations for use of antivirals and vaccines
  - Data for public health communications to partners / public

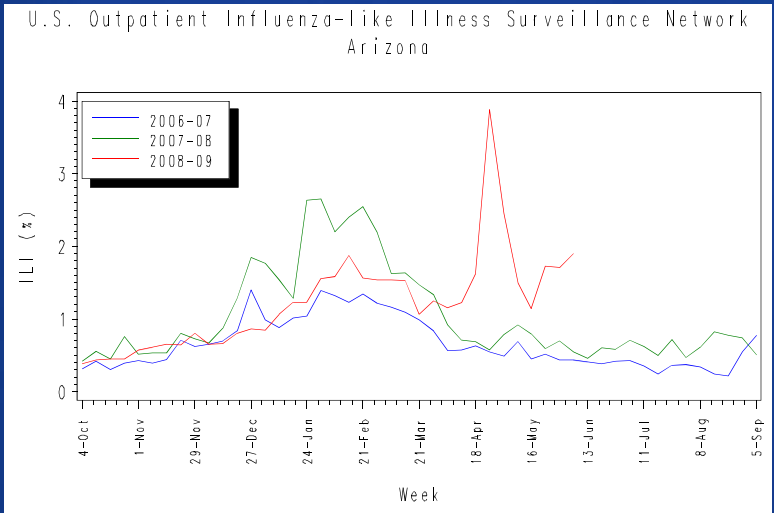
Percentage of Visits for Influenza-like Illness (ILI) Reported *US Outpatient Influenza-like Illness Surveillance Network (ILINet),* National Summary 2008-09 and Previous Two Seasons

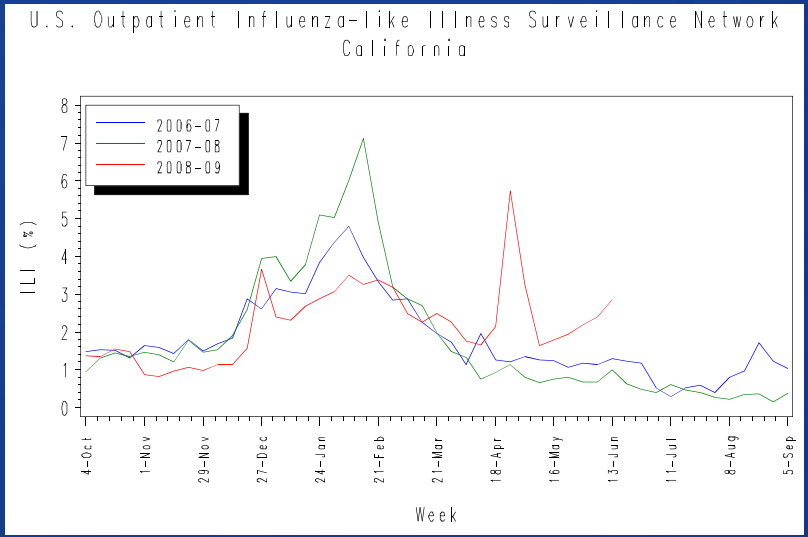


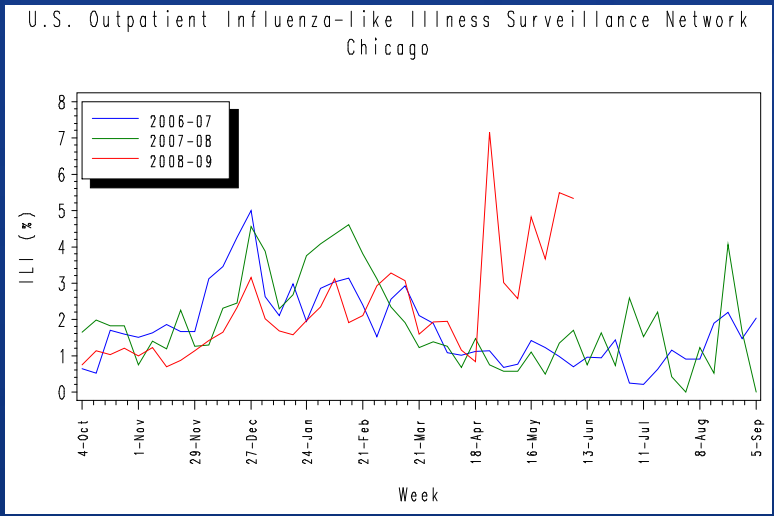
NOTE: Week ending dates vary by influenza season

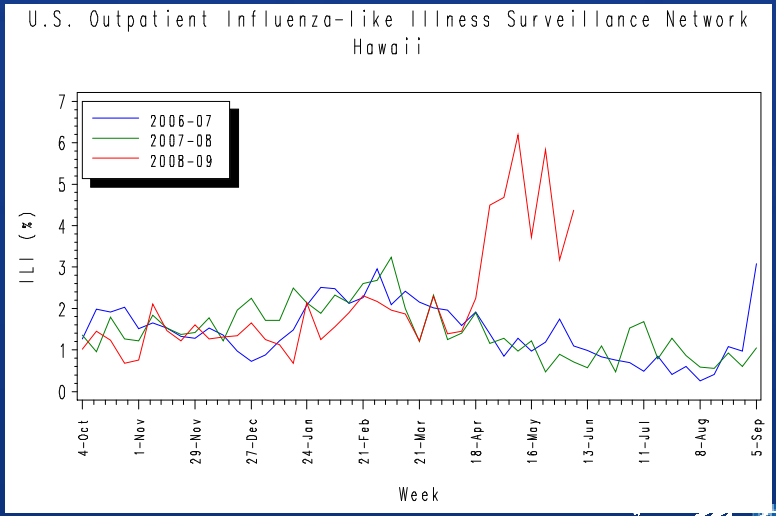
† There was no week 53 during the 2006-07 and 2007-08 seasons, therefore the week 53 data point for those seasons is an average of weeks 52 and 1.

Epidemiology/Surveillance
Pandemic H1N1 - 23 JUN 2009
State ILINet Week Ending 13 JUN 2009





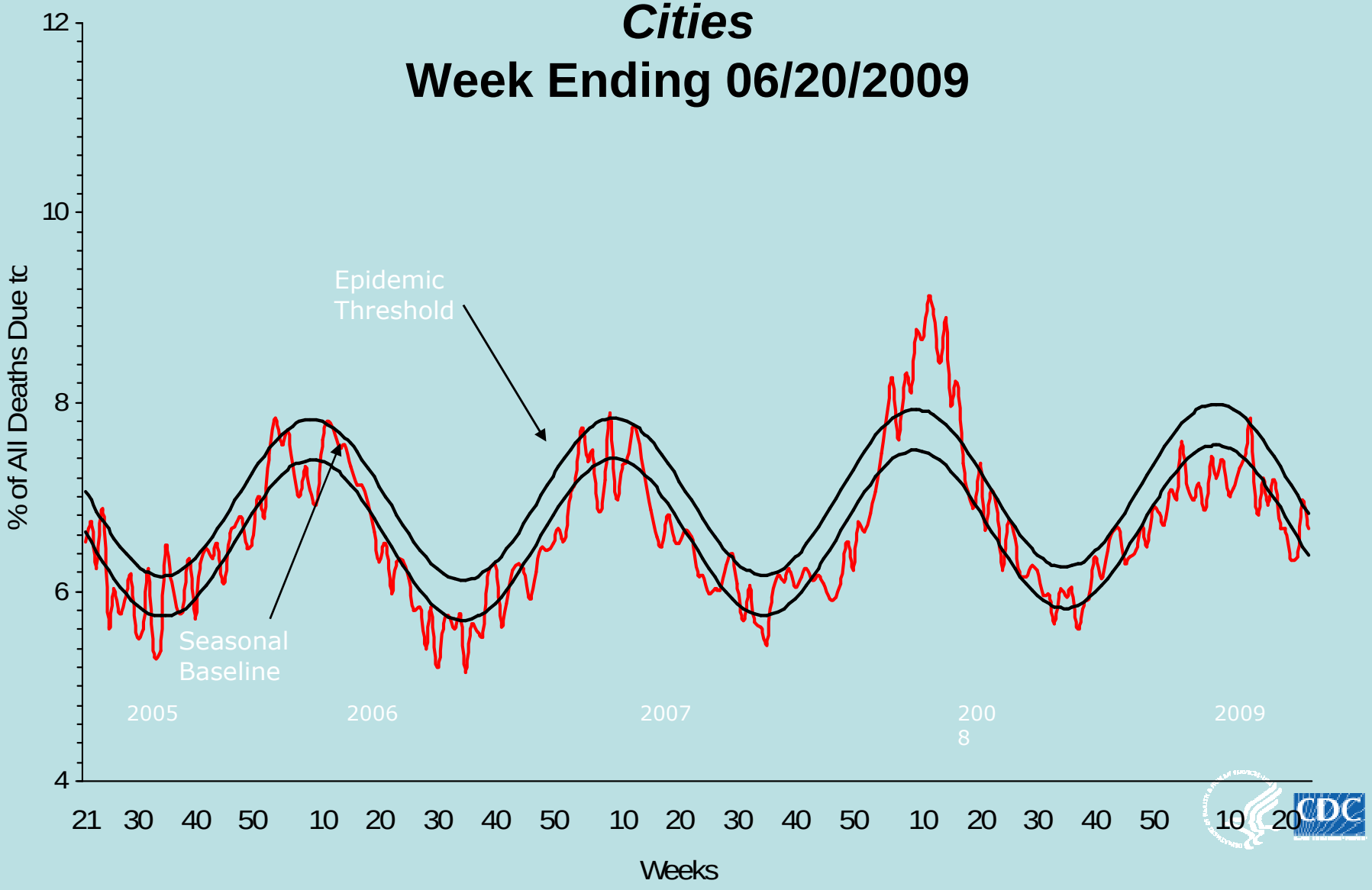




Influenza Surveillance Goals and Uses of Data

- Identify and characterize circulating viruses
- Determine the timing of influenza activity
- Identify location of activity and track geographic spread
- Estimate disease burden associated with influenza
  - Inform vaccine policy – e.g. identify high risk groups,
  - Critical communications / advocacy data

Epidemiology/Surveillance
Pandemic H1N1 - 25 Jun 2009
Pneumonia and Influenza Mortality for 122 U.S. Cities
Week Ending 06/20/2009



Influenza Surveillance Goals and Uses of Data

- Identify and characterize circulating viruses
- Determine the timing of influenza activity
- Identify location of activity and track geographic spread
- Determine disease burden associated with influenza
- Maintain platforms / systems that can be used to monitor program impact
  - Vaccine effectiveness
  - Effectiveness of pandemic mitigation strategies
  - Special research studies

Challenges for Influenza Surveillance

- We are all struggling with determining true severity of pandemic H1N1
- By necessity, move from reporting line listing of laboratory positive cases to aggregate reporting
- Huge difference between counted cases and true number of influenza cases; denominator is underestimate as many do not seek medical care/ and of those more severe cases more likely to be tested
- Difficult to calculate medically attended, hospitalization and fatality rates for estimating medical surge
- Planning and resource allocation predicated on accurate estimates of rates
- Need to use modeling to have better estimates

Question:

What is the Difference Between Bird Flu and Swine Flu?

Answer:

For bird flu you need tweetment

and for swine flu you need oinkment.