



# **Director's Update Brief novel 2009-H1N1**

**Friday**

**17 JUL 2009 0815 EDT  
Day 90**

**Week of State Planning for the Fall**



## Key Events



### novel 2009-H1N1 – 17 JUL 2009

- novel 2009-H1N1 Declarations
  - WHO: Pandemic Phase 6 (11 JUN 2009 1600 EDT)
    - Outbreaks in at least one country in > two WHO regions
  - USG: Public Health Emergency declared (26 Apr 2009)
  - HHS: Downgraded to Phase 1 – Awareness (9 May 2009)
- US Cases\* (**as of 1:00pm 16 JUL 2009; next update 24 JUL 2009**)

| US TOTALS         | CASES  | HOSPS | DEATHS |
|-------------------|--------|-------|--------|
| CASES             | 40,617 | 4,795 | 262    |
| SLTTs<br>AFFECTED | 55     | 48    | 28     |

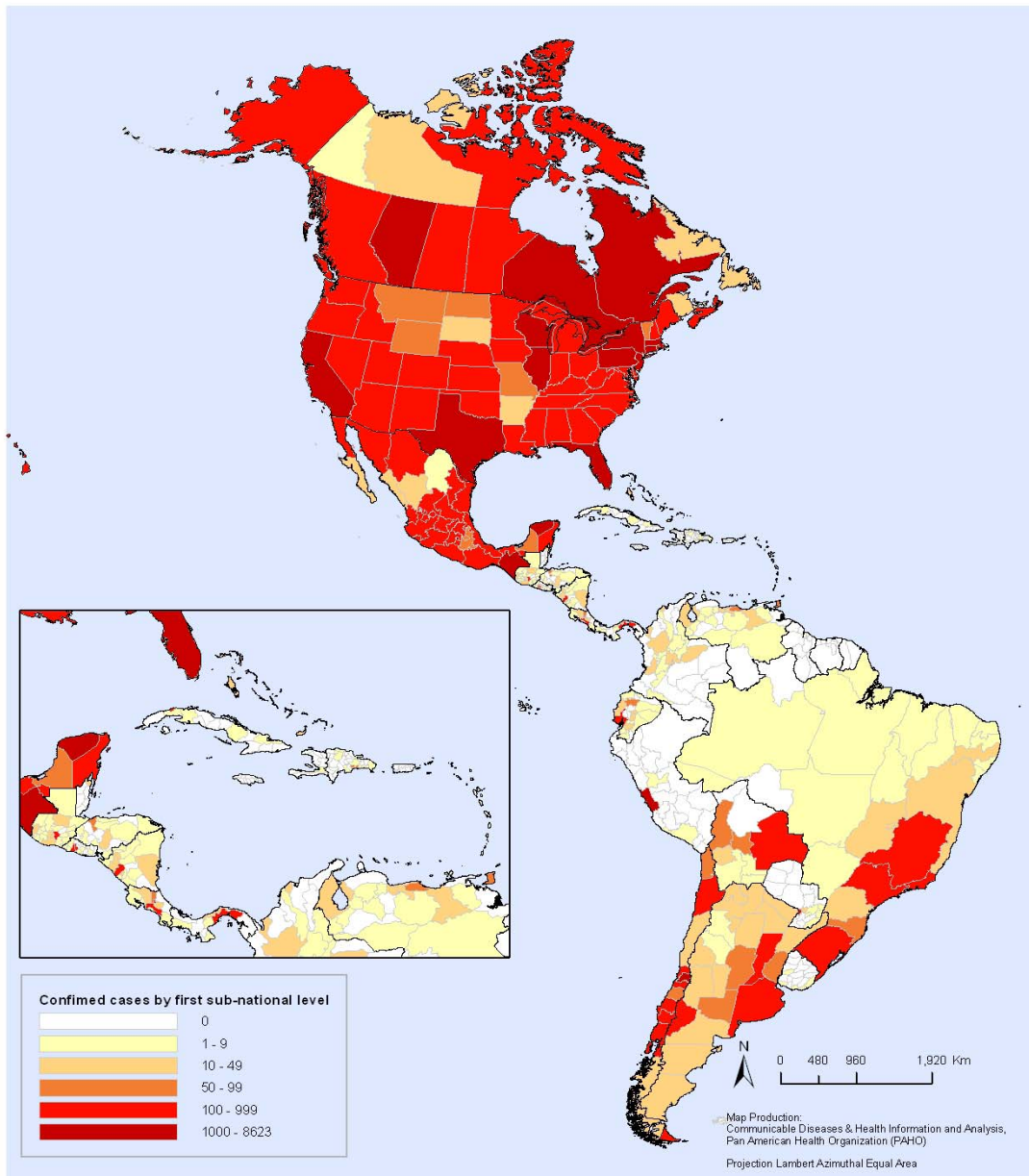
- Majority of states only testing hospitalized cases
- Anticipate discontinuation of reporting of total cases next week



## International Confirmed Novel 2009-H1N1, PAHO Region



Influenza A (H1N1). Region of the Americas.  
15 July 2009 (23 h GMT; 18 h EST)





International  
novel 2009-H1N1 – 17 JUL 2009  
Southern Hemisphere “Pulse Check”



***To date any evidence of ...***

**Change in epidemiology**

- Different age distribution of cases or severe cases from US? **NO**
- Different profile of pre-existing conditions from US? **NO**

**Change in virus characteristics?**

- Different virus strain associated with severe cases? **NO**
- Community spread of oseltamivir-resistant novel 2009-H1N1? **NO**

**Change in timing?**

- Earlier start to influenza season following novel 2009-H1N1 introduction? **Mixed evidence**

**Change in health care impact?**

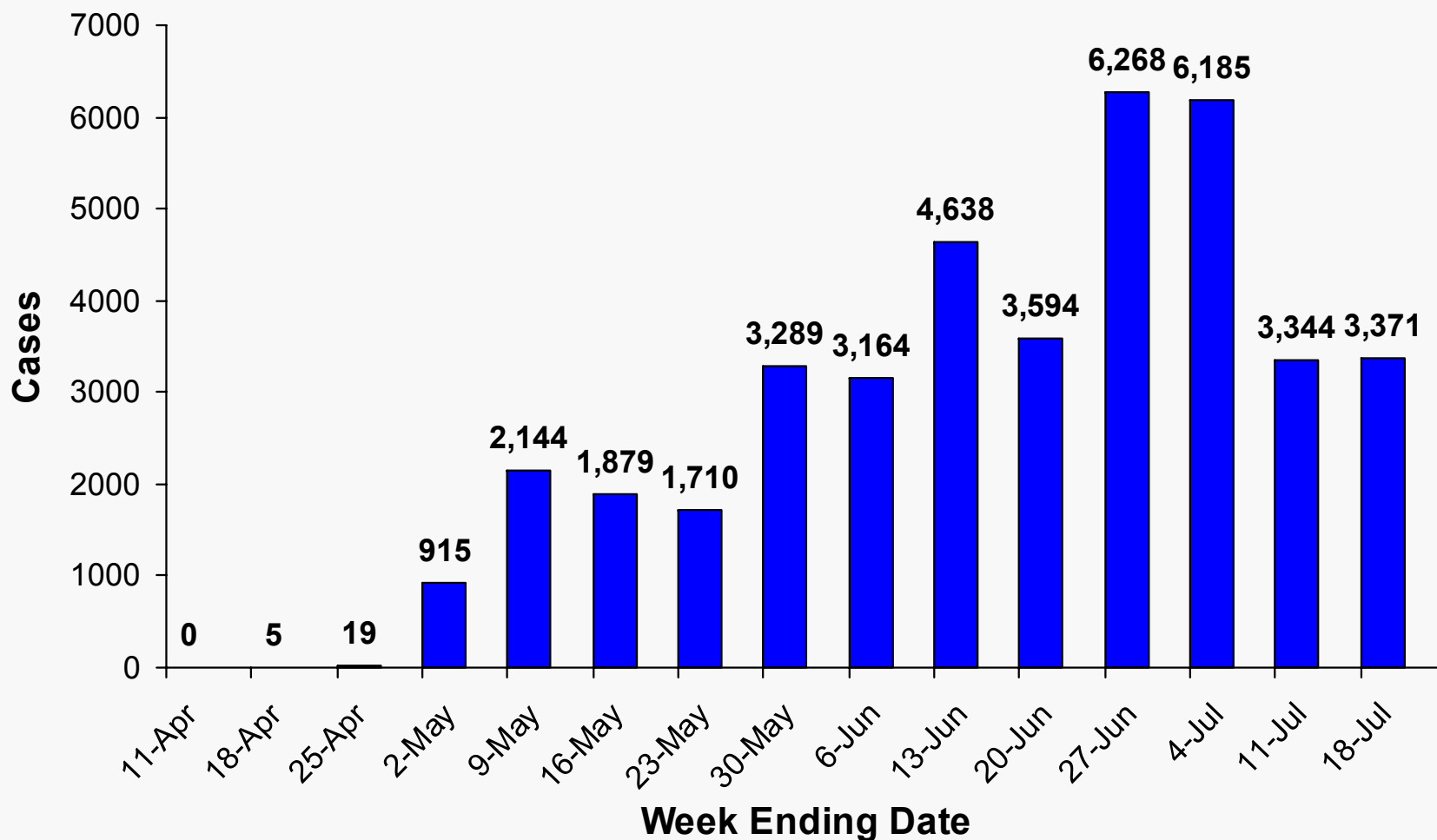
- Increase in hospitalizations following novel 2009-H1N1 introduction? **Limited evidence**
- Increase in proportion of hospitalized cases in ICU? **Limited evidence**

**Change in transmission?**

HH and community attack rates > seasonal influenza? **?**



# Epidemiology/Surveillance novel 2009-H1N1 Cases by Report Date As of 16 JULY 2009 (n=40,617) (Weekly\*)



**\*Data for week ending 4 July 2009 include reports submitted by 7/9/09 11:00 AM.  
Dates not available for 92 cases.**



## **Epidemiology/Surveillance**

### **WHO Changes Reporting Requirements for novel 2009-H1N1**

#### **novel 2009-H1N1 – 17 JUL 2009**

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- For countries already experiencing community-wide transmission
  - Focus of surveillance activities will shift to reporting against the established indicators for the monitoring of seasonal influenza activity
  - No longer required to submit regular reports of individual laboratory-confirmed cases and deaths to WHO
- US will no longer will report cases to PAHO
- Should US stop surveillance for case counts?
  - IHR requirements have ceased
  - CSTE working group says states want to stop
- Proposal
  - Planned discontinuation of aggregate case reporting in US next week
  - Continue aggregate weekly reporting of hospitalizations and deaths

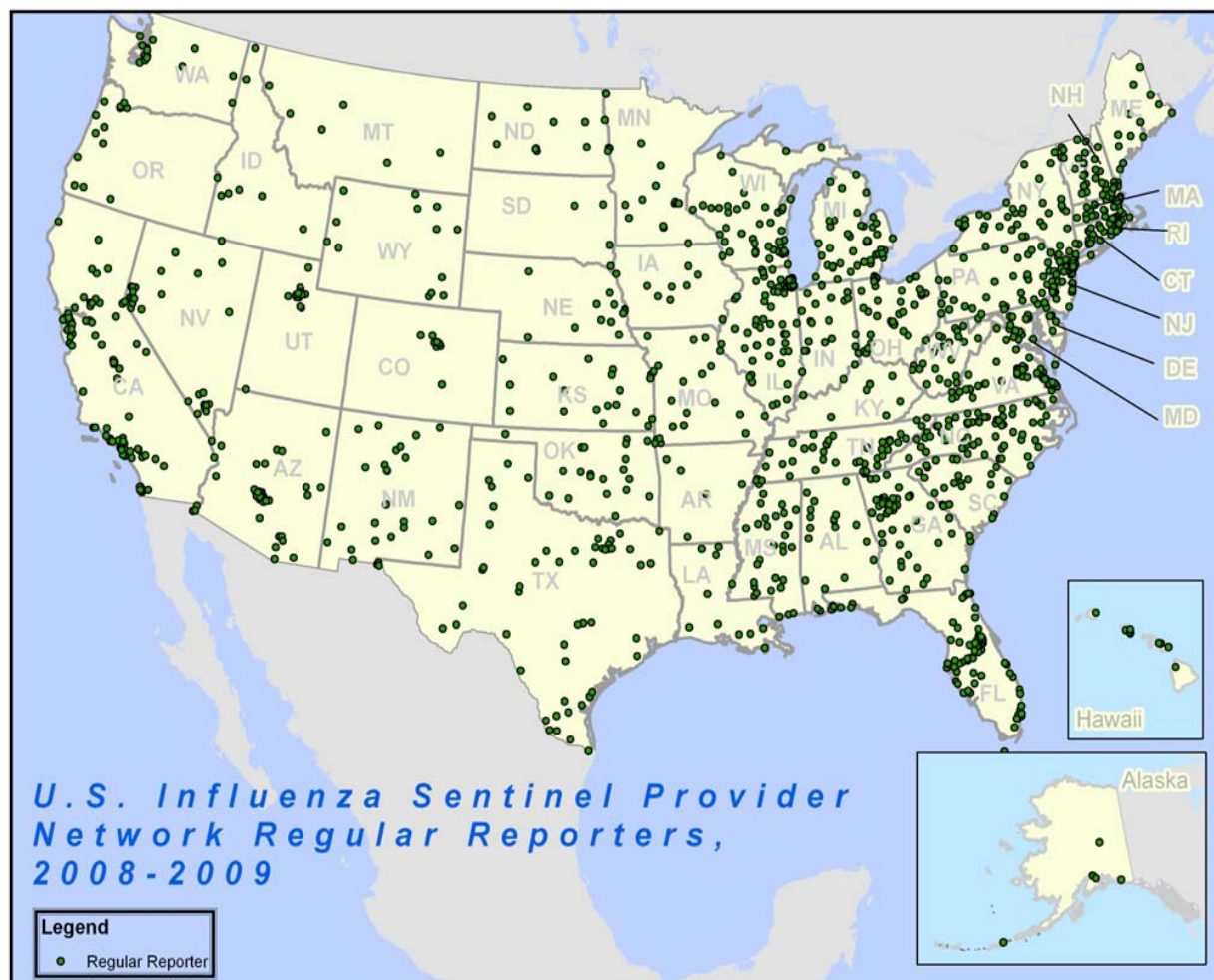


## Epidemiology/Surveillance

### Location of Sites for ILI Outpatient Surveillance (ILINet) novel 2009-H1N1 – 17 JUL 2009

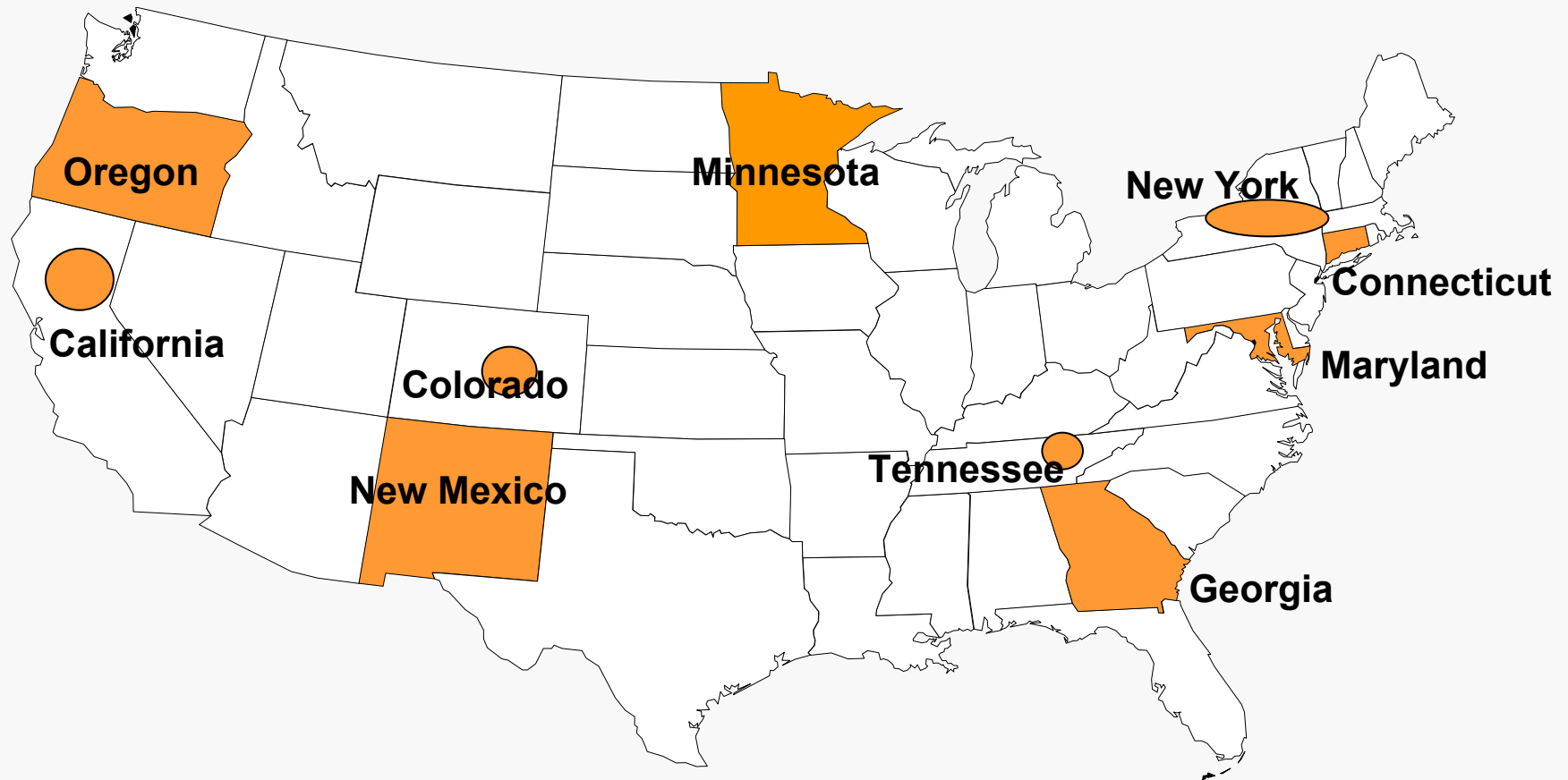


- Tracks outpatient visits for ILI
- >2,400 primary health care providers enrolled
- Approx 20 million visits per year
- Weekly reports
  - # patient visits for any reason
  - # patients, by age group, with ILI





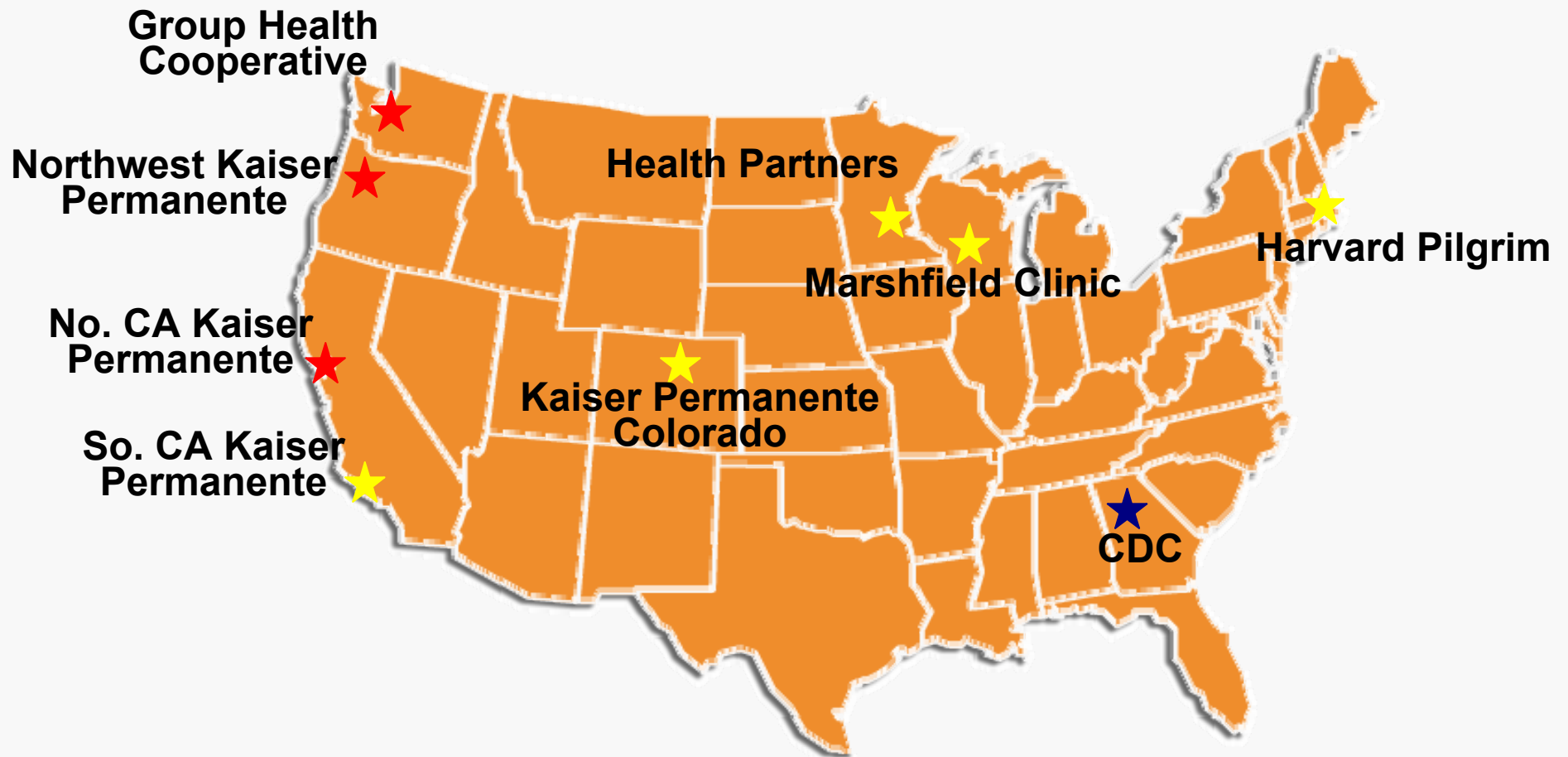
**Epidemiology/Surveillance  
Emerging Infections Program  
40 million population (13% of US population)**



- Tracks laboratory-confirmed influenza hospitalizations



**Epidemiology/Surveillance**  
**Location of Sites for HMO Surveillance (VSD)**  
**8.25 million population, 2.7% of US population**



- Tracks outpatient and inpatient pneumonia and influenza using ICD9 codes

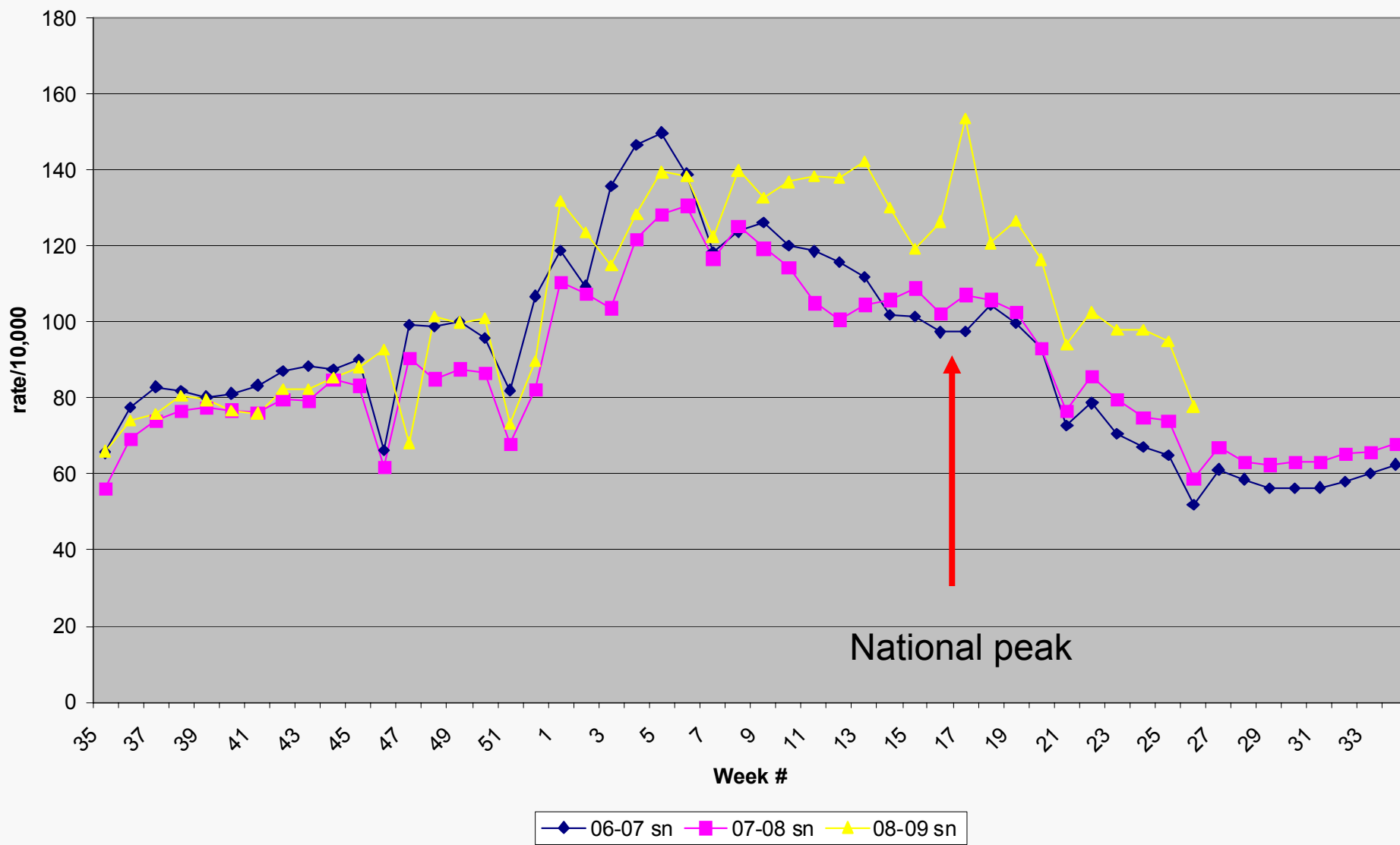
- ★ **Infants, children, adolescents under 18**
- ★ **All ages**



# Epidemiology/Surveillance novel 2009-H1N1 – 17 JUL 2009



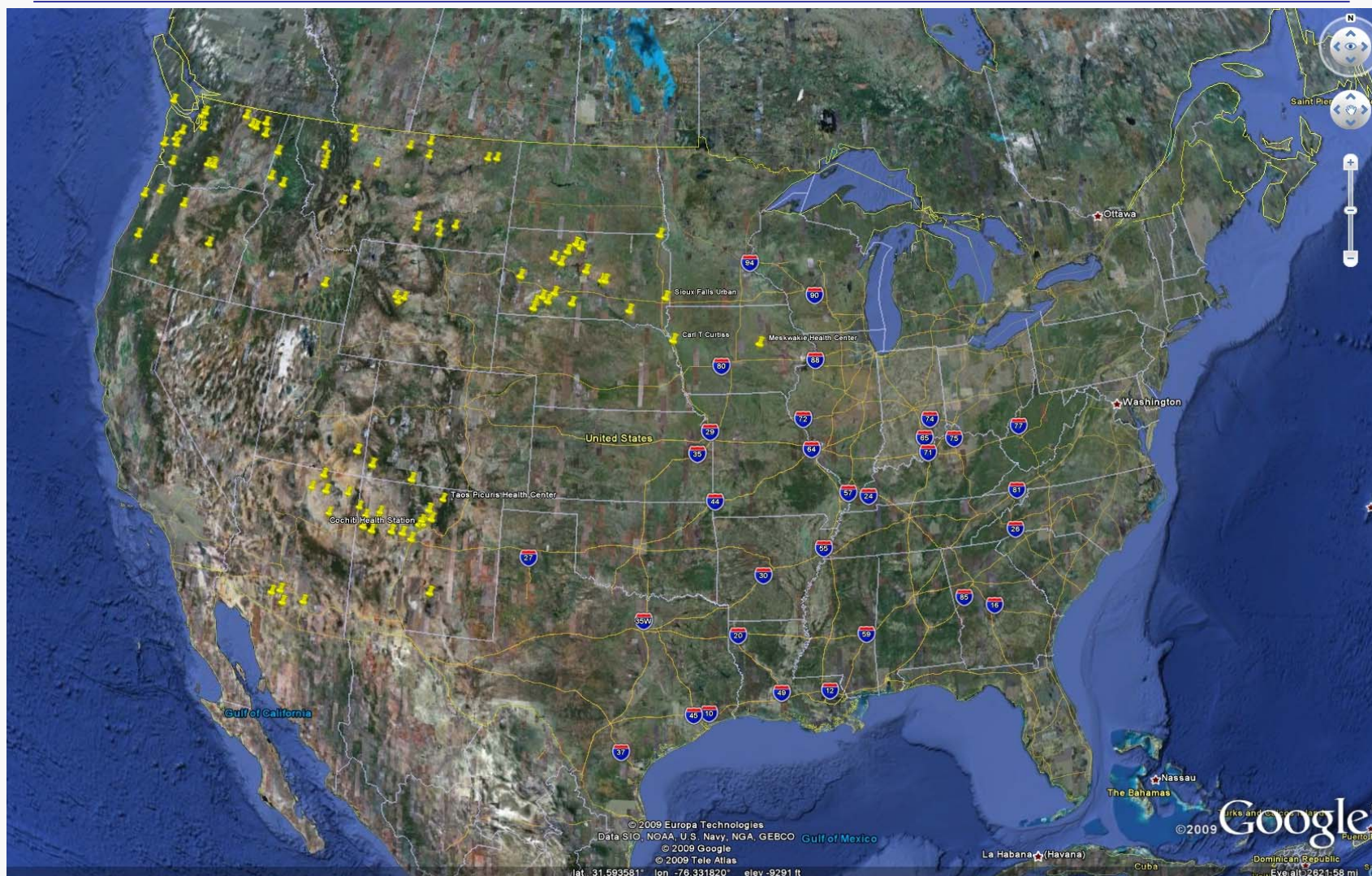
## P&I outpatient rate for Northern California Kaiser





## Epidemiology/Surveillance

### Location of Sites for Indian Health Service Syndromic Surveillance (2 million population)



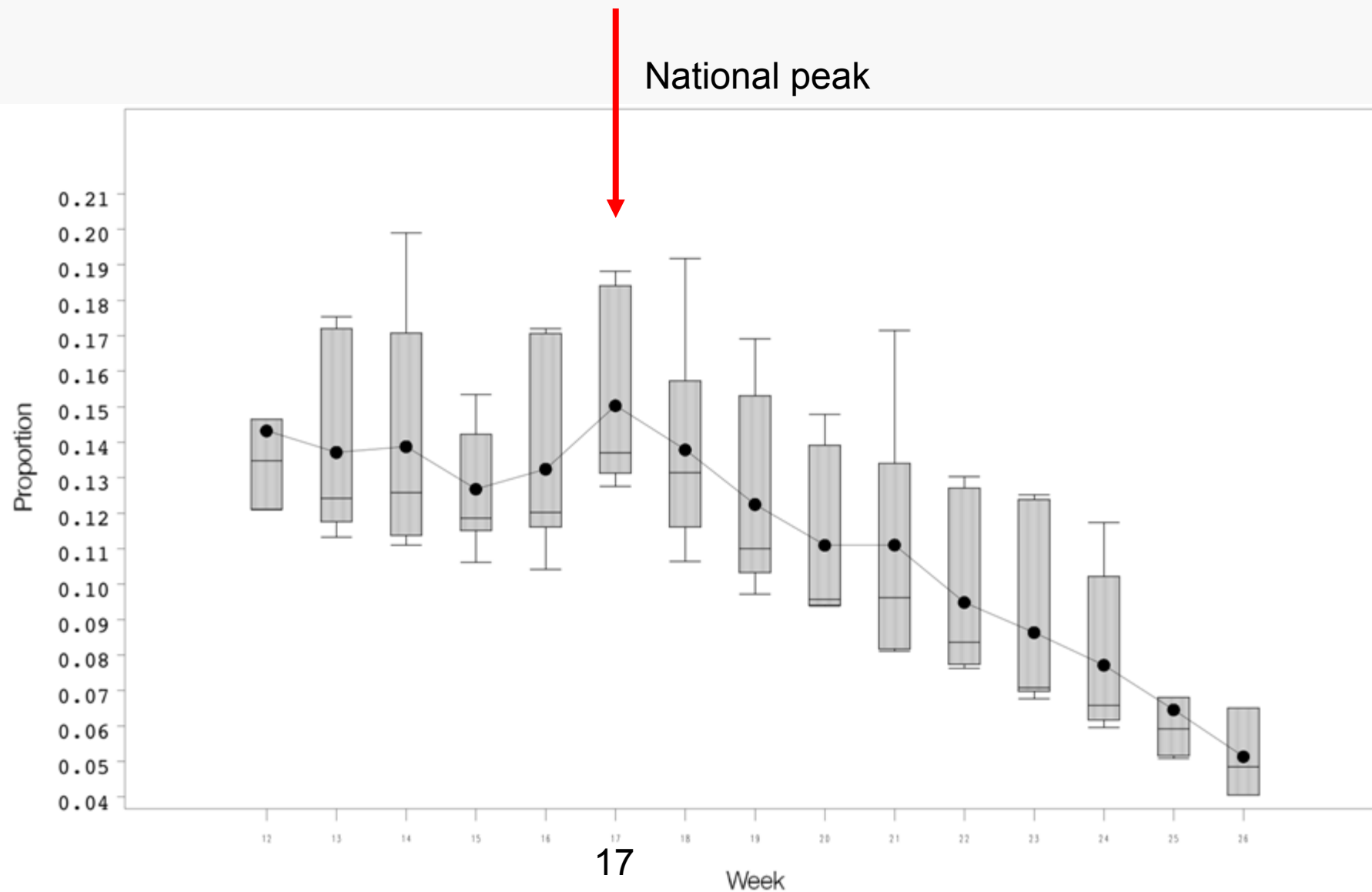
- Tracks outpatient and inpatient pneumonia and influenza using ICD9 codes



# Epidemiology/Surveillance

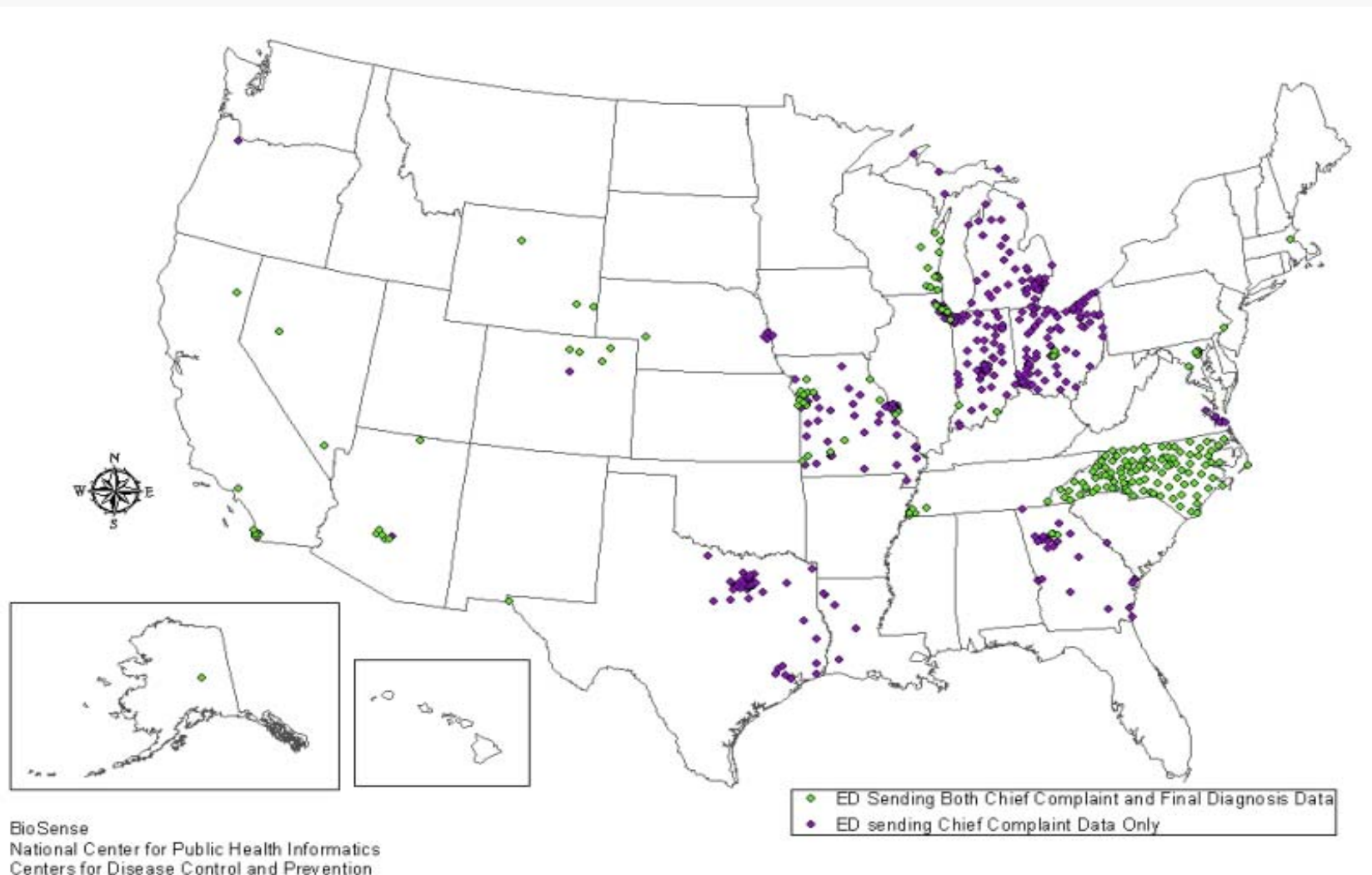
## Indian Health Service Syndromic Surveillance

### novel 2009-H1N1 – 17 JUL 2009





**Epidemiology/Surveillance**  
**Syndromic Surveillance of Emergency Departments (ED) Reporting Chief**  
**Complaint (N≈565) and Final Diagnosis Data (N≈210), BioSense**

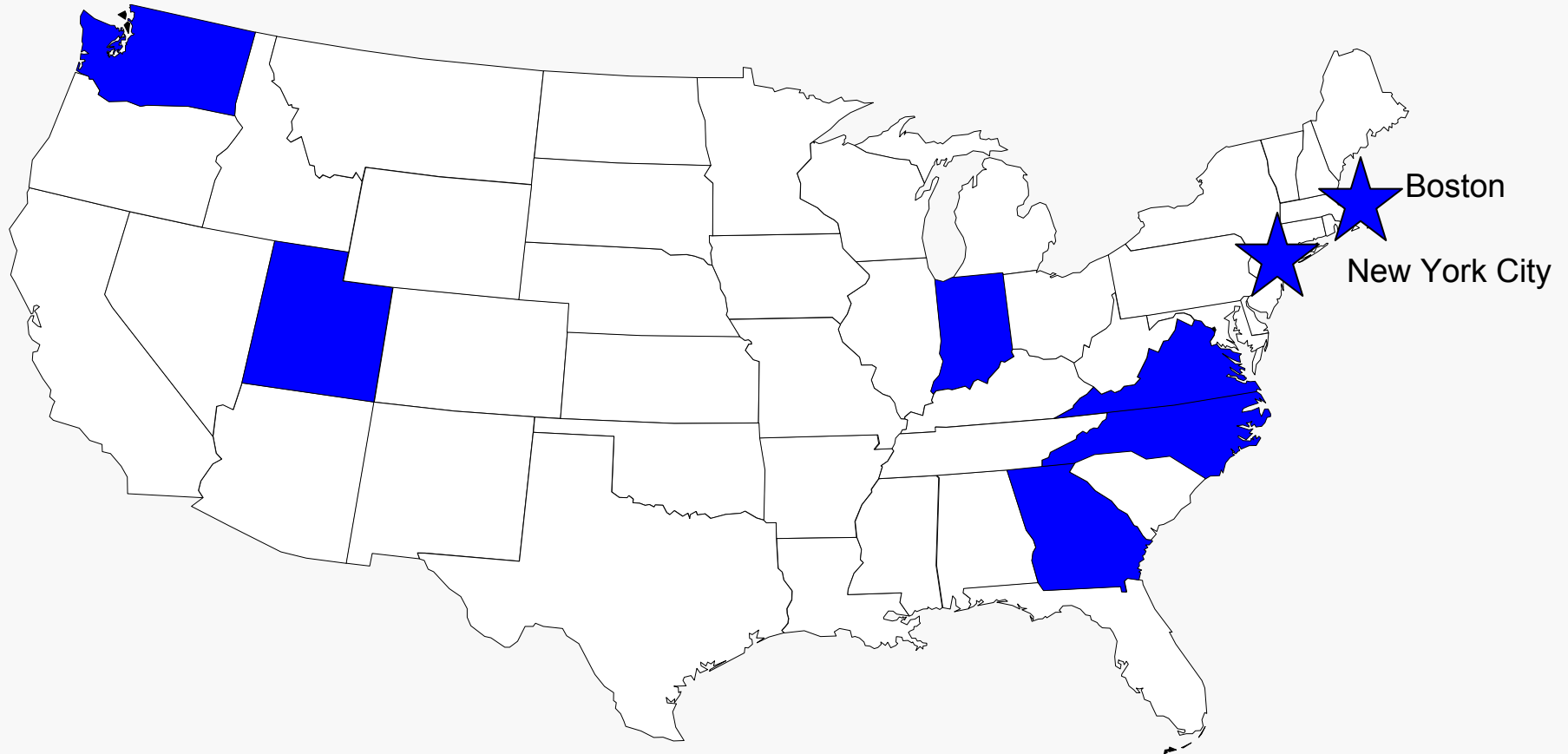




# Epidemiology/Surveillance

## Location of Sites for Syndromic ER Surveillance (DiSTRIBuTE)

novel 2009-H1N1 – 17 JUL 2009



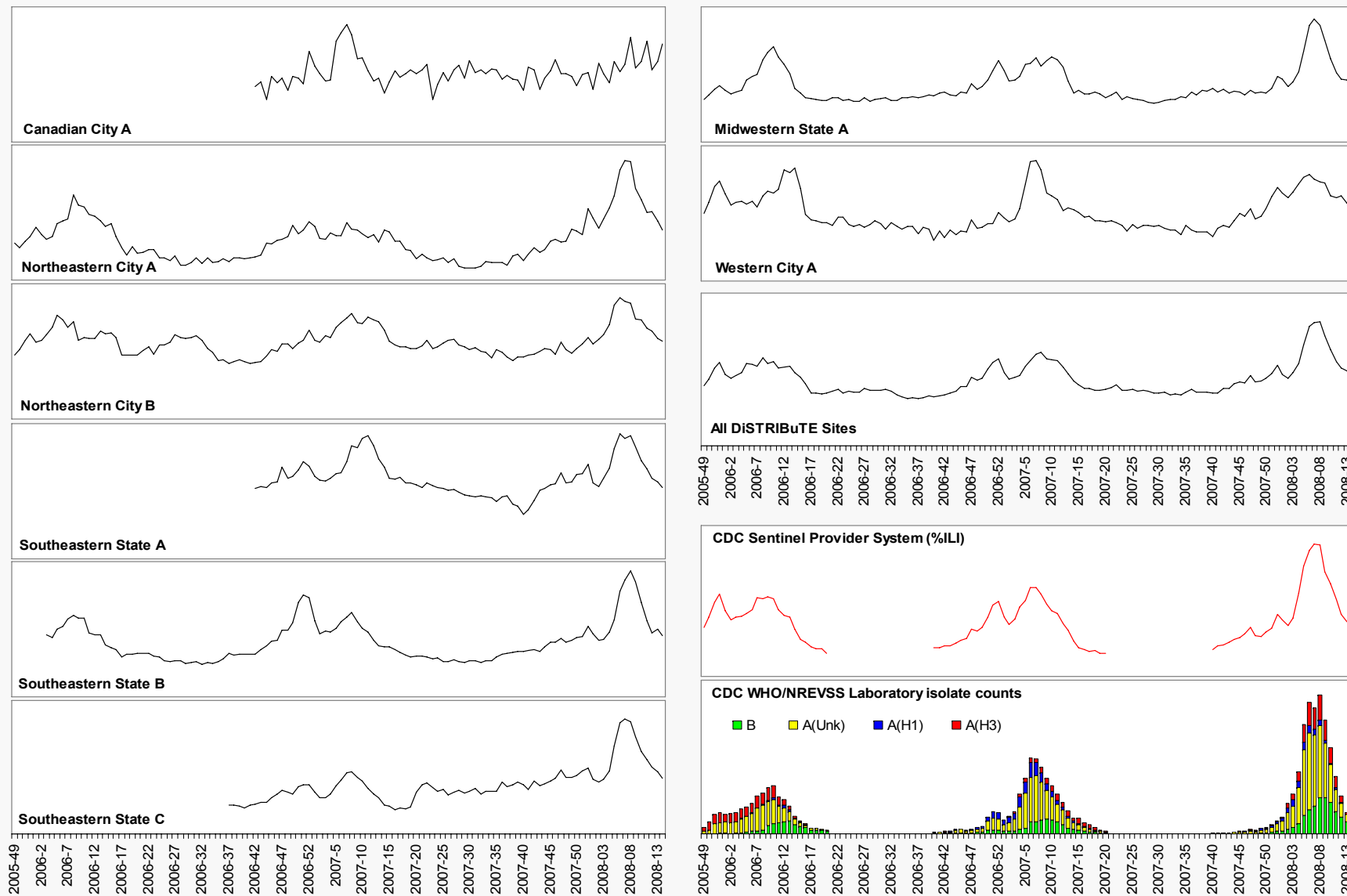
- Tracks chief complaints and ICD9 codes in Emergency Room visits



## Epidemiology/Surveillance

DiSTRIBuTE Visualizations - Week 2008-14 (ending Saturday, April 5, 2008)

Time-series depict respiratory, fever and influenza-like syndrome ED visits by jurisdiction as percent of total





## Genetic and Antigenic Analysis of S. Hemisphere Virus Isolates

- Hemagglutination Inhibition assay shows no change in antigenicity from those isolated in the N. Hemisphere: All crossreact with the A/California/07/2009 vaccine strain.
- All isolates from Southern Hemisphere as of today are Oseltamivir sensitive in functional assay



## Seasonal H3N2 Viruses

- Increased proportion of H3N2 virus isolates are testing as very low reactors to vaccine strain
  - Reactivity up to 32-fold down vs. A/Brisbane/10/2007
  - Two-way reduction in reactivity by HI assay



# Vaccine



novel 2009-H1N1- 17 JUL 2009

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- **Transition to centralized distribution**
  - Costs
  - Operational capabilities
  - Benefits/risks
  
- **Public engagement meetings**
  - Purpose (public feedback to inform decisions on implementation)
  - Timeline (4-5 Saturdays in August, report in late Aug/early Sep)
  - Number of meetings (10)
  - Locations (one in each HHS region)



## Division of Global Migration and Quarantine



novel 2009-H1N1 – 17 JUL 2009

- **Port Preparedness Planning**

- Contingency plans for conducting entry screening at 19 ports of entry in progress
  - Deadline for completion of contingency plans is August 1
- HHS acquiring 100 surge staff to support 20 quarantine stations
  - Commitment to provide surge staff for 1 year
  - Estimated duration of surge support activation is 4 weeks
  - Surge staff requested to report for duty within 24 hours
  - List of surge staff generated through NDMS and will include 5 local staff for each quarantine station
  - Projected completion of surge list is July 17
  - Identified surge staff will have PHA-type skills set (nurses, EMTs, etc.)

- **Port surveillance**

- 595 ILI cases reported in QARS since June 1, 2009:
  - 35 air travelers
  - 5 land travelers
  - 555 maritime travelers



## Community Measures Task Force (CMTF)



novel 2009-H1N1 – 17 JUL 2009

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- Isolation guidance revision drafted and discussions have begun with NACCHO, ASTHO, CSTE, and Education partners
  - “Individuals with influenza-like illness should remain at home until at least 24 hours after they are free of fever or feverishness without the use of fever-reducing medications (approx 5 days)”
    - Wording being refined
  - Webinar being organized as part of consultative process, scheduled for July 30 (NACCHO, State School Health Directors)
- CSTE/CDC Community Measure Workgroup (research) formed
- MMWR describing spring school closure in clearance process (Dept Education)



## Healthcare Delivery – Infection Control



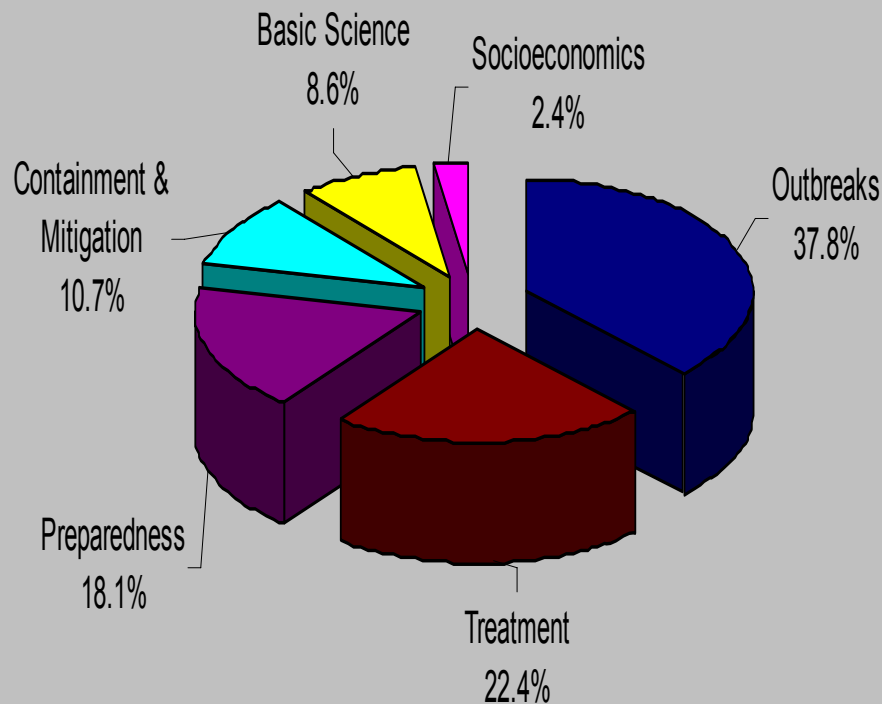
novel 2009-H1N1 – 17 JUL 2009

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- Home Care Guidance: Physician Directions to Patient/Parent posted to the CDC Website under “Guidance for Patients” and under “Patient Information and Education”
  - This small guide provides recommendations on:
    - Taking medications
    - When to seek emergency care
    - Home Care recommendations



Figure 1: Distribution of News Topics (N=1337)

7/9 - 7/15



### Outbreak News

- 67 Air Force Cadets
- UNC campers
- Puerto Rico 1st death
- 9 Deaths total in FL
- UK deaths double

### Treatment news:

- Vaccine priority groups changing
- U.S. Govt: Shots may begin 10/09
- WHO: No licensed vaccine until 12/09

### Preparedness:

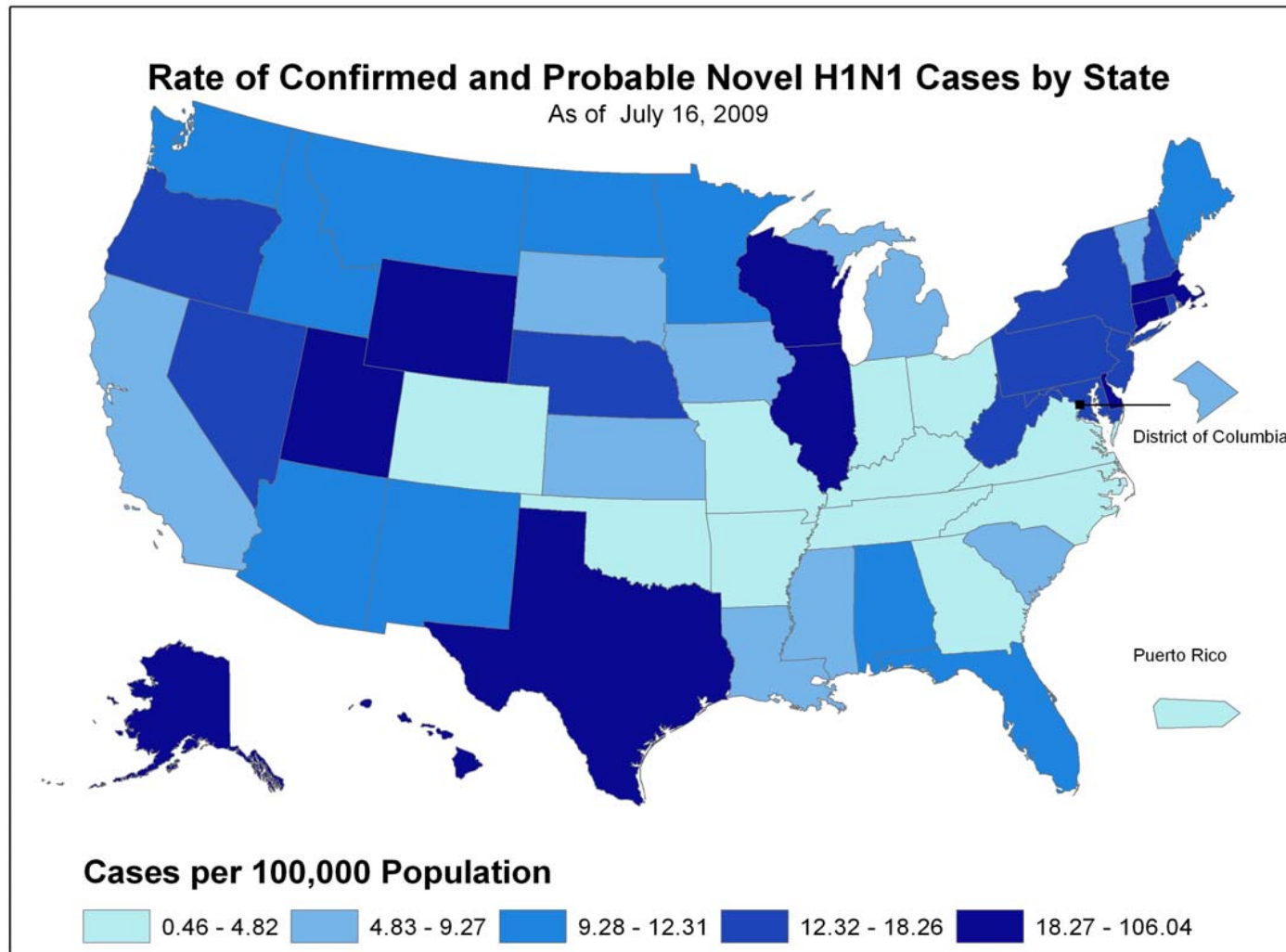
- Obama warns of swine flu Fall return
- State funding



# Supporting Documentation



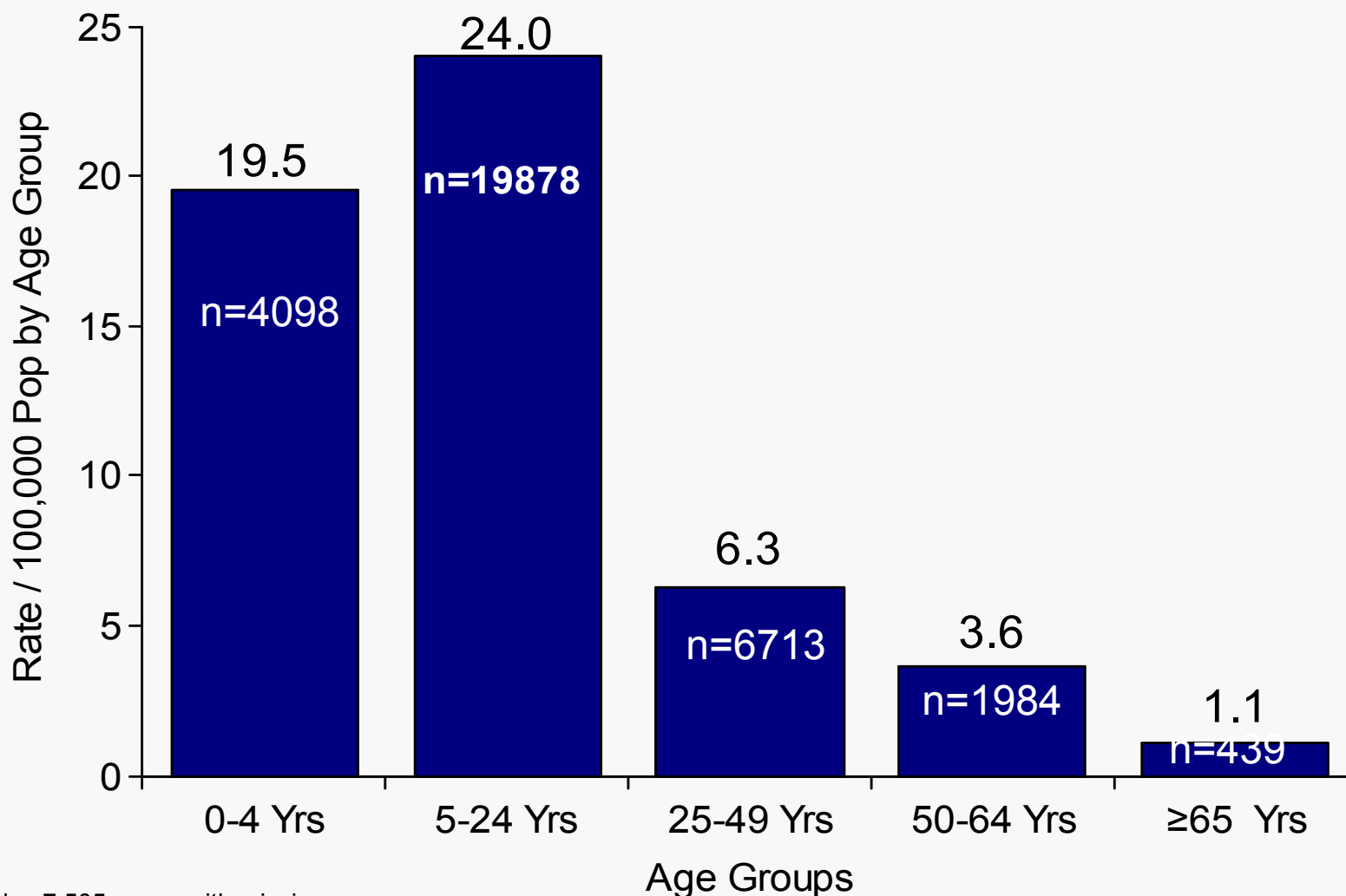
# novel 2009-H1N1 Cases by State Rate / 100,000 State Population as of 16 July 2009





# Epidemiology/Surveillance

## novel 2009-H1N1 Cases Rate per 100,000 Population by Age Group as of 16 JULY 2009 (n=33,112\*)



\*Excludes 7,505 cases with missing ages.

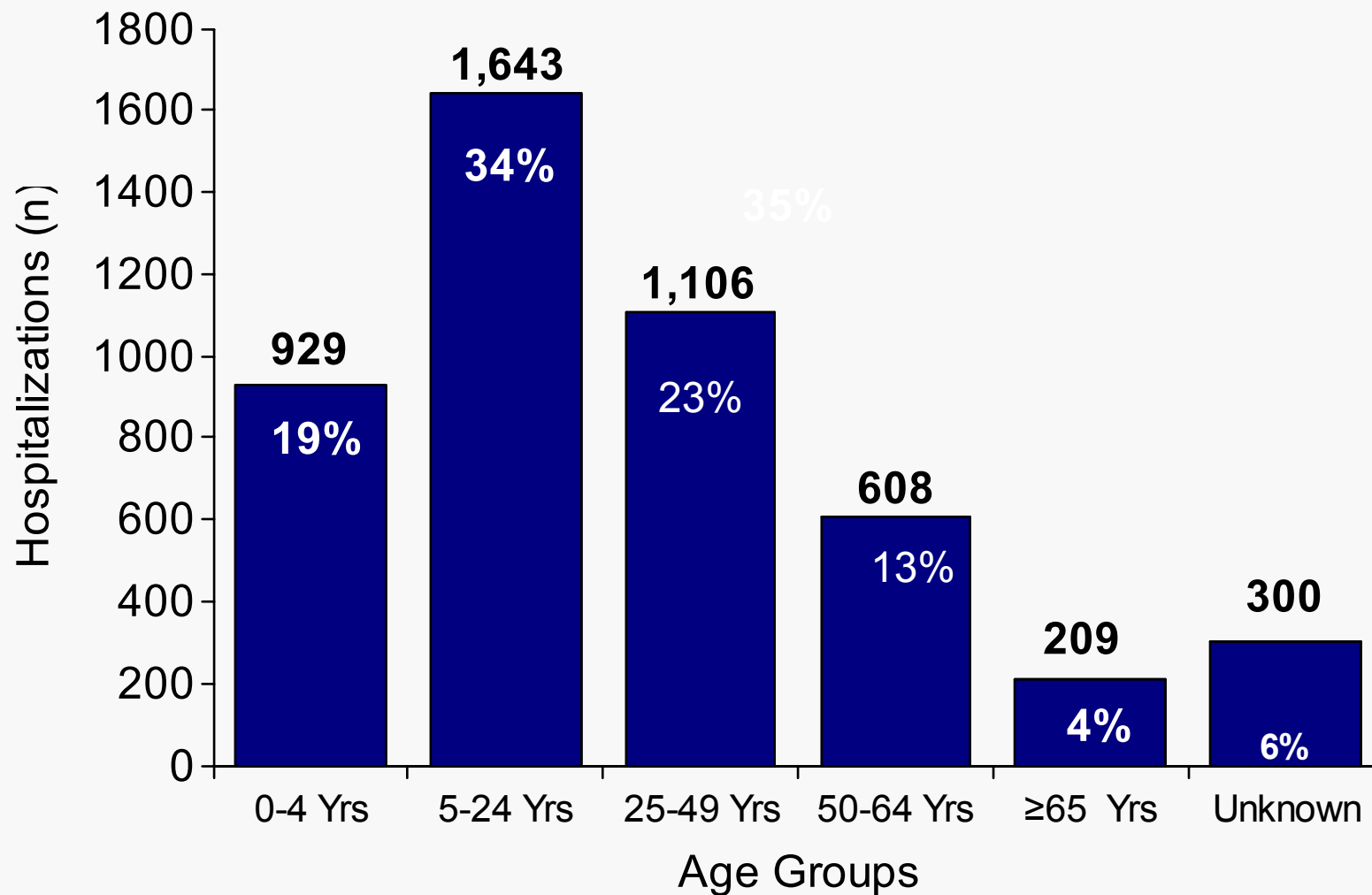
Rate / 100,000 by Single Year Age Groups: Denominator source: 2008 Census Estimates, U.S. Census Bureau at:  
<http://www.census.gov/popest/national/asrh/files/NC-EST2007-ALLDATA-R-File24.csv>



**Epidemiology/Surveillance**  
**novel 2009-H1N1 Hospitalizations by Age Group**  
**Data reported as of 16 JULY 2009 (n=4,795)**



**Percentages Represent Proportion of Total Hospitalizations**

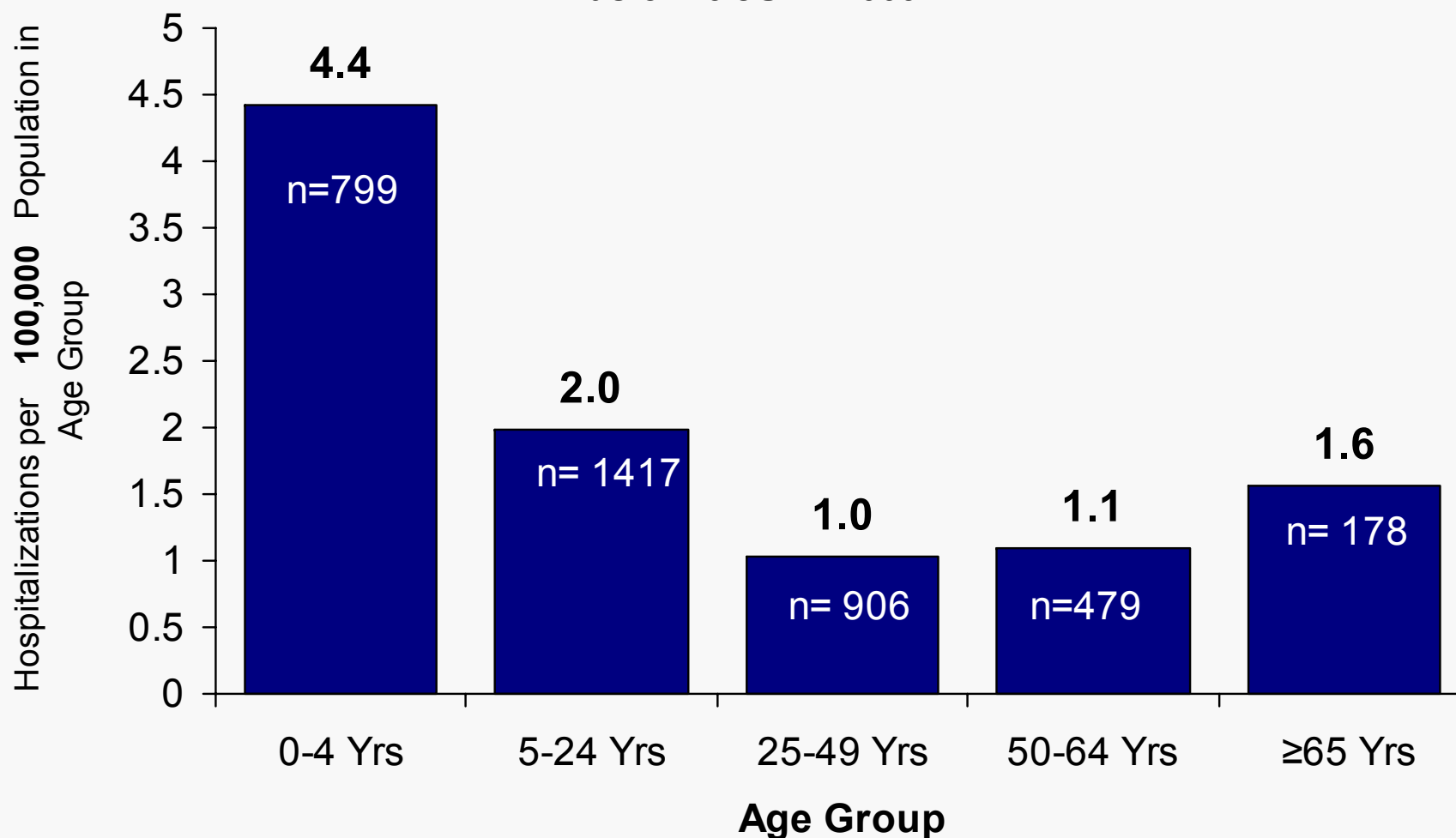




## Epidemiology/Surveillance novel 2009-H1N1



### Hospitalization Rate per 100,000 Population by Age Group (n=4,395\*) as of 16 JULY 2009

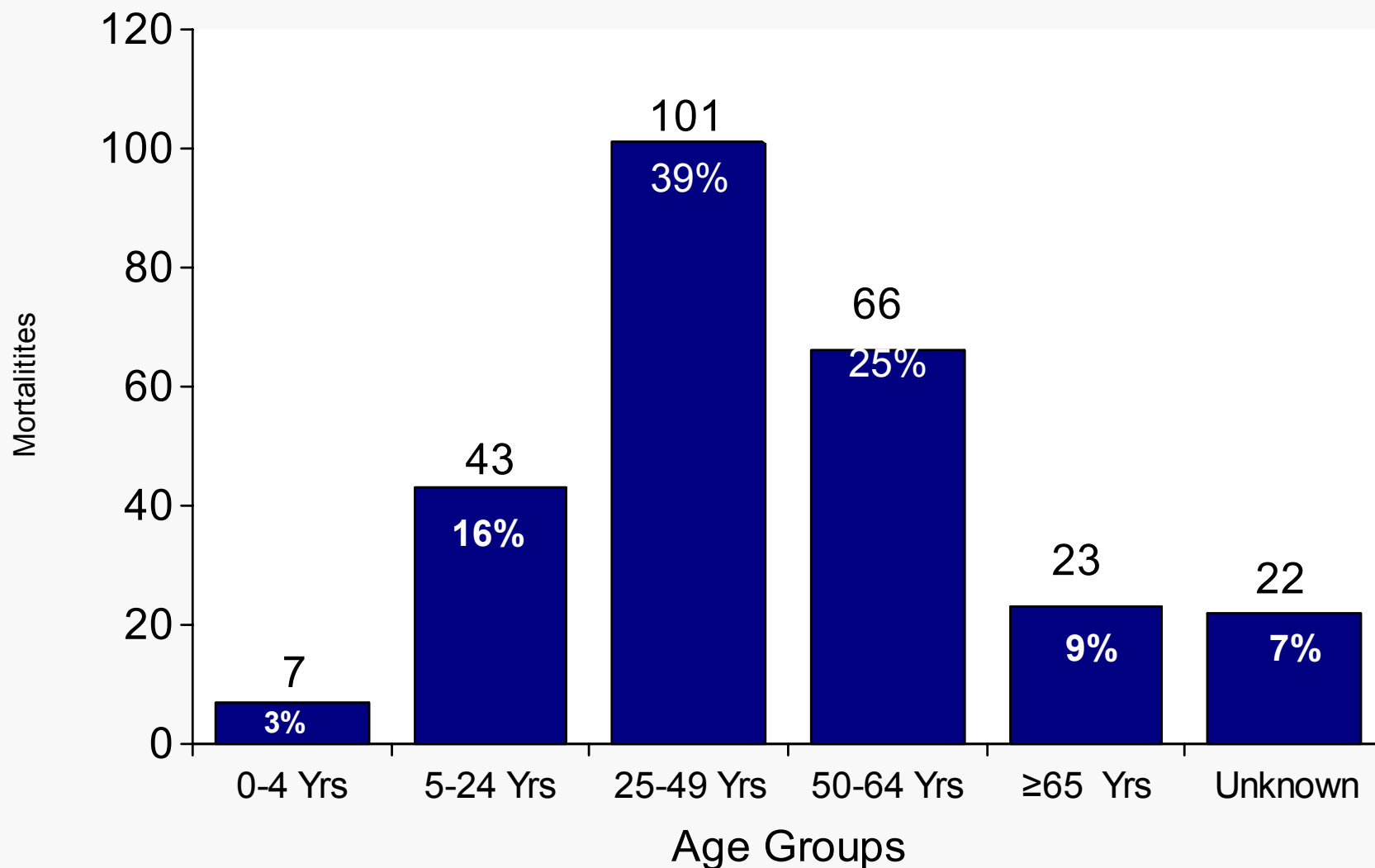


\*Hospitalizations with unknown ages are not included (n=300)

\*Rate / 100,000 by Single Year Age Groups: Denominator source: 2008 Census Estimates, U.S. Census Bureau at:  
<http://www.census.gov/popest/national/asrh/files/NC-EST2007-ALLDATA-R-File24.csv>



# Epidemiology/Surveillance novel 2009-H1N1 Deaths by Age Group as of 16 JULY 2009 (n=262)



## States:

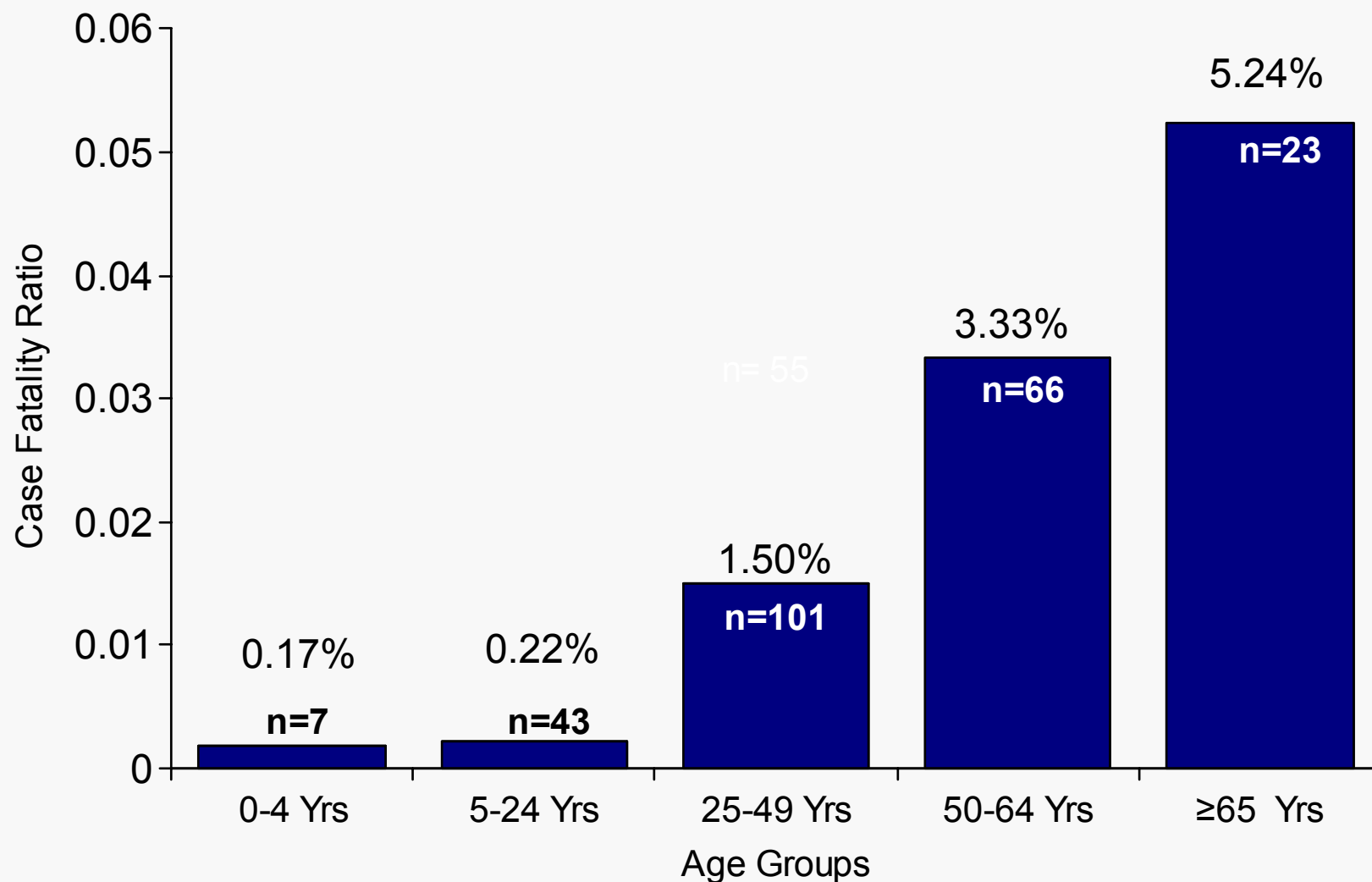
AZ - 11  
CA - 52  
CT - 7  
FL - 12  
GA - 1  
HI - 1  
IL - 15  
IN - 1  
MA - 5  
MD - 3  
MI - 8  
MN - 3  
MO - 1  
NE - 1  
NC - 4  
NJ - 14  
NY - 57  
OH - 1  
OK - 1  
OR - 5  
PA - 8  
RI - 2  
TN - 1  
TX - 24  
UT - 14  
VA - 2  
WA - 4  
WI - 4



# Epidemiology/Surveillance

## novel 2009-H1N1 Case Fatality Ratio by Age Group

as of 16 JULY 2009 (n=262)





## Epidemiology/Surveillance novel 2009-H1N1 Deaths Reported to CDC by States as of 16 JULY 2009



- PMH data available for 175 fatal cases
- 117/175 (67%) persons with severe underlying conditions
- 151/175 (86%) persons with any underlying condition (includes obesity)

| Condition                                                             | Percent Deceased Cases<br>with Condition |                 |
|-----------------------------------------------------------------------|------------------------------------------|-----------------|
|                                                                       | Age <18 (N=29)                           | Age ≥18 (N=146) |
| Asthma                                                                | 1 (3%)                                   | 26 (18%)        |
| Pulmonary disease                                                     | 8 (28%)                                  | 34 (23%)        |
| Diabetes                                                              | 0 (0%)                                   | 32 (22%)        |
| Chronic cardiovascular disease                                        | 5 (17%)                                  | 31 (21%)        |
| Neurocognitive disorder                                               | 10 (34%)                                 | 9 (6%)          |
| Neuromuscular disorder                                                | 7 (24%)                                  | 6 (4%)          |
| Pregnant                                                              | (0%)                                     | 11 (8%)         |
| Seizure disorder                                                      | 6 (21%)                                  | 3 (2%)          |
| Renal Disease                                                         | 0 (0%)                                   | 20 (14%)        |
| Immunosuppressive Disorder                                            | 1 (3%)                                   | 16 (11%)        |
| Other ULC (hepatic, cancer, immunosuppressed,<br>metabolic disorders) | 2 (7%)                                   | 28 (19%)        |
| Morbid obesity                                                        | (0%)                                     | 13 (9%)         |
| Obesity                                                               | 3 (10%)                                  | 65 (45%)        |



**Epidemiology/Surveillance**  
**novel 2009-H1N1 - 16 JUL 2009**  
**Surveillance Systems**



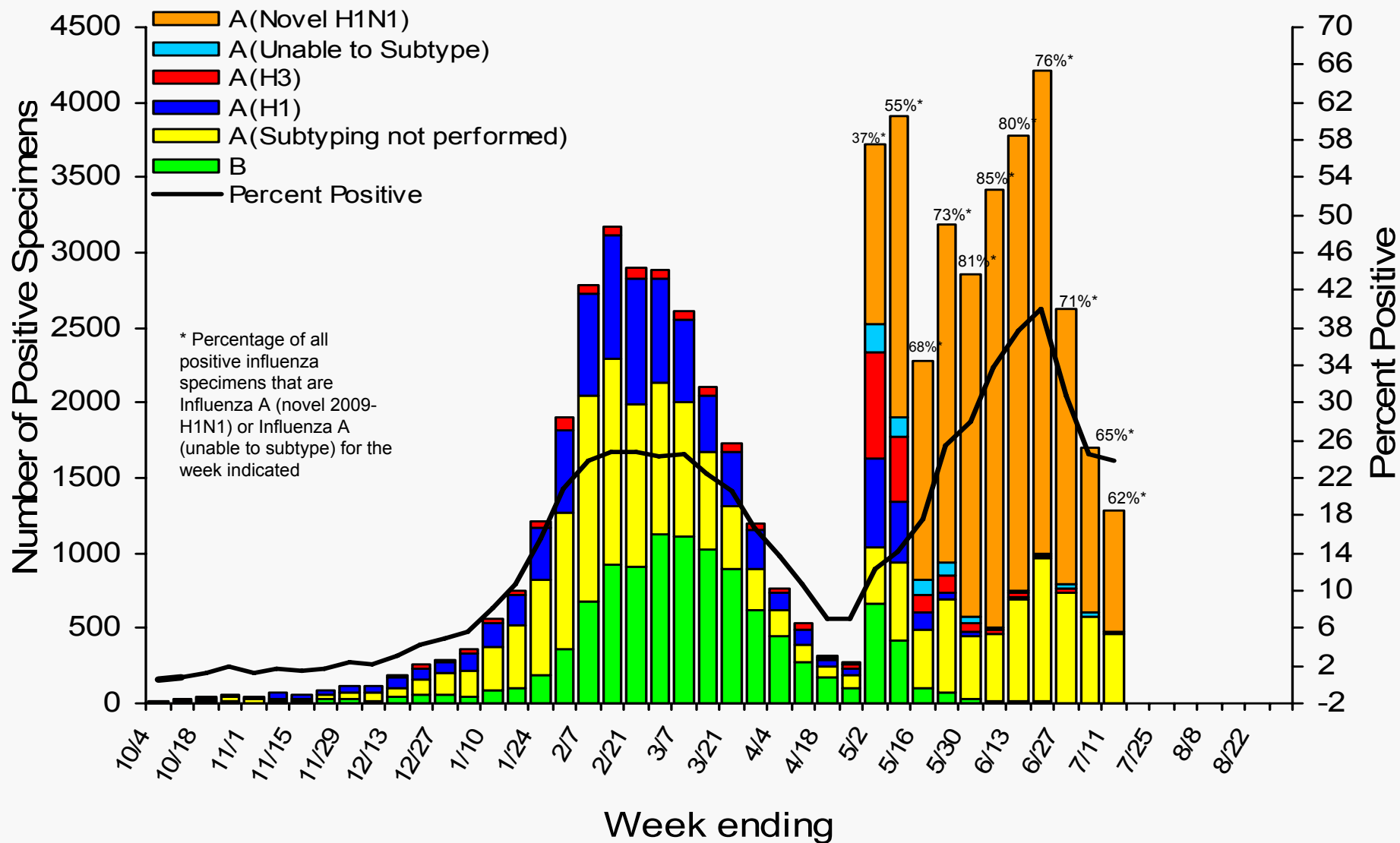
- ***WHO/NREVSS Collaborating Laboratories***
  - Seasonal A (H3), and B viruses co-circulated with Novel H1N1 viruses
  - No seasonal A (H1) viruses were reported during week 27
  - % of specimens testing positive for influenza decreased
- ***ILINet (week ending 11 July)***
  - % of ILI outpatient visits is below the national baseline
  - Overall, the % of outpatient visits for ILI decreased slightly
- ***122 Cities Mortality Reporting System (graph)***
  - % pneumonia and influenza deaths was below the epidemic threshold
  - % deaths due to pneumonia and influenza decreased slightly
- ***Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists – state reporting:***
  - Widespread: 9 states                      Regional: PR + 12 states
  - Local: DC + 12 states                      Sporadic: 16 states
  - No Report: 1 state



# Epidemiology/Surveillance novel 2009-H1N1 – 16 JUL 2009

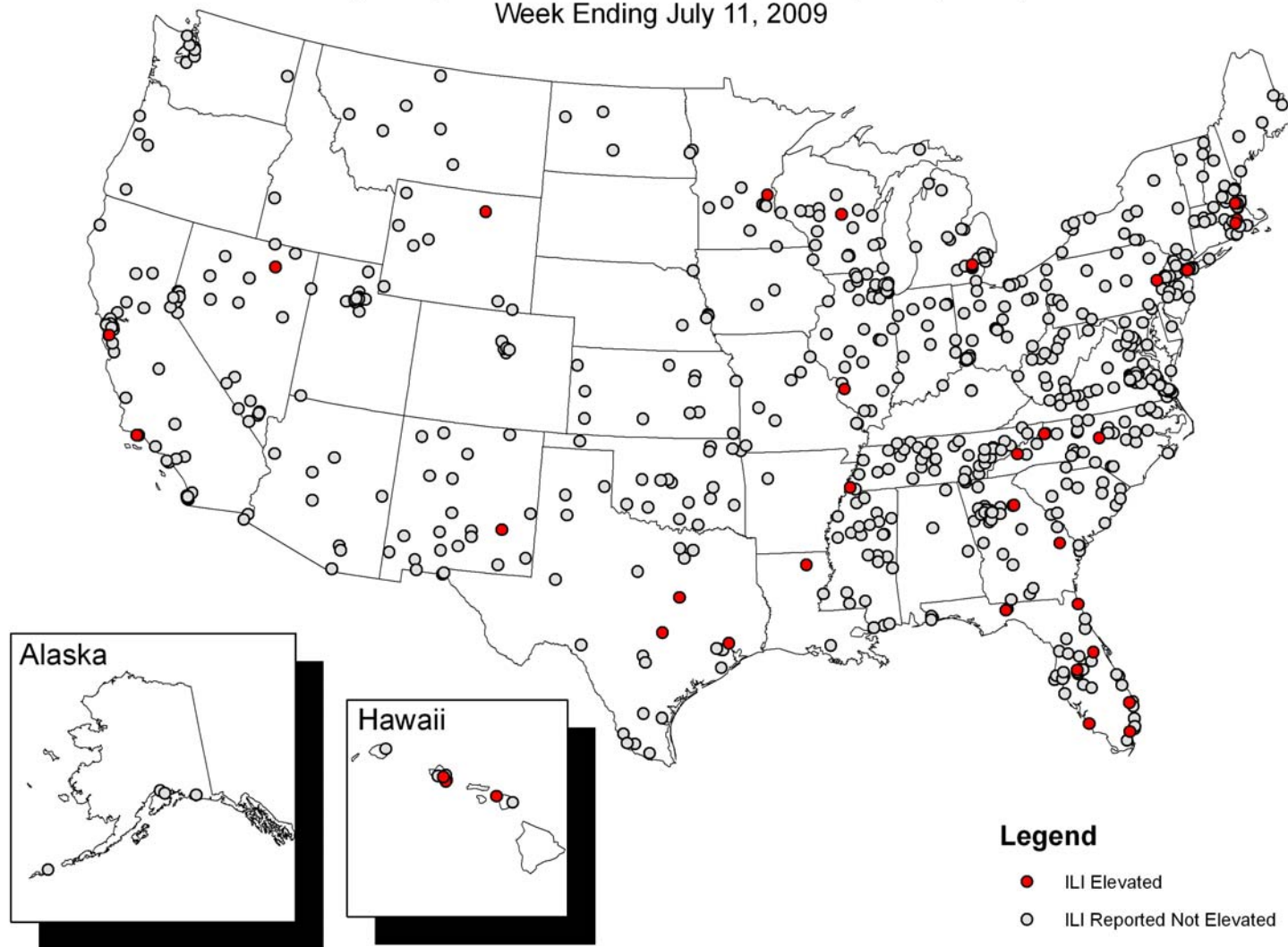


## U.S. WHO/NREVSS Collaborating Laboratories Summary, 2008-09



## novel 2009-H1N1 – 16 JUL 2009

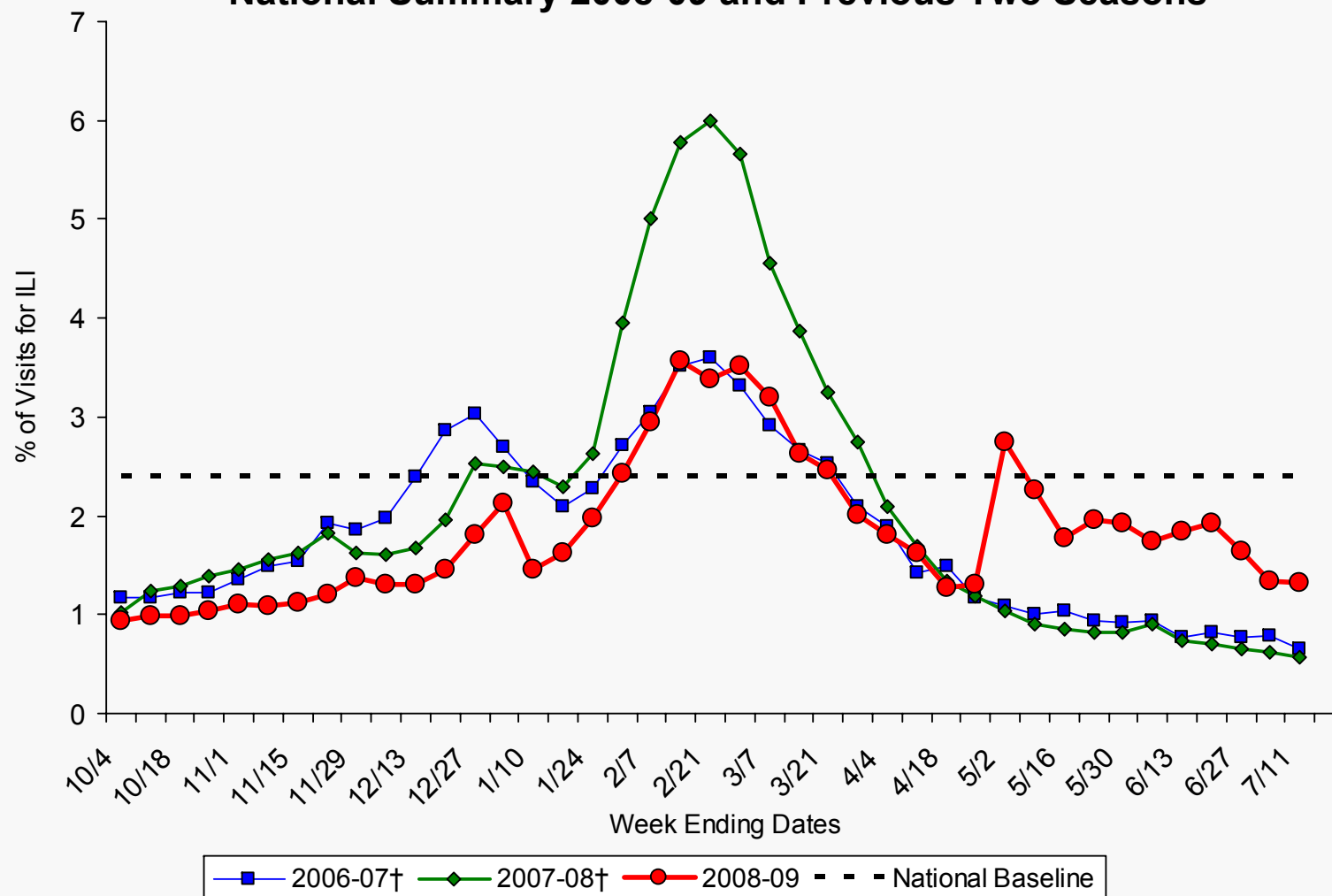
Influenza-like Illness (ILI) Reported from U.S. Outpatient Influenza-like Illness  
Surveillance Network (ILINet)  
Analyzed by the Early Aberration Reporting System (EARS)  
Week Ending July 11, 2009





## Epidemiology/Surveillance novel 2009-H1N1 – 16 JUL 2009 EDT

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



† 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.



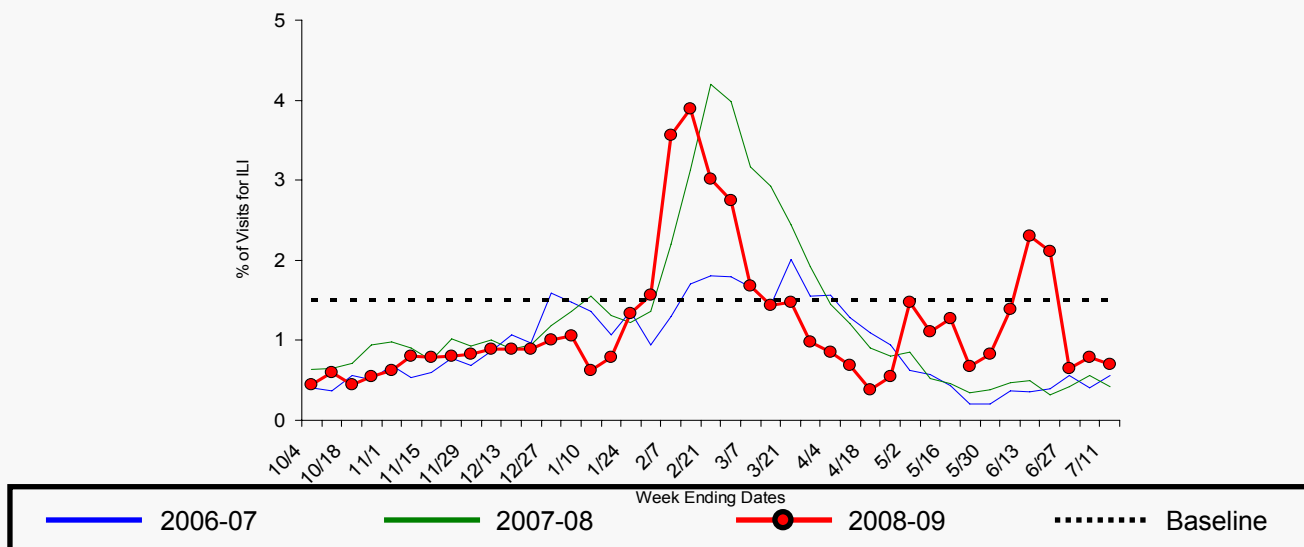
# Epidemiology/Surveillance

## novel 2009-H1N1 – 16 JUL 2009

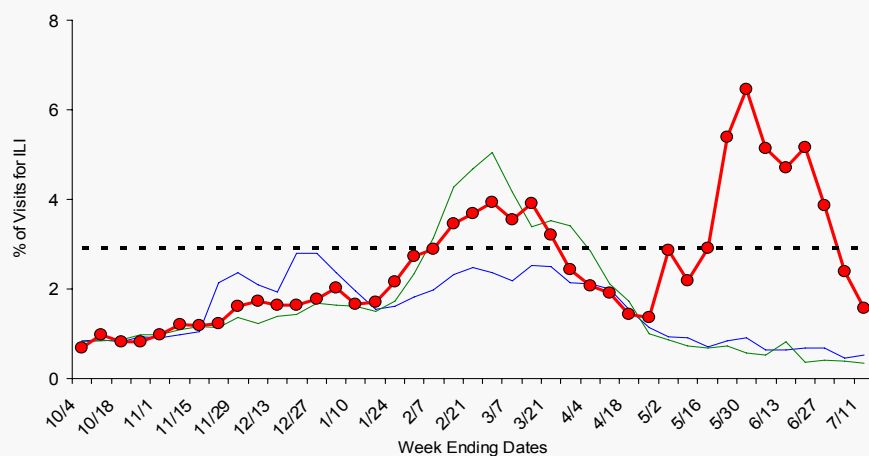
### Current Influenza Surveillance – ILINet Regions I-III



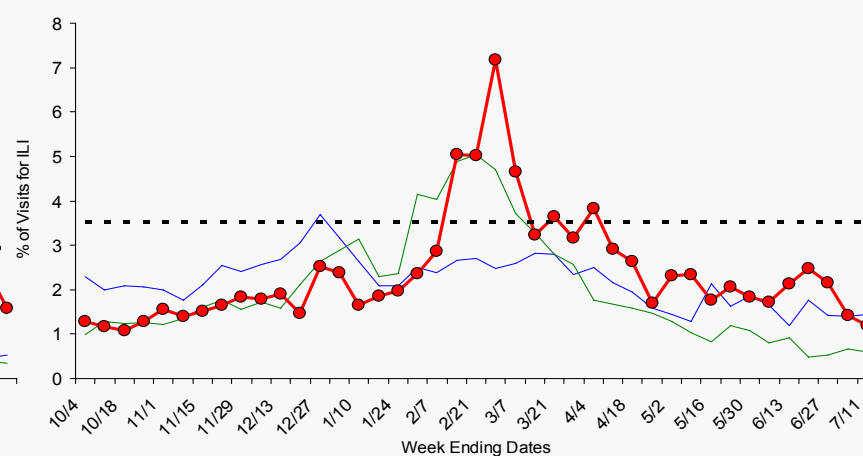
Region I - CT, ME, MA, NH, RI, VT



Region II - NJ, NY



Region III - DE, DC, MD, PA, VA, WV





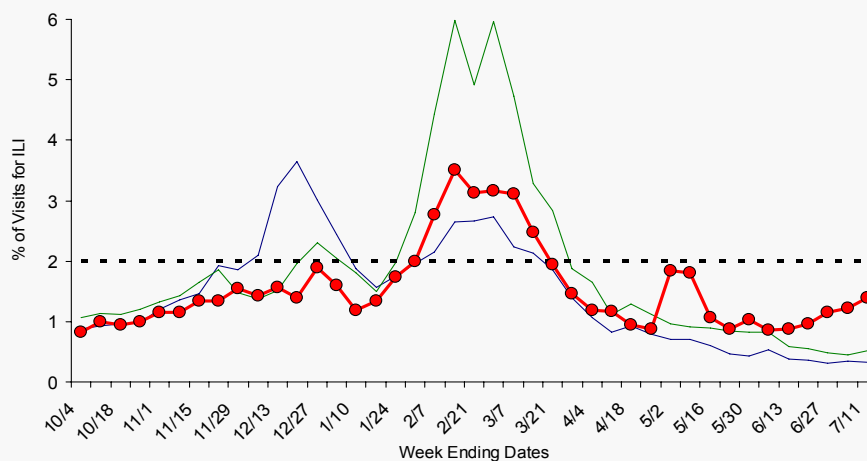
# Epidemiology/Surveillance

## novel 2009-H1N1 – 16 JUL 2009

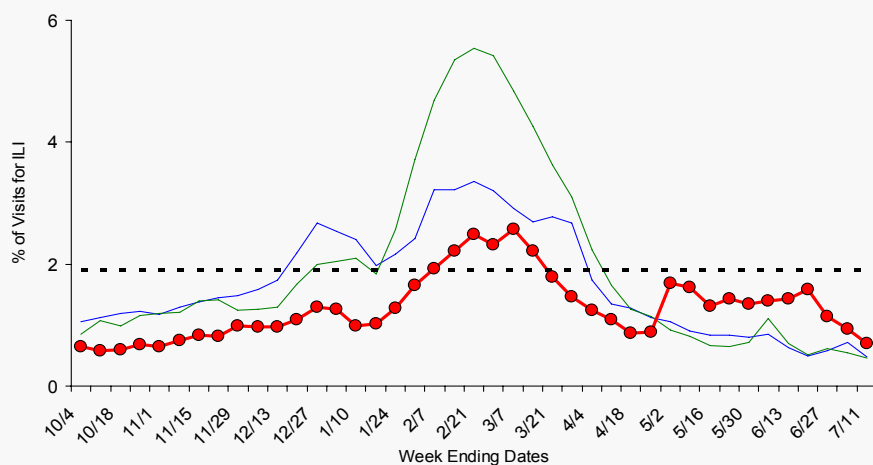
### Current Influenza Surveillance – *ILINet Regions IV-VI*



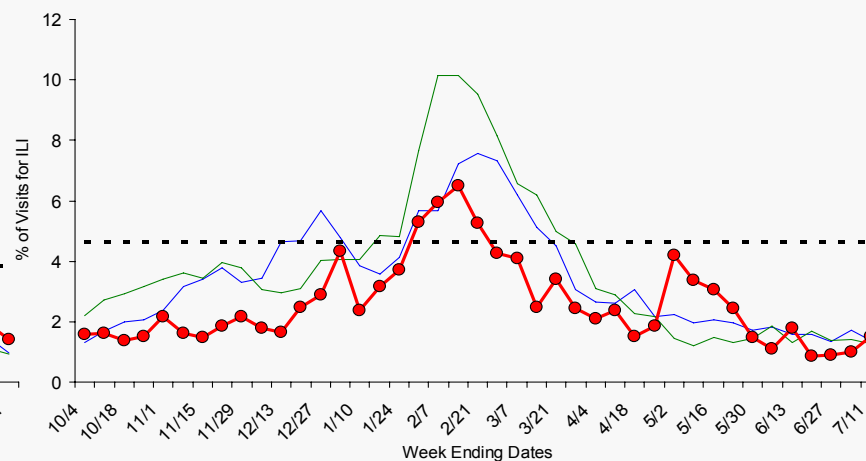
Region IV - AL, FL, GA, KY, MS, NC, SC, TN



Region V - IL, IN, MI, MN, OH, WI



Region VI - AR, LA, NM, OK, TX





# Epidemiology/Surveillance novel 2009-H1N1 – 16 JUL 2009



## Current Influenza Surveillance – ILINet Regions VII-X

