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)

<table>
<thead>
<tr>
<th></th>
<th>CASES</th>
<th>HOSPS</th>
<th>DEATHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASES</td>
<td>40,617</td>
<td>4,795</td>
<td>262</td>
</tr>
<tr>
<td>SLTTs AFFECTED</td>
<td>55</td>
<td>48</td>
<td>28</td>
</tr>
</tbody>
</table>

- 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)
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.
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

Week #

rate/10,000

National peak

06-07 sn 07-08 sn 08-09 sn
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

National peak
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

Canadian City A
Northeastern City A
Northeastern City B
Southeastern State A
Southeastern State B
Southeastern State C
Midwestern State A
Western City A
All DiSTRIBuTE Sites
CDC Sentinel Provider System (%ILI)
CDC WHO/NREVSS Laboratory isolate counts
- S
- A(unk)
- A(H1)
- A(H3)
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
• 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

• 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)
• **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
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:
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

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Hospitalizations (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 Yrs</td>
<td>929</td>
<td>19%</td>
</tr>
<tr>
<td>5-24 Yrs</td>
<td>1,643</td>
<td>34%</td>
</tr>
<tr>
<td>25-49 Yrs</td>
<td>1,106</td>
<td>23%</td>
</tr>
<tr>
<td>50-64 Yrs</td>
<td>608</td>
<td>13%</td>
</tr>
<tr>
<td>≥65 Yrs</td>
<td>209</td>
<td>4%</td>
</tr>
<tr>
<td>Unknown</td>
<td>300</td>
<td>6%</td>
</tr>
</tbody>
</table>
Epidemiology/Surveillance
novel 2009-H1N1

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

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Hospitalizations per 100,000 Population</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 Yrs</td>
<td>4.4</td>
<td>799</td>
</tr>
<tr>
<td>5-24 Yrs</td>
<td>2.0</td>
<td>1417</td>
</tr>
<tr>
<td>25-49 Yrs</td>
<td>1.0</td>
<td>906</td>
</tr>
<tr>
<td>50-64 Yrs</td>
<td>1.1</td>
<td>479</td>
</tr>
<tr>
<td>≥65 Yrs</td>
<td>1.6</td>
<td>178</td>
</tr>
</tbody>
</table>

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

Mortalities

Age Groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Mortalities</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 Yrs</td>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td>5-24 Yrs</td>
<td>43</td>
<td>16%</td>
</tr>
<tr>
<td>25-49 Yrs</td>
<td>101</td>
<td>39%</td>
</tr>
<tr>
<td>50-64 Yrs</td>
<td>66</td>
<td>25%</td>
</tr>
<tr>
<td>≥65 Yrs</td>
<td>23</td>
<td>9%</td>
</tr>
<tr>
<td>Unknown</td>
<td>22</td>
<td>7%</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Case Fatality Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 Yrs</td>
<td>0.17%</td>
</tr>
<tr>
<td>5-24 Yrs</td>
<td>0.22%</td>
</tr>
<tr>
<td>25-49 Yrs</td>
<td>1.50%</td>
</tr>
<tr>
<td>50-64 Yrs</td>
<td>3.33%</td>
</tr>
<tr>
<td>≥65 Yrs</td>
<td>5.24%</td>
</tr>
</tbody>
</table>

n=7
n=43
n=101
n=55
n=66
n=23
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)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percent Deceased Cases with Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age &lt;18 (N=29)</td>
</tr>
<tr>
<td>Asthma</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Pulmonary disease</td>
<td>8 (28%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Chronic cardiovascular disease</td>
<td>5 (17%)</td>
</tr>
<tr>
<td>Neurocognitive disorder</td>
<td>10 (34%)</td>
</tr>
<tr>
<td>Neuromuscular disorder</td>
<td>7 (24%)</td>
</tr>
<tr>
<td>Pregnant</td>
<td>(0%)</td>
</tr>
<tr>
<td>Seizure disorder</td>
<td>6 (21%)</td>
</tr>
<tr>
<td>Renal Disease</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Immunosuppressive Disorder</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Other ULC (hepatic, cancer, immunosuppressed, metabolic disorders)</td>
<td>2 (7%)</td>
</tr>
<tr>
<td>Morbid obesity</td>
<td>(0%)</td>
</tr>
<tr>
<td>Obesity</td>
<td>3 (10%)</td>
</tr>
</tbody>
</table>
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

* Percentage of all positive influenza specimens that are Influenza A (novel 2009-H1N1) or Influenza A (unable to subtype) for the week indicated.
Epidemiology/Surveillance

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

% of Visits for ILI

Week Ending Dates

Baseline

2006-07

2007-08

2008-09
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

% of Visits for ILI
Epidemiology/Surveillance
novel 2009-H1N1 – 16 JUL 2009
Current Influenza Surveillance – ILINet Regions VII-X

Region VII - IA, KS, MO, NE

Region VIII - CO, MT, ND, SD, UT, WY

Region IX - AZ, CA, HI, NV

Region X - AK, ID, OR, WA

% of Visits for ILI