



Summary

During week 32 (August 2-8, 2009), influenza activity increased in Taiwan.

- Of the 571 specimens tested during week 30-32, 122 (21%) were positive for influenza viruses; 90% (95% confidence interval 83%-95%) of all subtyped influenza A viruses were pandemic (H1N1) 2009 viruses.
- The number of laboratory-confirmed complicated influenza cases is increasing. There were 20 newly reported laboratory-confirmed complicated influenza cases (13 were due to pandemic [H1N1] 2009 virus infections). Cumulative number of laboratory-confirmed complicated influenza cases since July 1, 2009 was 28. Of these, 19 (68%) were due to pandemic (H1N1) 2009 virus infections (7 recovery and discharged, 7 hospitalized, 4 intensive care, and 1 death).
- The number of deaths mentioning pneumonia and influenza was 212 and below the baseline level (217 deaths).
- The rate of outpatient visits for influenza-like illness is 1.00% and increasing.
- The rate of emergency room visits for influenza-like illness is 11.95%, increasing and above the warning level, but still below the epidemic threshold.
- Taiwan CDC estimates that nationwide there were 7,670 (95% confidence interval 6,460-8,880) new cases of pandemic (H1N1) 2009 influenza during week 32.
- During week 32, 15 pandemic (H1N1) 2009 clusters were reported; 10 (67%) occurred at schools. Cumulative number of pandemic (H1N1) 2009 clusters since July 1, 2009 was 30; 17 (57%) occurred at schools.

Virologic surveillance

During week 30-32, seasonal influenza A (H1, H3) and B viruses have co-circulated at low levels with pandemic (H1N1) 2009 viruses. Ninety percent (95% confidence interval 83%-95%) of all subtyped influenza A viruses being reported to Taiwan CDC through contracted laboratories during this period were pandemic (H1N1) 2009 viruses. The results of tests performed during the past 3 weeks are summarized in the table below.

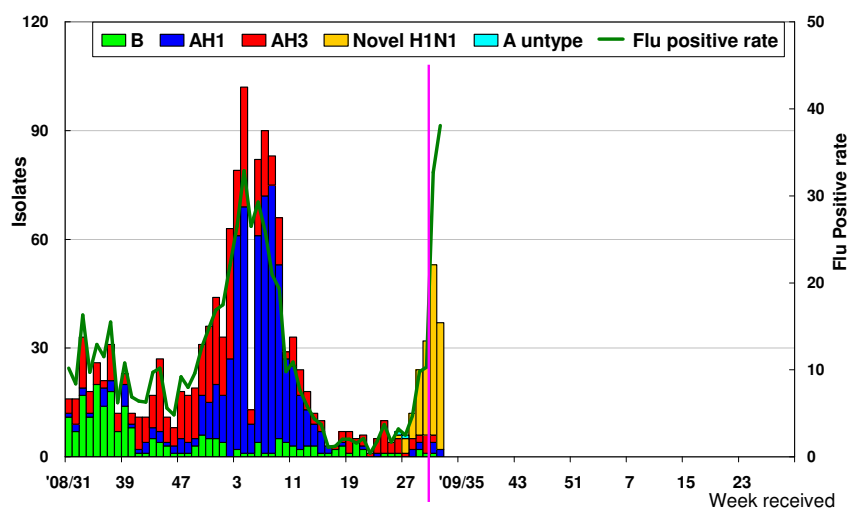
| | Data for weeks 30-32 | Cumulative data since 6/1/2009 |
|---|-------------------------|-----------------------------------|
| Number of specimens tested | 571 | 2,321 |
| Number of positive specimens (%) | 122 (21) | 190 (8) |
| Positive specimens by type/subtype | | |
| Influenza A | 120 (98) | 183 (96) |
| A (pandemic [H1N1] 2009) | 108 (90) | 138 (75) |
| A (H3) | 7 (6) | 33 (18) |
| A (H1) | 5 (4) | 10 (5) |
| A (unable to subtype) | 0 (0) | 2 (1) |
| A (subtyping not performed) | 0 (0) | 0 (0) |
| Influenza B | 2 (2) | 7 (4) |



Antigenic characterization: Taiwan CDC has antigenically characterized 17 seasonal human influenza viruses [3 influenza A (H1), 6 influenza A (H3), and 8 influenza B viruses] since June 1, 2009.

One (33%) of the influenza seasonal A (H1) viruses tested was related to the influenza A (H1N1) component of the 2008–09 influenza vaccine (A/Brisbane/59/2007). One (17%) of the influenza A (H3N2) viruses tested is related to the A (H3N2) vaccine component (A/Brisbane/10/2007). Five (63%) of the influenza B viruses tested belong to the B/Yamagata lineage and are related to the 2008–09 vaccine strain (B/Florida/04/2006). Two (25%) of the influenza B viruses tested belong to the B/Victoria lineage.

Influenza positive tests reported to Taiwan CDC by contracted laboratories, 2008–2009



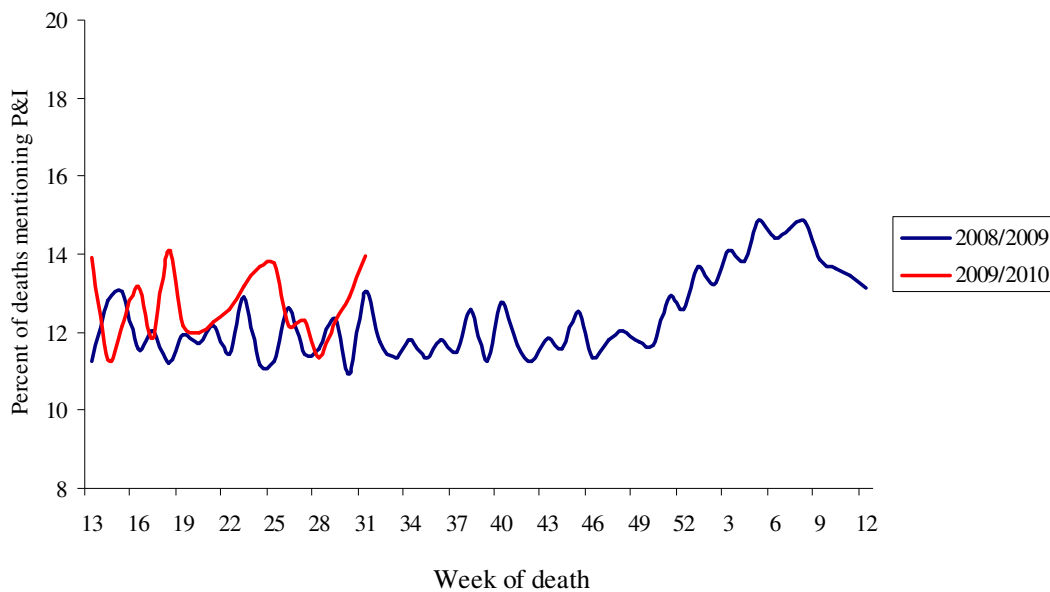
Antiviral resistance: Since June 1, 2009, 16 influenza A (H3N2) and 11 pandemic (H1N1) 2009 viruses have been tested for resistance to the neuraminidase inhibitors (oseltamivir and zanamivir) and adamantanes (amantadine and rimantadine). The results of antiviral resistance testing performed on these viruses are summarized in the table below.

| | Isolates tested (n) | Resistance Viruses, n (%) | | Isolates tested (n) | Resistant Viruses, n (%) |
|---------------------------------|---------------------|---------------------------|-----------|---------------------|--------------------------|
| | | Oseltamivir | Zanamivir | | Adamantanes |
| A (pandemic [H1N1] 2009) | 11 | 0 (0) | 0 (0) | 0 | - |
| A (H3) | 16 | 0 (0) | 0 (0) | 16 | 16 (100) |

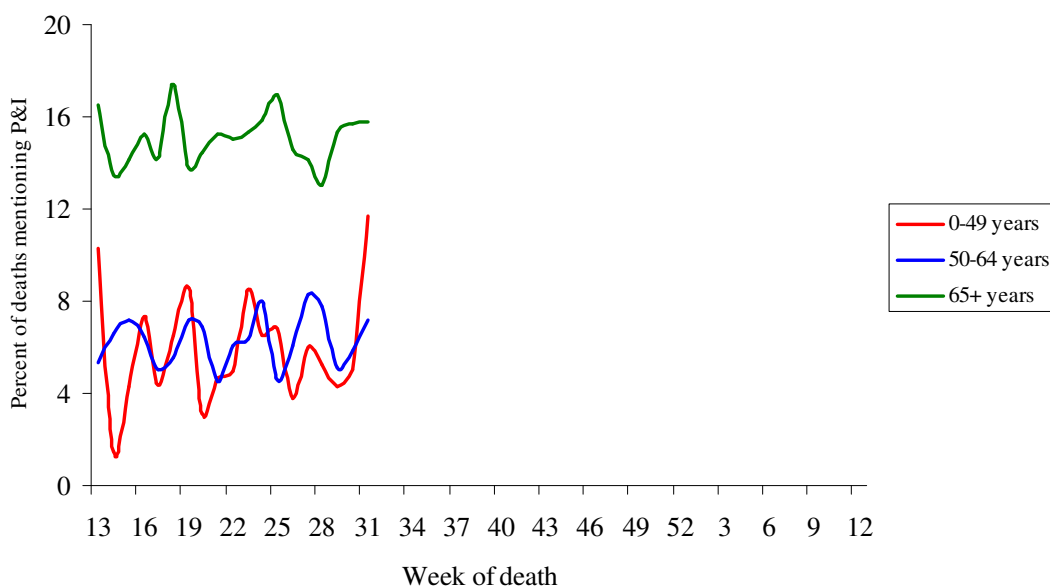
Pneumonia and influenza (P&I) mortality surveillance

During week 31, 212 (14%) of all deaths reported through the National Death Certificate System mentioned P&I as the cause of death. P&I proportional death was the highest for adult greater than 65 years of age. The number of deaths mentioning P&I during week 31 was below the baseline number (217 deaths).

National pneumonia and influenza mortality
Week ending 8/1/2009



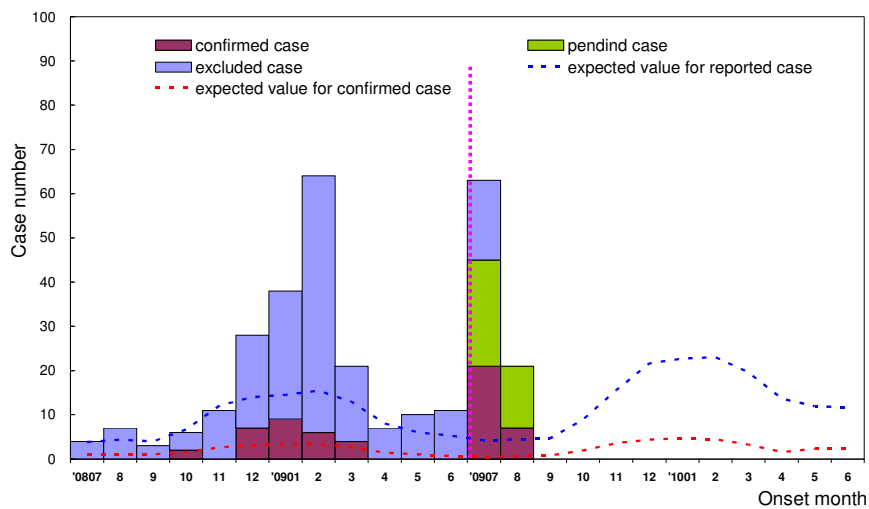
National pneumonia and influenza mortality by age group*
Week ending 8/1/2009



Reports of complicated influenza*

During week 32, 20 laboratory-confirmed complicated influenza cases were reported to Taiwan CDC; 13 (65%) were due to pandemic (H1N1) 2009 virus infections, 3 (15%) were AH3, 1 (5%) was AH1, and 3 (15%) were unsubtypeable. Since July 1, 2009, Taiwan CDC has received 28 reports of laboratory-confirmed complicated influenza. Of these, 19 (68%) were due to pandemic (H1N1) 2009 virus infections (7 recovery and discharged, 7 hospitalized, 4 intensive care, and 1 death). The number of laboratory-confirmed complicated influenza cases is increasing.

**Number of complicated influenza reports by month of onset
7/1/2008 to present**



*Defined as influenza infection with pulmonary complication, neurologic complication, myocarditis, pericarditis, invasive bacterial infection, or those requiring intensive care or resulting deaths.



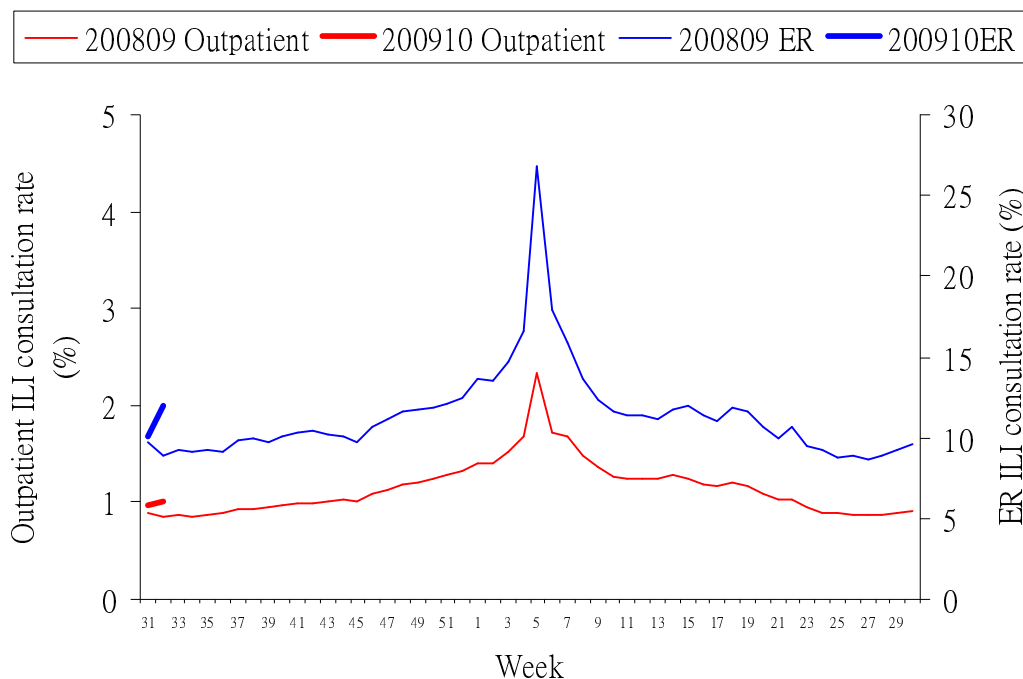
Outpatient and emergency room influenza-like illness surveillance

Nationwide during week 32, 1.00% of outpatient visits reported through the National Health Insurance Database were due to influenza-like illness (ILI). This rate has been increasing for the past 4 weeks.

Nationwide during week 32, 11.95% of emergency room patient visits reported through the Real-time Outbreak and Disease Surveillance System (RODS) were due to influenza-like illness (ILI). This rate has been increasing for the past 4 weeks and is above the warning level (10.74%), but still below the epidemic threshold (12.30%).

Taiwan CDC estimates that nationwide there were 7,670 (95% confidence interval 6,460–8,880) new cases of pandemic (H1N1) 2009 influenza during week 32. This estimate is based on the average weekly outpatient ILI consultation visits, and taking into consideration positivity rates for pandemic (H1N1) 2009 from virological surveillance.

Rate of outpatient and emergency room (ER) visits for influenza-like illness 8/1/2008 to present



Pandemic (H1N1) 2009 clusters

During week 32, 15 pandemic (H1N1) 2009 clusters were reported. Of these, 10 (67%) occurred at schools, 1 (7%) at military camps, 1 (7%) at hospitals, 2 (13%) at long-term care facilities, and 1 (7%) were imported. Cumulative number of pandemic (H1N1) 2009 clusters since July 1, 2009 was 30. Of these, 17 (57%) occurred at schools, 5 (17%) at workshops, 3 (10%) at military camps, 1 (3%) at workplaces, 1 (3%) at hospitals, 2 (7%) at long-term care facilities, and 1 (3%) was imported.

Number of confirmed pandemic (H1N1) 2009 clusters

7/1/2009 to present

