

### SURVEILLANCE WEEK 1 (January 3, 2010– January 9, 2010)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from January 3, 2010– January 9, 2010, (Week 1). **All data are for week 1 unless otherwise specified. Death and hospitalization information among pandemic (H1N1) 2009 (abbreviated as pH1N1) confirmed cases is current as of January 13, 2010.** Data extraction and analysis for this issue of the Bulletin occurred on January 13, 2010.

In order to enable our readers to better assess influenza activity in Ontario, we have combined various sources of information in the following table.

### Assessment of Influenza Activity in Ontario

| Measure                                                                  | Assessment of measure compared to previous week (Lower, Similar, Higher)       | Reasoning behind assessment                                                                                                                                                                                              |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Laboratory Confirmed Cases                                               | Lower                                                                          | 12 total influenza cases (10 pH1N1) in week 1 compared to 28 reported in weeks 51 and 52 (22 pH1N1)*. The percent positivity of laboratory tests for influenza A was 0.6% for week 1. This is lower than week 52 (1.0%). |
| Influenza A Outbreaks                                                    | No change                                                                      | No new institutional influenza outbreaks were reported for the current reporting week.                                                                                                                                   |
| Influenza Activity Levels Reported by Health Units                       | Higher                                                                         | One health unit reported 'localized' activity and six reported 'sporadic' activity for the current reporting week.                                                                                                       |
| ILI Consultation Rate reported by Sentinel Physicians                    | Lower                                                                          | The overall ILI consultation rate has decreased from 26.39/1,000 patient visits in Week 52 to 17.91/1,000 patient visits in Week 1.<br><br>The ILI rate is below the average rate for these weeks from previous years.   |
| Hospitalizations Among Lab Confirmed Cases of pandemic (H1N1) 2009 virus | Higher                                                                         | More hospitalized cases were reported from January 7 to January 13 as compared to December 31 to January 6 (11 compared to 7).                                                                                           |
| Deaths Among Lab Confirmed Cases of pandemic (H1N1) 2009 virus           | Higher                                                                         | Two new deaths were reported from January 7 to January 13 compared to no new deaths reported from December 31 to January 6.                                                                                              |
| OVERALL ASSESSMENT                                                       | Influenza activity in Ontario is <i>similar</i> compared to the previous week. | Overall the indicators show that influenza activity was similar in week 1 compared to week 52.                                                                                                                           |

\*Counts from previous weeks may be updated and therefore may not match reports in earlier Bulletins

# Ontario Influenza Bulletin, 2009-2010

## Surveillance Week 1 (January 3, 2009 – January 9, 2010)

Overall, influenza activity in Ontario during week 1, 2010, was **similar** when compared to weeks 51 and 52, 2009. Ontario health units reported 12 new confirmed cases of influenza for the current week through the integrated Public Health Information System (iPHIS). This count includes 10 laboratory confirmed cases of pH1N1. During week 1, new laboratory confirmed cases of pH1N1 continued to be seen in the Eastern, Central East, Toronto, and South West regions. No new institutional influenza outbreaks were reported. For week 1, Hamilton health unit reported localized influenza activity, six health units reported sporadic activity, and the remaining health units reported no influenza activity or did not report. The rate of influenza-like illness (ILI) in patients seen by sentinel physicians is lower than what is expected for this time of the year based on the average ILI rate reported in week 1 from previous years.

For a definition of ILI activity levels and links to websites providing current influenza information from other sources, please refer to the attached Appendix- I. If you would like to provide feedback on the Bulletin, please contact Christine D'Souza ([christine.dsouza1@ontario.ca](mailto:christine.dsouza1@ontario.ca), 416-212-5323) or Michael Whelan ([michael.whelan@ontario.ca](mailto:michael.whelan@ontario.ca), 416-327-9174).

**Table 1:** Summary of confirmed influenza cases and institutional influenza outbreaks by health region (Week 1, 2009-2010)

| Confirmed influenza cases*†                                                | HEALTH REGION |            |          |              |          |            |              | TOTAL     |
|----------------------------------------------------------------------------|---------------|------------|----------|--------------|----------|------------|--------------|-----------|
|                                                                            | North West    | North East | Eastern  | Central East | Toronto  | South West | Central West |           |
| Pandemic (H1N1) 2009                                                       | 0             | 0          | 1        | 5            | 1        | 3          | 0            | <b>10</b> |
| Influenza A (Not Subtyped)                                                 | 0             | 0          | 0        | 1            | 0        | 0          | 0            | <b>1</b>  |
| Influenza A (Seasonal H1/H3)                                               | 0             | 0          | 0        | 0            | 0        | 0          | 0            | <b>0</b>  |
| Influenza A (Indeterminate pH1N1/ unsubtypeable)                           | 0             | 0          | 0        | 0            | 0        | 0          | 1            | <b>1</b>  |
| Influenza B                                                                | 0             | 0          | 0        | 0            | 0        | 0          | 0            | <b>0</b>  |
| Influenza A & B                                                            | 0             | 0          | 0        | 0            | 0        | 0          | 0            | <b>0</b>  |
| <b>Total new cases</b>                                                     | <b>0</b>      | <b>0</b>   | <b>1</b> | <b>6</b>     | <b>1</b> | <b>3</b>   | <b>1</b>     | <b>12</b> |
| <b>Institutional outbreaks of pandemic (H1N1) 2009 ‡</b>                   | <b>0</b>      | <b>0</b>   | <b>0</b> | <b>0</b>     | <b>0</b> | <b>0</b>   | <b>0</b>     | <b>0</b>  |
| <b>Institutional outbreaks of Influenza (Other Subtypes/Not Subtyped)‡</b> | <b>0</b>      | <b>0</b>   | <b>0</b> | <b>0</b>     | <b>0</b> | <b>0</b>   | <b>0</b>     | <b>0</b>  |

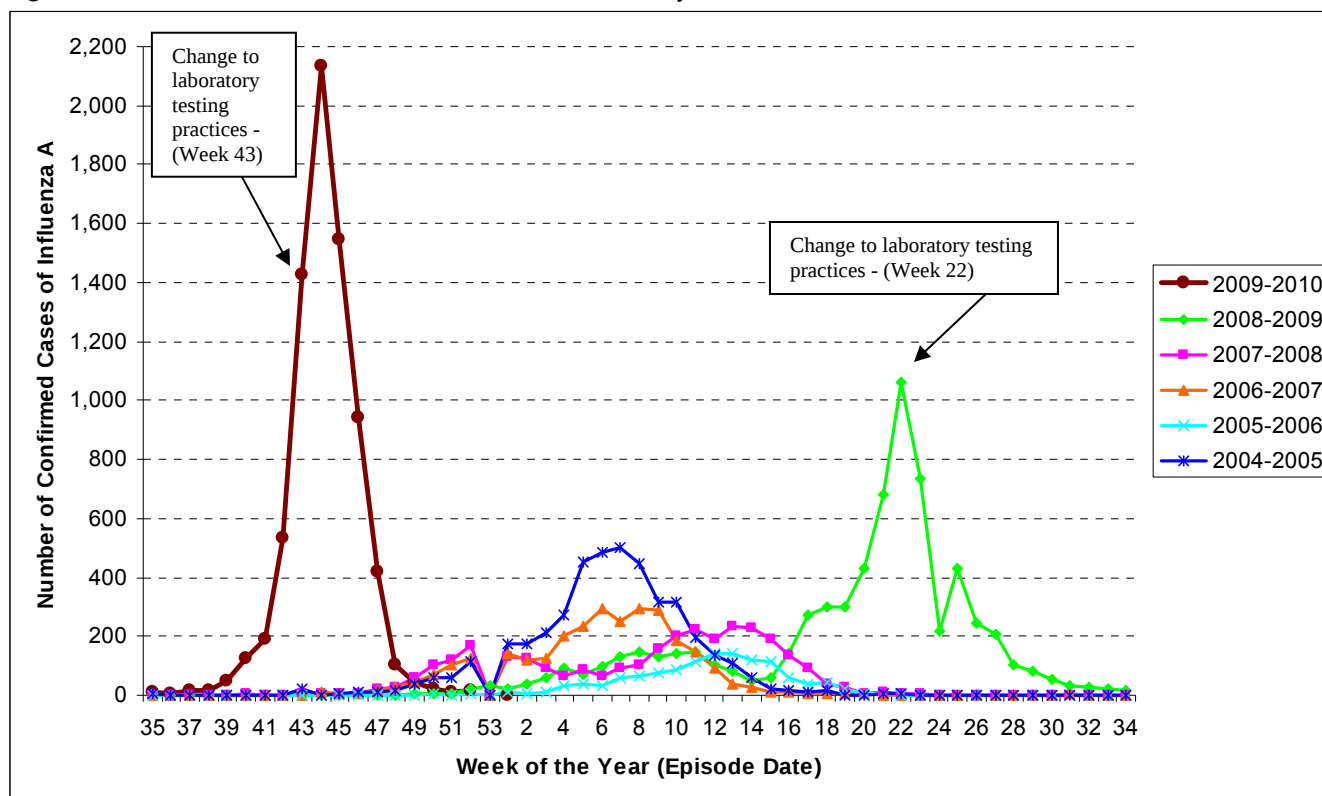
**SOURCE:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

\* Includes reports of confirmed influenza through iPHIS, as well as cases in institutional outbreaks, with dates of onset for the first case in the surveillance period.

‡ Confirmed outbreaks in institutions with onset date of symptoms during the surveillance period.

The number of laboratory confirmed cases of influenza A reported to date in the 2009-2010 season is much higher than in the previous five seasons during the same timer period (Figure 1). The number of influenza A cases reported during the second wave began to increase in early September, with a maximum number of cases reported in week 44 (November 1 -7). The number of cases reported in each of weeks 43-45 in the second wave of the pandemic was higher than the maximum for any week observed in the first wave. The maximum case volume observed to date in the 2009-2010 season has exceeded the maximum case volume in all of the past five influenza seasons (however in other flu seasons, there has been less extensive testing). However, the number of cases of influenza A reported in week 1 of the 2009-2010 season is below that reported from previous seasons in the same week.

**Figure 1:** All confirmed cases of Influenza A in Ontario by week, 2004-2010<sup>†</sup>



**SOURCE:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

<sup>†</sup> Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

Ontario Influenza Bulletin, 2009-2010

Surveillance Week 1 (January 3, 2009 – January 9, 2010)

**Table 2:** Laboratory confirmed cases of pandemic (H1N1) 2009 virus by health unit & health region, reported during Week 1<sup>†</sup>, 2009-10, wave two, wave one, and cumulative\* confirmed cases between April 1, 2009 – January 9, 2010

| Region       | Health Unit                             | Confirmed pH1N1     |                        |                      |                  |
|--------------|-----------------------------------------|---------------------|------------------------|----------------------|------------------|
|              |                                         | Current week (WK 1) | Wave 2 (WK 35-current) | Wave 1 (WK 15-WK 34) | Total cumulative |
| North West   | Northwestern                            | 0                   | 73                     | 74                   | 147              |
|              | Thunder Bay District                    | 0                   | 88                     | 10                   | 98               |
|              | <b>TOTAL NORTH WEST</b>                 | <b>0</b>            | <b>161</b>             | <b>84</b>            | <b>245</b>       |
| North East   | Algoma                                  | 0                   | 61                     | 6                    | 67               |
|              | North Bay Parry Sound District          | 0                   | 48                     | 7                    | 55               |
|              | Porcupine                               | 0                   | 106                    | 4                    | 110              |
|              | Sudbury & District                      | 0                   | 44                     | 24                   | 68               |
|              | Timiskaming                             | 0                   | 53                     | 0                    | 53               |
|              | <b>TOTAL NORTH EAST</b>                 | <b>0</b>            | <b>312</b>             | <b>41</b>            | <b>353</b>       |
| Eastern      | City of Ottawa                          | 0                   | 415                    | 359                  | 774              |
|              | Eastern Ontario                         | 0                   | 173                    | 26                   | 199              |
|              | Hastings & Prince Edward Counties       | 0                   | 76                     | 4                    | 80               |
|              | Kingston, Frontenac, Lennox & Addington | 0                   | 147                    | 15                   | 162              |
|              | Leeds, Grenville And Lanark District    | 0                   | 93                     | 10                   | 103              |
|              | Renfrew County And District             | 1                   | 40                     | 12                   | 52               |
|              | <b>TOTAL EASTERN</b>                    | <b>1</b>            | <b>944</b>             | <b>426</b>           | <b>1,370</b>     |
| Central East | Durham Region                           | 0                   | 166                    | 118                  | 284              |
|              | Haliburton, Kawartha, Pine Ridge        | 0                   | 43                     | 14                   | 57               |
|              | Peel Region                             | 2                   | 379                    | 704                  | 1,083            |
|              | Peterborough County-City                | 0                   | 46                     | 4                    | 50               |
|              | Simcoe Muskoka District                 | 3                   | 164                    | 64                   | 228              |
|              | York Region                             | 0                   | 206                    | 496                  | 702              |
|              | <b>TOTAL CENTRAL EAST</b>               | <b>5</b>            | <b>1,004</b>           | <b>1,400</b>         | <b>2,404</b>     |
| Toronto      | Toronto                                 | 1                   | 842                    | 1,588                | 2,430            |
|              | <b>TOTAL TORONTO</b>                    | <b>1</b>            | <b>842</b>             | <b>1,588</b>         | <b>2,430</b>     |
| South West   | Chatham-Kent                            | 0                   | 33                     | 6                    | 39               |
|              | Elgin-St. Thomas                        | 0                   | 21                     | 0                    | 21               |
|              | Grey Bruce                              | 0                   | 36                     | 12                   | 48               |
|              | Huron County                            | 0                   | 25                     | 2                    | 27               |
|              | Lambton County                          | 0                   | 54                     | 1                    | 55               |
|              | Middlesex-London                        | 1                   | 204                    | 28                   | 232              |
|              | Oxford County                           | 1                   | 62                     | 3                    | 65               |
|              | Perth District                          | 0                   | 33                     | 3                    | 36               |
|              | Windsor-Essex County                    | 1                   | 143                    | 49                   | 192              |
|              | <b>TOTAL SOUTHWEST</b>                  | <b>3</b>            | <b>611</b>             | <b>104</b>           | <b>715</b>       |
| Central West | Brant County                            | 0                   | 22                     | 8                    | 30               |
|              | City Of Hamilton                        | 0                   | 212                    | 124                  | 336              |
|              | Haldimand-Norfolk                       | 0                   | 0                      | 6                    | 6                |
|              | Halton Region                           | 0                   | 167                    | 219                  | 386              |
|              | Niagara Region                          | 0                   | 232                    | 20                   | 252              |
|              | Waterloo Region                         | 0                   | 119                    | 38                   | 157              |
|              | Wellington-Dufferin-Guelph              | 0                   | 55                     | 26                   | 81               |
|              | <b>TOTAL CENTRAL WEST</b>               | <b>0</b>            | <b>807</b>             | <b>441</b>           | <b>1,248</b>     |
|              | <b>Out of Province</b>                  | <b>0</b>            | <b>0</b>               | <b>6</b>             | <b>6</b>         |
|              | <b>TOTAL ONTARIO</b>                    | <b>10</b>           | <b>4,681</b>           | <b>4,090</b>         | <b>8,771</b>     |

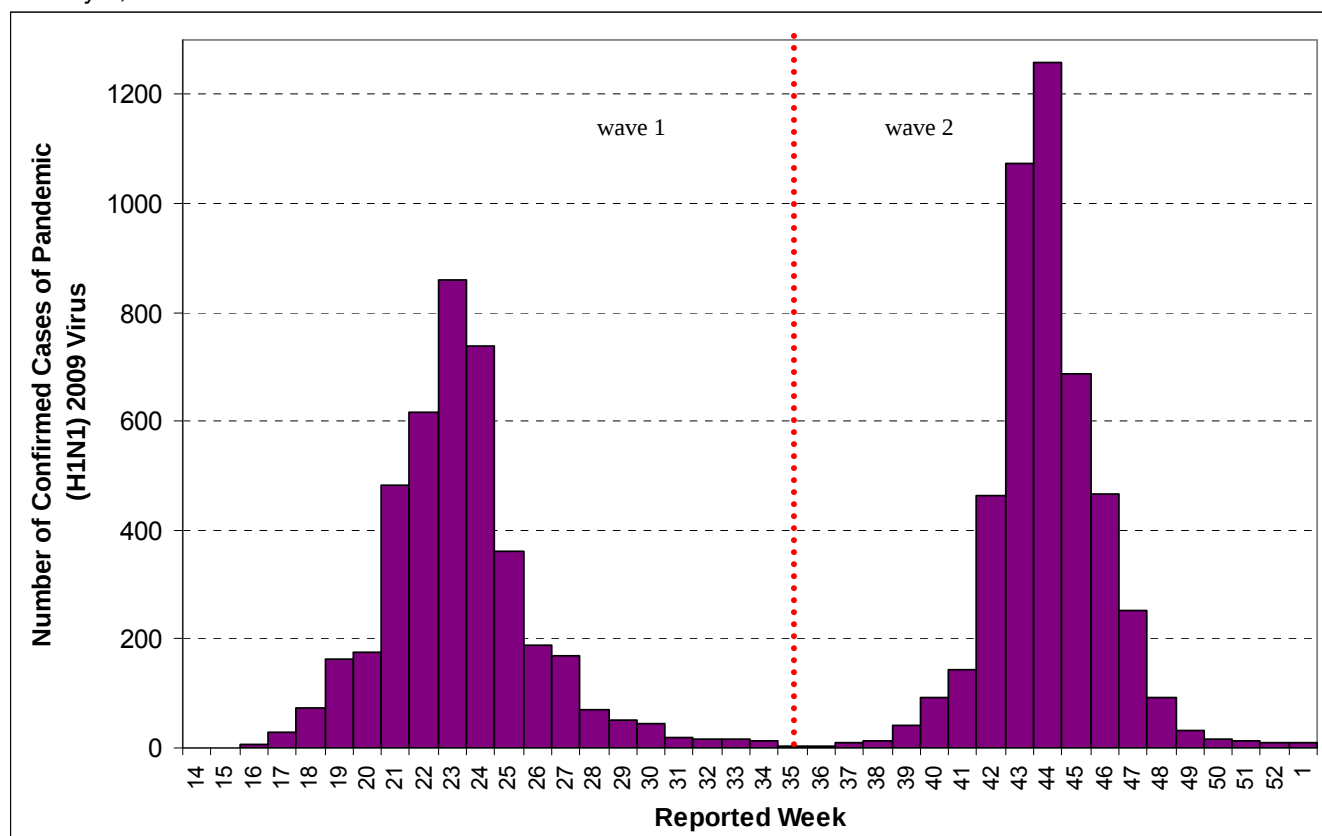
**SOURCE:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

<sup>†</sup> Reported date corresponds to the date pandemic (H1N1) 2009 was reported to the health unit

\* Cumulative case counts include late reports and records that are otherwise reconciled. Therefore, cumulative counts may not equal new cases plus previous cumulative value.

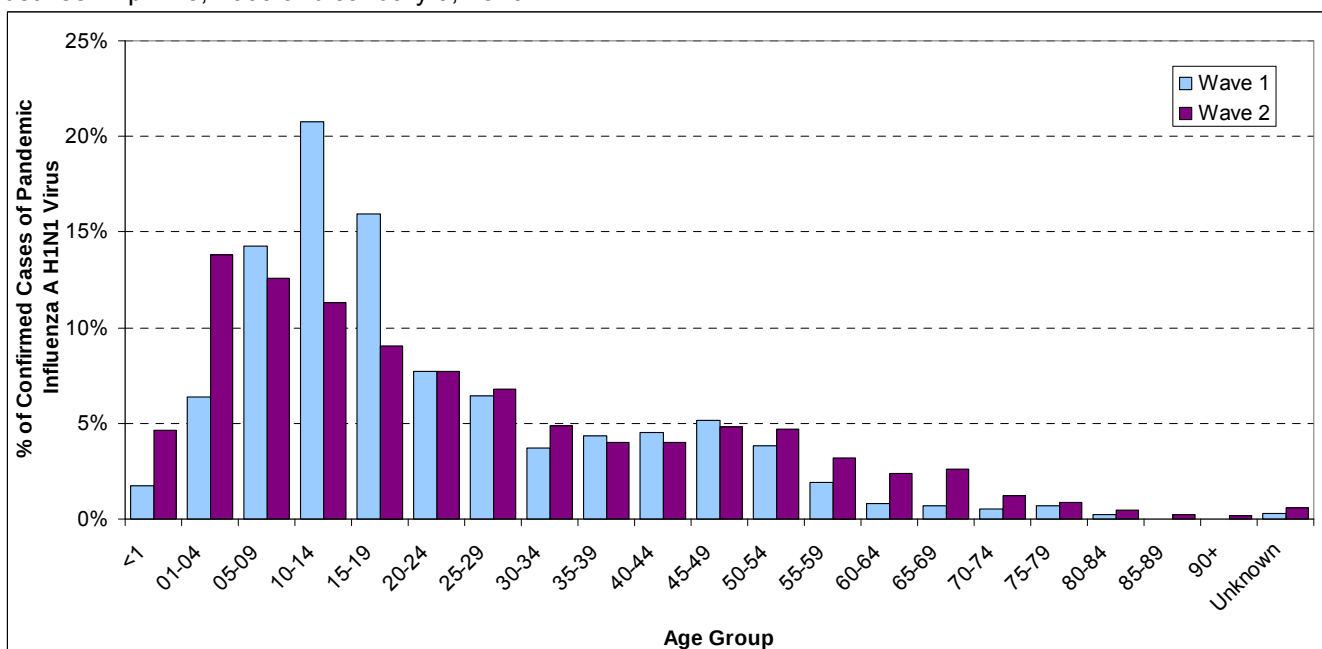
**Note:** Wave 1 corresponds to April 12, 2009 to August 29, 2009; Wave 2 corresponds to August 30, 2009 to the last date of the current week.

**Figure 2:** Laboratory confirmed cases of pandemic (H1N1) 2009 in Ontario by week between April 13, 2009 and January 9, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

**Figure 3:** Proportion of laboratory confirmed cases of pandemic (H1N1) 2009 in Ontario by age group and wave between April 13, 2009 and January 9, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

**Table 3:** Confirmed cases of influenza by health unit & health region, excluding laboratory confirmed pandemic (H1N1) 2009, with an episode date<sup>†</sup> during Week 1, 2009-10

| Region       | Health Unit                             | Confirmed Influenza                          |                         |                                        |                    |                |          |
|--------------|-----------------------------------------|----------------------------------------------|-------------------------|----------------------------------------|--------------------|----------------|----------|
|              |                                         | Influenza A<br>(no subtype /not<br>subtyped) | Influenza A<br>(Other)* | Influenza A<br>(seasonal) <sup>‡</sup> | Influenza<br>A & B | Influenza<br>B | TOTAL    |
| North West   | Northwestern                            | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Thunder Bay District                    | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL NORTH WEST</b>                 | <b>0</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| North East   | Algoma                                  | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | North Bay Parry Sound District          | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Porcupine                               | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Sudbury & District                      | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Timiskaming                             | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL NORTH EAST</b>                 | <b>0</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| Eastern      | City of Ottawa                          | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Eastern Ontario                         | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Hastings & Prince Edward Counties       | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Kingston, Frontenac, Lennox & Addington | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Leeds, Grenville And Lanark District    | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Renfrew County And District             | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL EASTERN</b>                    | <b>0</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| Central East | Durham Region                           | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Haliburton, Kawartha, Pine Ridge        | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Peel Region                             | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Peterborough County-City                | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Simcoe Muskoka District                 | 1                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | York Region                             | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL CENTRAL EAST</b>               | <b>1</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| Toronto      | Toronto                                 | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL TORONTO</b>                    | <b>0</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| South West   | Chatham-Kent                            | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Elgin-St. Thomas                        | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Grey Bruce                              | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Huron County                            | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Lambton County                          | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Middlesex-London                        | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Oxford County                           | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Perth District                          | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Windsor-Essex County                    | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL SOUTHWEST</b>                  | <b>0</b>                                     | <b>0</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
| Central West | Brant County                            | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | City Of Hamilton                        | 0                                            | 1                       | 0                                      | 0                  | 0              | 0        |
|              | Haldimand-Norfolk                       | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Halton Region                           | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Niagara Region                          | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Waterloo Region                         | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | Wellington-Dufferin-Guelph              | 0                                            | 0                       | 0                                      | 0                  | 0              | 0        |
|              | <b>TOTAL CENTRAL WEST</b>               | <b>0</b>                                     | <b>1</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>0</b> |
|              | <b>TOTAL ONTARIO</b>                    | <b>1</b>                                     | <b>1</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>2</b> |

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

<sup>†</sup> Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)<sup>‡</sup> includes seasonal H1/H3

\* includes indeterminate, untypeable and other subtypes

**Table 4:** Cumulative\* confirmed cases of influenza by health unit & health region, excluding laboratory confirmed pandemic (H1N1) 2009, with an episode date<sup>†</sup> between September 1, 2009 – January 9, 2010

| Region       | Health Unit                             | Confirmed Influenza                          |                         |                                        |                    |                |                     |
|--------------|-----------------------------------------|----------------------------------------------|-------------------------|----------------------------------------|--------------------|----------------|---------------------|
|              |                                         | Influenza A<br>(no subtype /not<br>subtyped) | Influenza A<br>(Other)* | Influenza A<br>(seasonal) <sup>‡</sup> | Influenza<br>A & B | Influenza<br>B | TOTAL<br>Cumulative |
| North West   | Northwestern                            | 56                                           | 3                       | 0                                      | 0                  | 0              | 59                  |
|              | Thunder Bay District                    | 64                                           | 2                       | 0                                      | 0                  | 0              | 66                  |
|              | <b>TOTAL NORTH WEST</b>                 | <b>120</b>                                   | <b>5</b>                | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>125</b>          |
| North East   | Algoma                                  | 50                                           | 1                       | 0                                      | 0                  | 0              | 51                  |
|              | North Bay Parry Sound District          | 59                                           | 2                       | 0                                      | 0                  | 0              | 61                  |
|              | Porcupine                               | 48                                           | 4                       | 0                                      | 0                  | 0              | 52                  |
|              | Sudbury & District                      | 74                                           | 2                       | 0                                      | 0                  | 0              | 76                  |
|              | Timiskaming                             | 9                                            | 1                       | 0                                      | 0                  | 0              | 10                  |
|              | <b>TOTAL NORTH EAST</b>                 | <b>240</b>                                   | <b>10</b>               | <b>0</b>                               | <b>0</b>           | <b>0</b>       | <b>250</b>          |
| Eastern      | City of Ottawa                          | 8                                            | 0                       | 0                                      | 0                  | 0              | 8                   |
|              | Eastern Ontario                         | 22                                           | 0                       | 0                                      | 0                  | 0              | 22                  |
|              | Hastings & Prince Edward Counties       | 29                                           | 0                       | 0                                      | 0                  | 0              | 29                  |
|              | Kingston, Frontenac, Lennox & Addington | 35                                           | 0                       | 0                                      | 0                  | 0              | 35                  |
|              | Leeds, Grenville And Lanark District    | 19                                           | 0                       | 0                                      | 0                  | 0              | 19                  |
|              | Renfrew County And District             | 14                                           | 0                       | 1                                      | 0                  | 0              | 15                  |
|              | <b>TOTAL EASTERN</b>                    | <b>127</b>                                   | <b>0</b>                | <b>1</b>                               | <b>0</b>           | <b>0</b>       | <b>128</b>          |
| Central East | Durham Region                           | 88                                           | 5                       | 0                                      | 0                  | 0              | 93                  |
|              | Haliburton, Kawartha, Pine Ridge        | 34                                           | 2                       | 0                                      | 0                  | 0              | 36                  |
|              | Peel Region                             | 268                                          | 6                       | 0                                      | 0                  | 2              | 276                 |
|              | Peterborough County-City                | 34                                           | 3                       | 0                                      | 0                  | 0              | 37                  |
|              | Simcoe Muskoka District                 | 143                                          | 4                       | 0                                      | 0                  | 0              | 147                 |
|              | York Region                             | 170                                          | 2                       | 0                                      | 0                  | 0              | 2                   |
|              | <b>TOTAL CENTRAL EAST</b>               | <b>718</b>                                   | <b>22</b>               | <b>0</b>                               | <b>0</b>           | <b>2</b>       | <b>742</b>          |
| Toronto      | Toronto                                 | 381                                          | 18                      | 0                                      | 0                  | 1              | 400                 |
|              | <b>TOTAL TORONTO</b>                    | <b>381</b>                                   | <b>18</b>               | <b>0</b>                               | <b>0</b>           | <b>1</b>       | <b>400</b>          |
| South West   | Chatham-Kent                            | 27                                           | 0                       | 0                                      | 0                  | 0              | 27                  |
|              | Elgin-St. Thomas                        | 24                                           | 0                       | 0                                      | 0                  | 0              | 24                  |
|              | Grey Bruce                              | 73                                           | 0                       | 0                                      | 0                  | 0              | 73                  |
|              | Huron County                            | 29                                           | 0                       | 0                                      | 0                  | 0              | 29                  |
|              | Lambton County                          | 26                                           | 0                       | 0                                      | 0                  | 0              | 26                  |
|              | Middlesex-London                        | 136                                          | 2                       | 1                                      | 0                  | 0              | 139                 |
|              | Oxford County                           | 25                                           | 5                       | 0                                      | 0                  | 0              | 30                  |
|              | Perth District                          | 15                                           | 0                       | 0                                      | 0                  | 2              | 17                  |
|              | Windsor-Essex County                    | 238                                          | 1                       | 0                                      | 0                  | 0              | 239                 |
|              | <b>TOTAL SOUTHWEST</b>                  | <b>593</b>                                   | <b>8</b>                | <b>1</b>                               | <b>0</b>           | <b>2</b>       | <b>604</b>          |
| Central West | Brant County                            | 30                                           | 0                       | 0                                      | 0                  | 0              | 30                  |
|              | City Of Hamilton                        | 212                                          | 1                       | 0                                      | 0                  | 1              | 214                 |
|              | Haldimand-Norfolk                       | 25                                           | 0                       | 1                                      | 0                  | 0              | 26                  |
|              | Halton Region                           | 123                                          | 2                       | 1                                      | 0                  | 0              | 126                 |
|              | Niagara Region                          | 121                                          | 7                       | 0                                      | 0                  | 1              | 129                 |
|              | Waterloo Region                         | 119                                          | 0                       | 1                                      | 0                  | 0              | 120                 |
|              | Wellington-Dufferin-Guelph              | 53                                           | 0                       | 0                                      | 1                  | 1              | 55                  |
|              | <b>TOTAL CENTRAL WEST</b>               | <b>683</b>                                   | <b>10</b>               | <b>3</b>                               | <b>1</b>           | <b>3</b>       | <b>700</b>          |
|              | <b>TOTAL ONTARIO</b>                    | <b>2881</b>                                  | <b>73</b>               | <b>5</b>                               | <b>1</b>           | <b>8</b>       | <b>2968</b>         |

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010].

Cumulative case counts include late reports and records that are otherwise reconciled. Therefore, cumulative counts may not equal new cases plus previous cumulative value.

† Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

<sup>‡</sup>includes seasonal H1/H3

\*includes indeterminate, untypeable and other subtypes

**NOTE: Data presented on deaths and hospitalizations includes cases reported up to January 13, 2010.**

### Deaths among pandemic (H1N1) 2009 virus cases, April 13, 2009 – January 13, 2010

A total of 123 deaths have been reported since April, with 20% (25) reported in wave 1 and 80% (98) in wave 2. Of the reported deaths, 79% (97) were hospitalized prior to death. Overall, cases that died ranged in age from 0 to 95 years and had a mean and median age of 53 and 55 years, respectively. Women accounted for less than half of all cases that have died, with 43% of deaths occurring among women.

Mortality due to pH1N1 increased with increasing age, with people in the 45-64 and in the 65 and older age groups accounting for the highest mortality rates. These rates were significantly higher than the overall provincial rate. A similar trend was observed for both waves one and two.

The mean and median days from symptom onset to death were 18.6 and 14 days, respectively, in Wave 1. The mean and median days from symptom onset to death were 9.8 and 9 days, respectively, in Wave 2. The statistics for Wave 2 must be interpreted with caution as they will continue to change as more information becomes available. Among the 123 confirmed cases that have died, 107 (87%) had underlying chronic medical conditions reported, compared to 96% (24) of wave 1 cases and 85% (83) of wave 2 cases. Reporting of underlying chronic medical conditions may be incomplete for wave 2 cases due to delays in data entry.

### Hospitalizations among pandemic (H1N1) 2009 virus cases, April 13, 2009 – January 13, 2010

A total of 1,814 hospitalizations have been reported, with 22% (395) reported in wave 1 and 78% (1,419) reported in wave 2. The cumulative hospitalization rate of pH1N1 related hospitalizations is 14.0 hospitalizations per 100,000 population. In general, the hospitalization rate of pH1N1 cases decreased with increasing age, with persons in the three youngest age ranges (under 15 years) accounting for the highest hospitalization rates. Persons aged 15 years and older had lower hospitalization rates, which were all below the overall provincial hospitalization rate for pH1N1. A similar trend was observed for wave one and wave two cases. Hospitalized cases under the age of 20 years account for 48% of hospitalized cases in wave 1 and 44% of hospitalized cases in wave 2.

Admission to ICU and/or use of a ventilator was reported for 20% (80) of wave one cases and 18% (262) of wave 2 cases. Overall, 19% (342) of hospitalizations have been admitted to ICU and/or placed on a ventilator. Fever, cough, shortness of breath, vomiting, malaise, myalgia and sore throat/difficulty swallowing have been the most commonly reported symptoms among hospitalized cases. The mean and median days from symptom onset to hospitalization were 2.7 and 2 days, respectively, in Wave 1. The mean and median days from symptom onset to hospitalization were 2.2 and 2 days, respectively, in Wave 2.

**Table 5.** Overview of key surveillance indicators among fatal and hospitalized cases in Ontario\*<sup>a</sup>

| Surveillance Indicators          | Wave 2<br>(Sep 1, 2009 – Jan 13, 2010) | Wave 1<br>(Apr, 2009 - Aug 31, 2009) | Total<br>(Apr, 2009 - Jan 13, 2010) |
|----------------------------------|----------------------------------------|--------------------------------------|-------------------------------------|
| Number of deaths                 | 98 (80%)                               | 25 (20%)                             | 123 (100%)                          |
| Number of hospitalizations       | 1419 (78%)                             | 395 (22%)                            | 1,814 (100%)                        |
| Hospitalization status           |                                        |                                      |                                     |
| Discharged                       | 91% (1289)                             | 98% (388)                            | 92% (1,677)                         |
| Currently hospitalized           | 9% (130)                               | 2% (7)                               | 8% (137)                            |
| Length of hospital stay (days)** |                                        |                                      |                                     |
| Mean                             | 4                                      | 7                                    | 5                                   |
| Median                           | 3                                      | 4                                    | 3                                   |
| Range                            | 0-67                                   | 0-127                                | 0-127                               |

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2010]

**Note:** Cases that were hospitalized or that have died are not mutually exclusive.

\* 26 fatal cases were not hospitalized before death;

\*\*Mean and Median LOS excludes those outside of the 95<sup>th</sup> percentile.

<sup>a</sup> For individuals in hospital prior to their pH1N1 infection, onset of illness and end of treatment relating to pH1N1 were used to determine LOS.

**Table 6.** Hospitalizations among confirmed cases of pandemic (H1N1) 2009 in Ontario, April 13, 2009 – January 13, 2010

| Hospitalization Status             | Ventilator and/or ICU | Not in ICU and not on ventilator | Number of cases hospitalized to date |
|------------------------------------|-----------------------|----------------------------------|--------------------------------------|
| Number Currently Hospitalized      | 49 (36%)              | 88 (64%)                         | <b>137 (100%)</b>                    |
| Number Hospitalized and Discharged | 293 (17%)             | 1384 (83%)                       | <b>1677 (100%)</b>                   |
| Total Hospitalized to date         | <b>342 (19%)</b>      | <b>1472 (81%)</b>                | <b>1814 (100%)</b>                   |

**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2010]

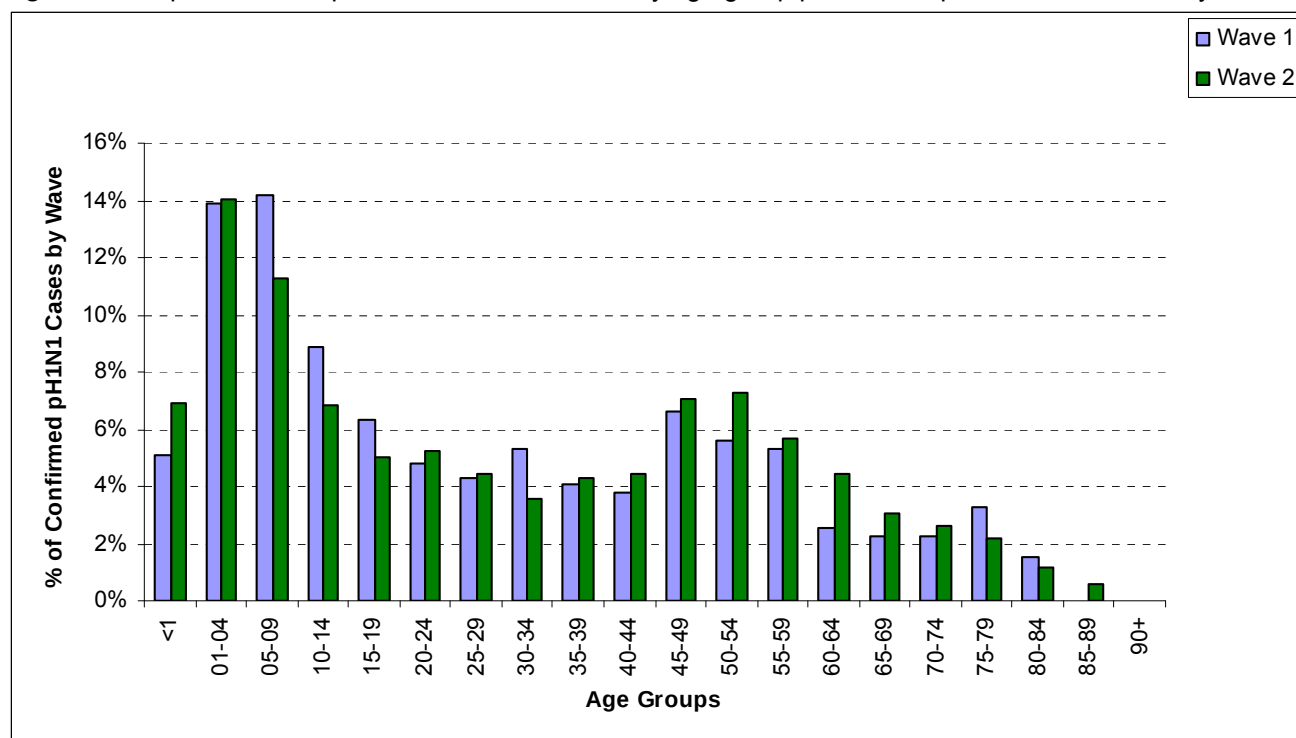
**Table 7.** Incidence of hospitalization and death due to pandemic (H1N1) 2009 in Ontario, April 13, 2009 – January 13, 2010

| Age Group    | Hospitalizations | Rate/100,000 | Deaths     | Rate/100,000 |
|--------------|------------------|--------------|------------|--------------|
| <1           | 118              | 88.07        | 1          | 0.75         |
| 1-4          | 254              | 46.50        | 1          | 0.18         |
| 5-14         | 348              | 22.54        | 5          | 0.32         |
| 15-24        | 189              | 10.80        | 10         | 0.57         |
| 25-44        | 307              | 8.20         | 18         | 0.48         |
| 45-64        | 425              | 12.23        | 57         | 1.64         |
| 65+          | 173              | 10.01        | 31         | 1.79         |
| <b>TOTAL</b> | <b>1814</b>      | <b>14.04</b> | <b>123</b> | <b>0.95</b>  |

**Source (incidence):** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2010]

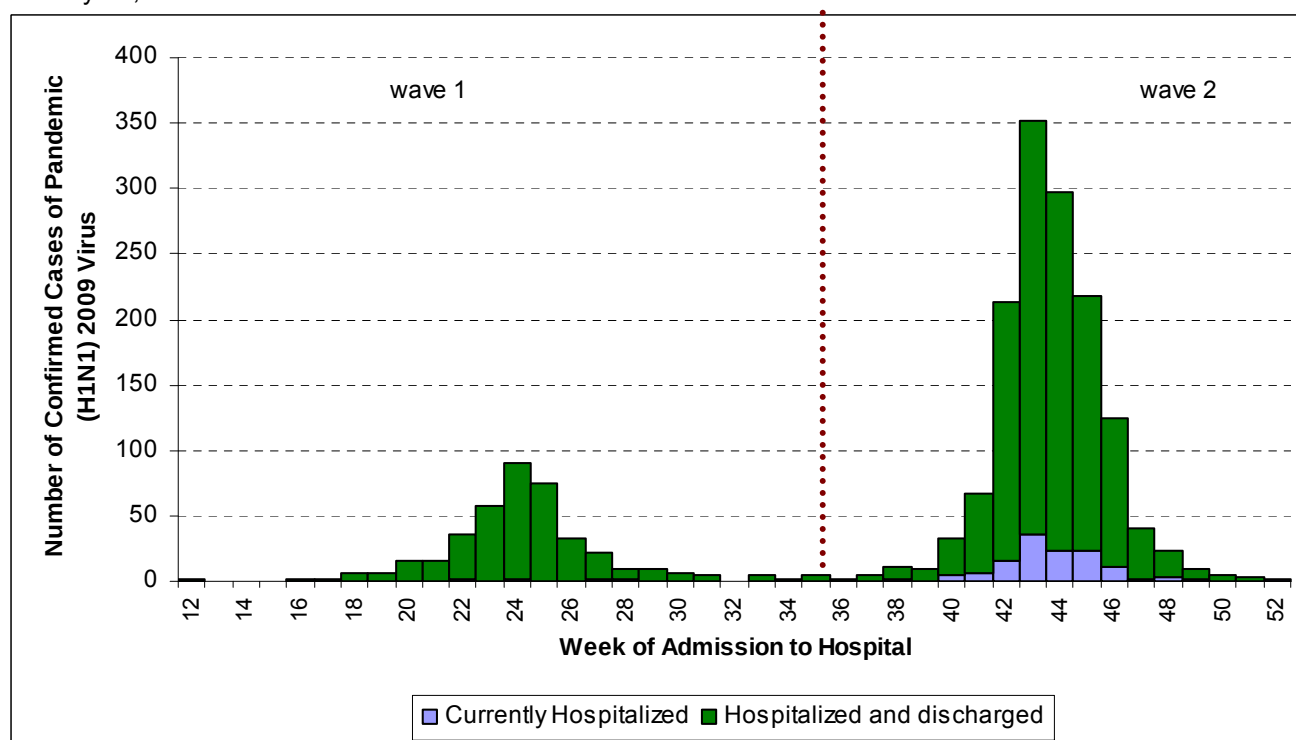
**Source (incidence):** Ontario population projections for 2008: Ontario Ministry of Health and Long-Term Care, Public Health Planning Database (PHPDB), extracted [12/02/2009]

**Figure 4:** Proportion of hospitalized cases in Ontario by age group per wave, April 13, 2009 – January 13, 2010



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2010]

**Figure 5:** Hospitalized cases of pandemic (H1N1) 2009 by hospital admission week in Ontario, April 13, 2009 – January 13, 2010\*



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2010]

Note: Interpret tail with caution due to reporting lags, changes in lab testing, case identification and data entry.

**Ontario Influenza Bulletin, 2009-2010**  
**Surveillance Week 1 (January 3, 2009 – January 9, 2010)**  
**Influenza Subtype(s):**

During week 1, a total of 3063 results of isolate testing were received by the Public Health Agency of Canada, with 40 testing positive for influenza A and one positive for influenza B. 16 of the reported influenza A isolates were from Ontario (40.0%), 7 were from Manitoba (17.5%), 6 were from British Columbia (15.0%), and 5 were from Quebec (12.5%). The influenza B isolate was from Quebec \*.

*(Antigenic Characterization and Antiviral Resistance data are current as of January 14, 2010)*

**Antigenic Characterization (National):**

Since September 1, 2009, National Microbiology Laboratory (NML) has antigenically characterized 717 pandemic H1N1 viruses and ten seasonal influenza viruses (two A/H1N1, seven H3N2 and one B virus) that were received from Canadian laboratories.

**Pandemic Influenza A (H1N1):**

Among the 717 pandemic influenza A (H1N1) viruses characterized, 713 (99.4%) were antigenically related to A/California/7/2009, which is the pandemic reference virus selected by WHO as a potential candidate for 2009 influenza A (H1N1) vaccine. Four viruses (0.6%) tested showed reduced titer with antisera produced against A/California/7/2009.

**Seasonal Influenza A (H1N1):**

Two seasonal influenza A/H1N1 viruses characterized were related to A/Brisbane/59/2007, which is the influenza A/H1N1 component for the 2009-2010 influenza vaccine.

**Seasonal Influenza A (H3N2):**

Of the seven H3N2 viruses, one seasonal influenza A (H3N2) virus characterized was related to A/Brisbane/10/2007, which is the influenza A/H3N2 component recommended for the 2009-10 influenza vaccine. Six viruses were antigenically related to A/Perth/16/2009, which is the WHO recommended influenza A (H3N2) component for the 2010 Southern Hemisphere vaccine formulation.

**Influenza B:**

The one influenza B virus characterized was antigenically related to B/Brisbane/60/2008, which is the recommended influenza B component for the 2009-2010 influenza vaccine.

**Antigenic Characterization (Provincial):**

The National Microbiology Laboratory (NML) has antigenically characterized the following strains from Ontario: 285 influenza A/California/07/2009-like and 1 influenza B/Brisbane/60/2008-like.

**Antiviral Resistance and Sensitivity (National):**

a) Amantadine

Eighteen seasonal influenza A viruses (three H1N1 and 15 H3N2) and 831 pandemic H1N1 viruses were tested for resistance to amantadine and found that one H1N1 virus, all 15 H3N2 viruses and all 831 pandemic H1N1 viruses were resistant. Two seasonal H1N1 viruses were sensitive to amantadine.

b) Oseltamivir:

Twelve seasonal influenza viruses (four H1N1, seven H3N2 and one B) and 826 pandemic H1N1 viruses were tested for resistance to oseltamivir. Four seasonal H1N1 isolates were resistant to oseltamivir. Of the 826 pandemic H1N1 viruses tested, 817 were sensitive to oseltamivir and nine pH1N1 isolates were resistant to oseltamivir with the H275Y mutation. Eight of the nine resistant cases were associated with oseltamivir treatment. One case seems to be the result of infection with an antiviral-resistant strain of H1N1. The seven H3N2 viruses and one B virus were sensitive to oseltamivir.

c) Zanamivir:

Ten seasonal influenza viruses (two H1N1, seven H3N2 and one B) and 807 pandemic H1N1 viruses were tested for resistance to zanamivir. All ten seasonal influenza viruses and all 807 pandemic H1N1 viruses were sensitive to zanamivir.

**Antiviral Resistance and Sensitivity (Provincial):**

a) Amantadine

Of the 282 pH1N1 isolates tested, all were resistant to amantadine. Two H3N2 isolates were also resistant to amantadine.<sup>†</sup>

b) Oseltamivir

Of the 303 influenza pH1N1 isolates from Ontario tested at NML, 5 were resistant to oseltamivir. Of 745 Ontario isolates tested provincially by the OAHPP 15, representing 5 patients, were resistant to oseltamivir.<sup>‡</sup>

c) Zanamivir

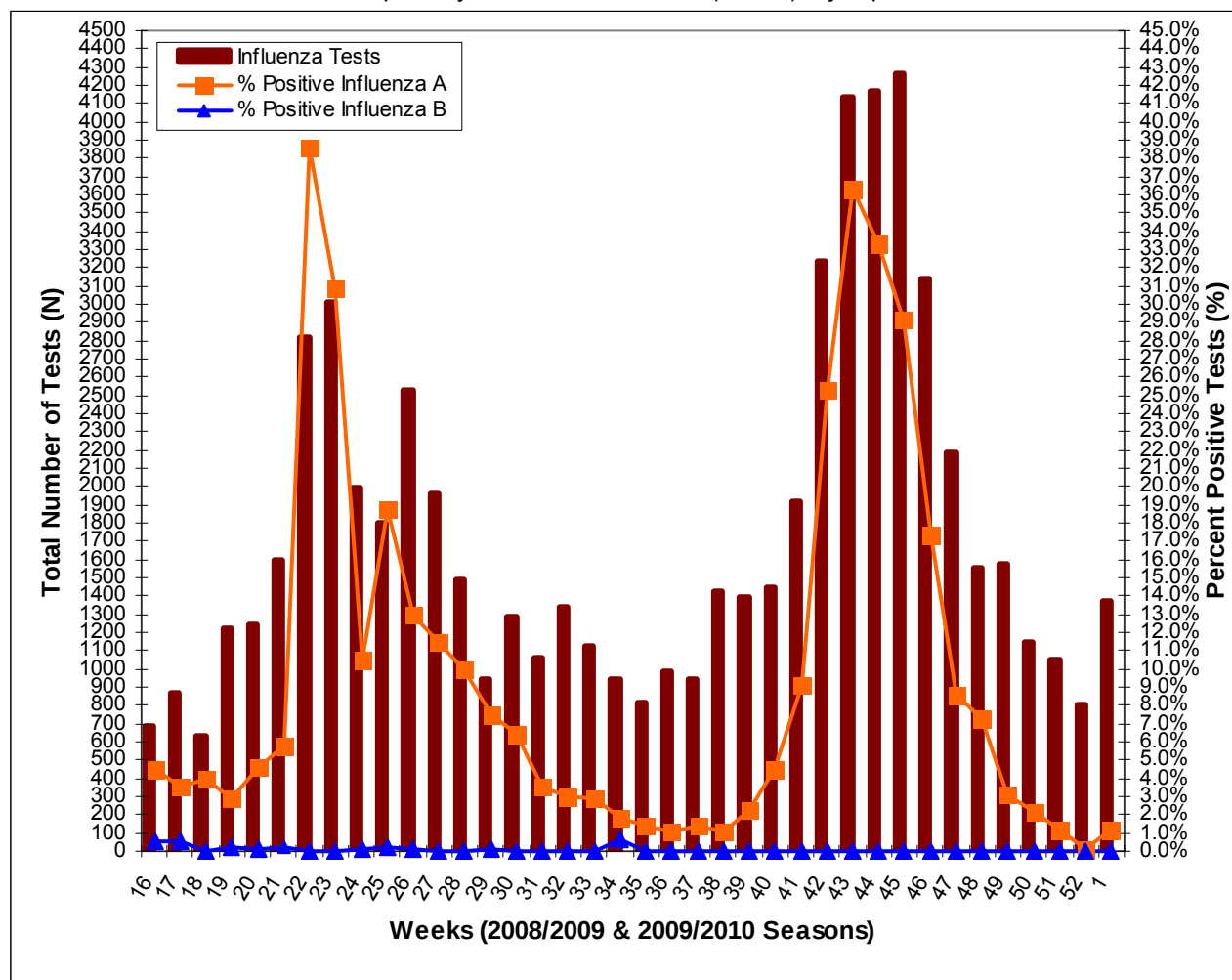
All 296 isolates tested were sensitive to zanamivir.

The influenza B isolate was sensitive to oseltamivir and zanamivir.

\* These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada and do not include data from late reports to PHAC: Week 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 14, 2010 was used. Four seasonal H1N1 isolates were erroneously attributed to Ontario. These have been excluded from this report.

<sup>†</sup> These data have been obtained from the National Microbiology Laboratory of the Public Health Agency of Canada as of January 14, 2010.

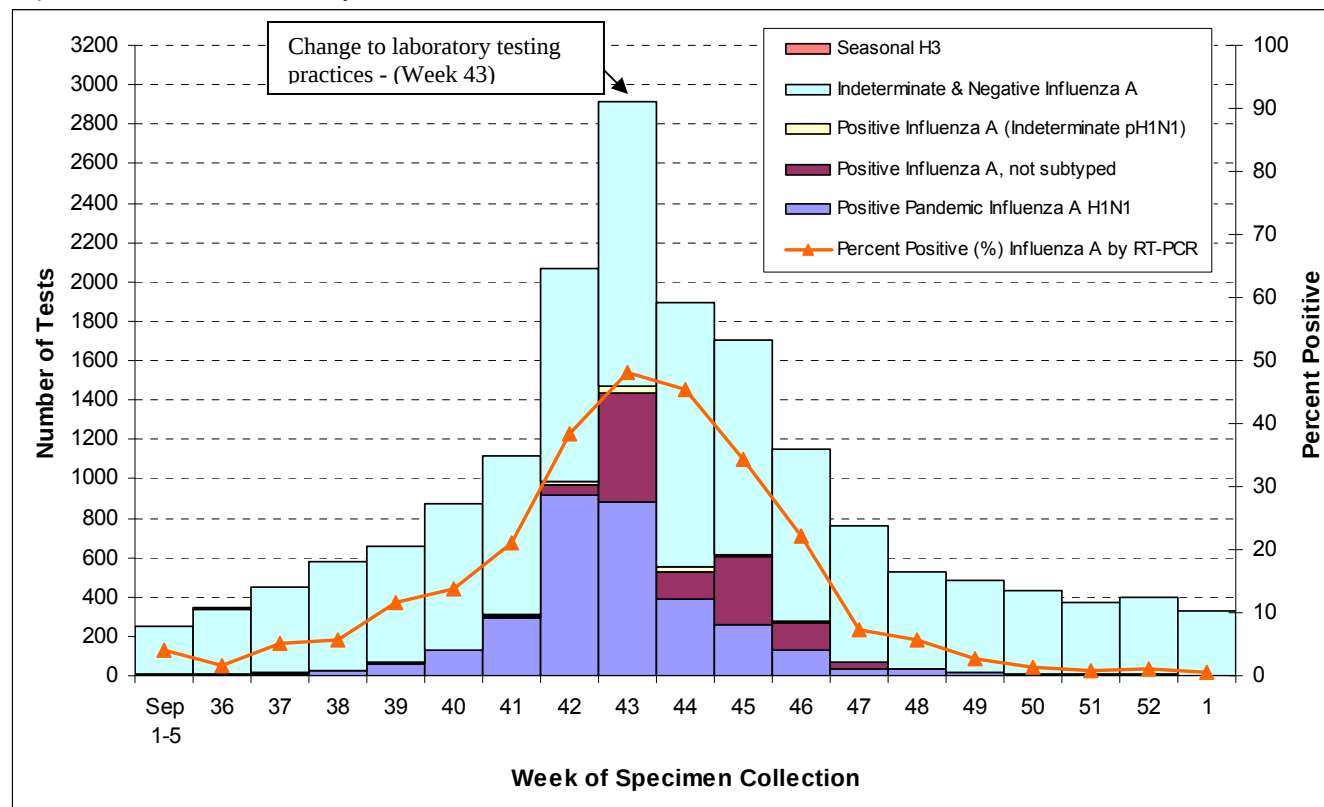
<sup>‡</sup> OAHPP – Laboratory Pandemic H1N1 Surveillance Report – January 4, 2010

**Figure 6:** Total number of influenza tests performed and percent of positive tests in Ontario reported to the Centre for Immunization and Respiratory Infectious Diseases (CIRID), by report week\*.

**Source:** Public Health Agency of Canada. These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada from 17 labs in Ontario and do not include data from late reports to PHAC for the current season: Week 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 14, 2010 was used.

\* Total numbers reported include late reports from previous seasons; therefore totals may not be equal to the sum of the weekly numbers.

**Note:** Cumulative numbers for season to date are available through FluWatch: <http://www.phac-aspc.gc.ca/fluwatch/>

**Figure 6a:** Total number of influenza tests performed and percent of positive tests in Ontario conducted by the Ontario Agency for Health Protection and Promotion Laboratory – Toronto, by specimen collection week September 1, 2009 – January 9, 2010

**Source:** Adapted from Table 1 in the "OAHPP Laboratory Pandemic H1N1 Surveillance Report"; Monday, January 11, 2010

**Note:** Not all cases with specimens collected during week 1 are included in this summary due to the lag in time from the date of specimen collection to the date the final test result is confirmed.

**Note:** Beginning on Week 43, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

**Table 8:** Summary of Other Respiratory Virus Detections/Isolations in Ontario in Week 1

| Organism Name               | Number of Positive Tests | Number of Tests | % Positive |
|-----------------------------|--------------------------|-----------------|------------|
| Respiratory Syncytial Virus | 103                      | 1029            | 10.01      |
| Parainfluenza (all types)   | 21                       | 990             | 2.12       |
| Adenovirus                  | 14                       | 990             | 1.41       |
| Human Metapneumovirus       | 5                        | 317             | 1.58       |

**SOURCE:** These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada from 17 labs in Ontario and do not include data from late reports to PHAC: Week 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 14, 2010 was used.

**Table 9:** Institutional respiratory infection outbreaks in Ontario: new outbreaks\* in Week 1 and total outbreaks for the season\*\*

| <b>Institutional Respiratory Infection Outbreaks</b>                 |            |                         |
|----------------------------------------------------------------------|------------|-------------------------|
| <b>New Outbreaks*</b>                                                | <b>N</b>   | <b>% (of outbreaks)</b> |
| Influenza A (All subtypes)                                           | 0          | 0.0                     |
| Influenza B                                                          | 0          | 0.0                     |
| Influenza A and B                                                    | 0          | 0.0                     |
| Parainfluenza (All types)                                            | 0          | 0.0                     |
| RSV                                                                  | 1          | 16.7                    |
| Other organisms                                                      | 0          | 0.0                     |
| No organism identified                                               | 5          | 83.3                    |
| <b>TOTAL</b>                                                         | <b>6</b>   | <b>100.0</b>            |
| <b>Total Respiratory Infection Outbreaks of the Season to date**</b> | <b>N</b>   | <b>% (of outbreaks)</b> |
| Influenza A                                                          | 56         | 23.0                    |
| Influenza B                                                          | 0          | 0.0                     |
| Influenza A and B                                                    | 0          | 0.0                     |
| Parainfluenza (All types)                                            | 5          | 2.1                     |
| RSV                                                                  | 3          | 1.2                     |
| Combined Outbreaks <sup>†</sup>                                      | 5          | 2.1                     |
| Other organisms                                                      | 81         | 33.3                    |
| No organism identified                                               | 93         | 38.3                    |
| <b>TOTAL</b>                                                         | <b>243</b> | <b>100.0</b>            |
| <b>Types of Institutions – All Outbreaks **</b>                      | <b>N</b>   | <b>% (of outbreaks)</b> |
| Long-Term Care Homes                                                 | 139        | 57.2                    |
| Hospitals                                                            | 19         | 7.8                     |
| Retirement Homes                                                     | 18         | 7.4                     |
| Other                                                                | 10         | 4.1                     |
| Unknown                                                              | 57         | 23.5                    |
| <b>TOTAL</b>                                                         | <b>243</b> | <b>100.0</b>            |
|                                                                      |            |                         |
|                                                                      | <b>N</b>   | <b>% (of outbreaks)</b> |
| <b>New Outbreaks – Pandemic (H1N1) 2009*</b>                         | 0          | 0.0                     |
| <b>Total pH1N1 2009 Infection Outbreaks of the Season to date**</b>  | <b>44</b>  | <b>100.0</b>            |
|                                                                      |            |                         |
| <b>Types of Institutions (pH1N1 Outbreaks)</b>                       | <b>N</b>   | <b>% (of outbreaks)</b> |
| Long-Term Care Homes                                                 | 9          | 20.5                    |
| Hospitals                                                            | 14         | 31.8                    |
| Retirement Homes                                                     | 3          | 6.8                     |
| Other                                                                | 4          | 9.1                     |
| Unknown                                                              | 14         | 31.8                    |
| <b>TOTAL</b>                                                         | <b>44</b>  | <b>100.0</b>            |

**SOURCE:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

\* New outbreaks are those in which the date of onset of illness in the first case occurred and recorded through iPHIS in the current surveillance period; i.e. January 3, 2010 – January 9, 2010

\*\* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to Week 1. For pH1N1 note that there have been 4 outbreaks between April 13, 2009 and August 31, 2009 - 2 in LTCHs and 2 in Hospitals.

<sup>†</sup> Combined outbreaks include outbreaks in which more than one non-influenza organism has been identified (e.g. RSV, parainfluenza, rhinovirus, etc.)

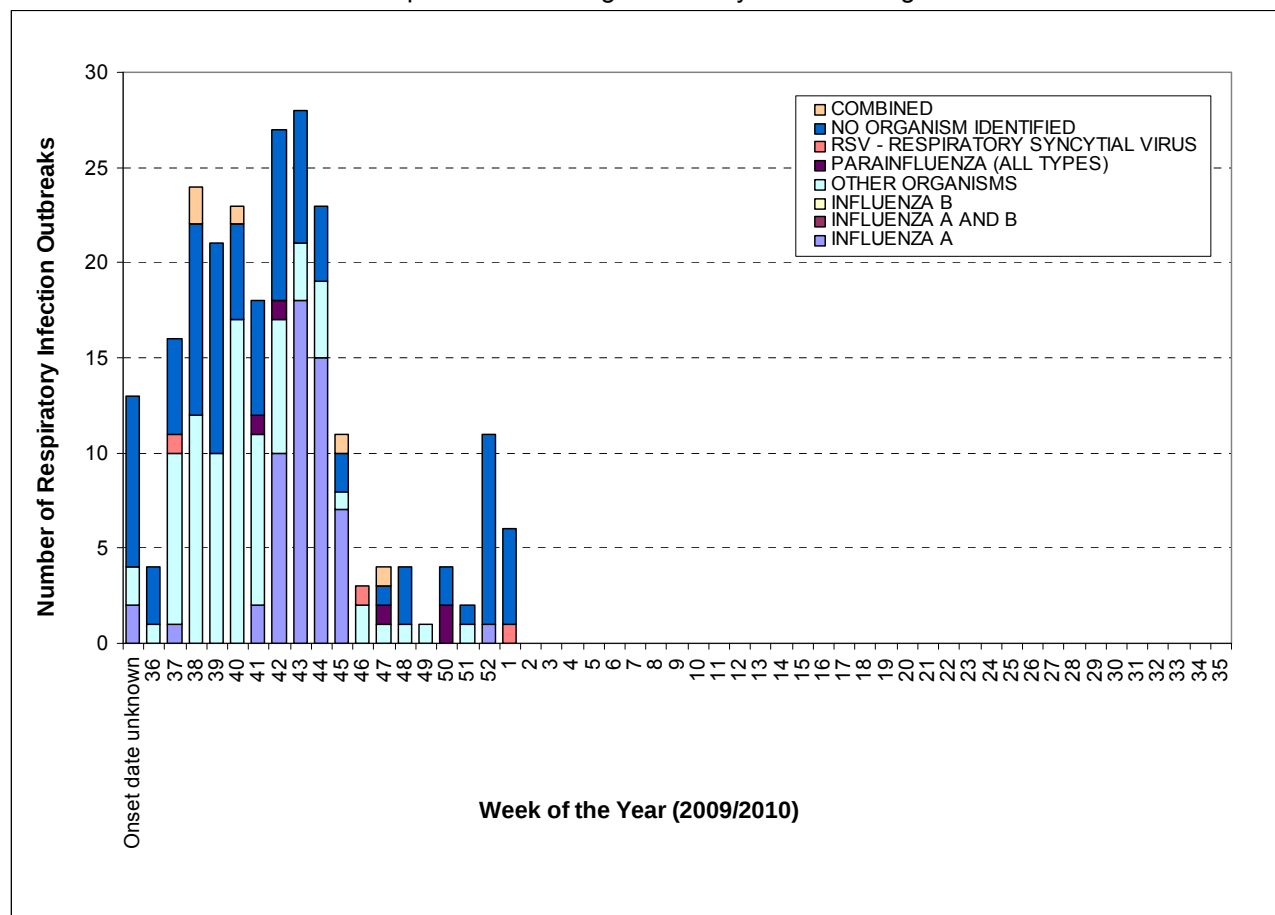
**Table 10:** Outbreak Related Complications in institutional respiratory infection outbreaks in Ontario during the Surveillance Season\*

| <b>Outbreak Related Cases – All Outbreaks</b>                  | <b>N</b>    | <b>% (of total cases)</b>    |
|----------------------------------------------------------------|-------------|------------------------------|
| Residents                                                      | 2347        | 67.2                         |
| Patients                                                       | 169         | 4.8                          |
| Staff                                                          | 978         | 28.0                         |
| <b>Total Cases</b>                                             | <b>3494</b> | <b>100.0</b>                 |
| <b>Deaths</b>                                                  |             | <b>% (of cases per role)</b> |
| Residents                                                      | 64          | 2.7                          |
| Patients                                                       | 2           | 1.2                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Pneumonia (Chest x-ray confirmed)</b>                       |             | <b>% (of cases per role)</b> |
| Residents                                                      | 62          | 2.6                          |
| Patients                                                       | 8           | 4.7                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Hospitalizations</b>                                        |             | <b>% (of cases per role)</b> |
| Residents                                                      | 103         | 4.4                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Outbreak Related Cases – All Influenza Outbreaks</b>        | <b>N</b>    | <b>% (of total cases)</b>    |
| Residents                                                      | 278         | 54.2                         |
| Patients                                                       | 68          | 13.3                         |
| Staff                                                          | 167         | 32.6                         |
| <b>Total Cases</b>                                             | <b>513</b>  | <b>100.0</b>                 |
| <b>Deaths</b>                                                  |             | <b>% (of cases per role)</b> |
| Residents                                                      | 19          | 6.8                          |
| Patients                                                       | 1           | 0.4                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Pneumonia (Chest x-ray confirmed)</b>                       |             | <b>% (of cases per role)</b> |
| Residents                                                      | 6           | 2.2                          |
| Patients                                                       | 4           | 1.4                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Hospitalizations</b>                                        |             | <b>% (of cases per role)</b> |
| Residents                                                      | 30          | 10.8                         |
| Staff                                                          | 0           | 0.0                          |
| <b>Outbreak Related Cases – Pandemic (H1N1) 2009 Outbreaks</b> | <b>N</b>    | <b>% (of total cases)</b>    |
| Residents                                                      | 180         | 46.5                         |
| Patients                                                       | 58          | 15.0                         |
| Staff                                                          | 149         | 38.5                         |
| <b>Total Cases</b>                                             | <b>387</b>  | <b>100.0</b>                 |
| <b>Deaths</b>                                                  |             | <b>% (of cases per role)</b> |
| Residents                                                      | 19          | 10.6                         |
| Patients                                                       | 1           | 1.7                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Pneumonia (Chest x-ray confirmed)</b>                       |             | <b>% (of cases per role)</b> |
| Residents                                                      | 5           | 2.8                          |
| Patients                                                       | 4           | 6.9                          |
| Staff                                                          | 0           | 0.0                          |
| <b>Hospitalizations</b>                                        |             | <b>% (of cases per role)</b> |
| Residents                                                      | 28          | 15.6                         |
| Staff                                                          | 0           | 0.0                          |

**SOURCE:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

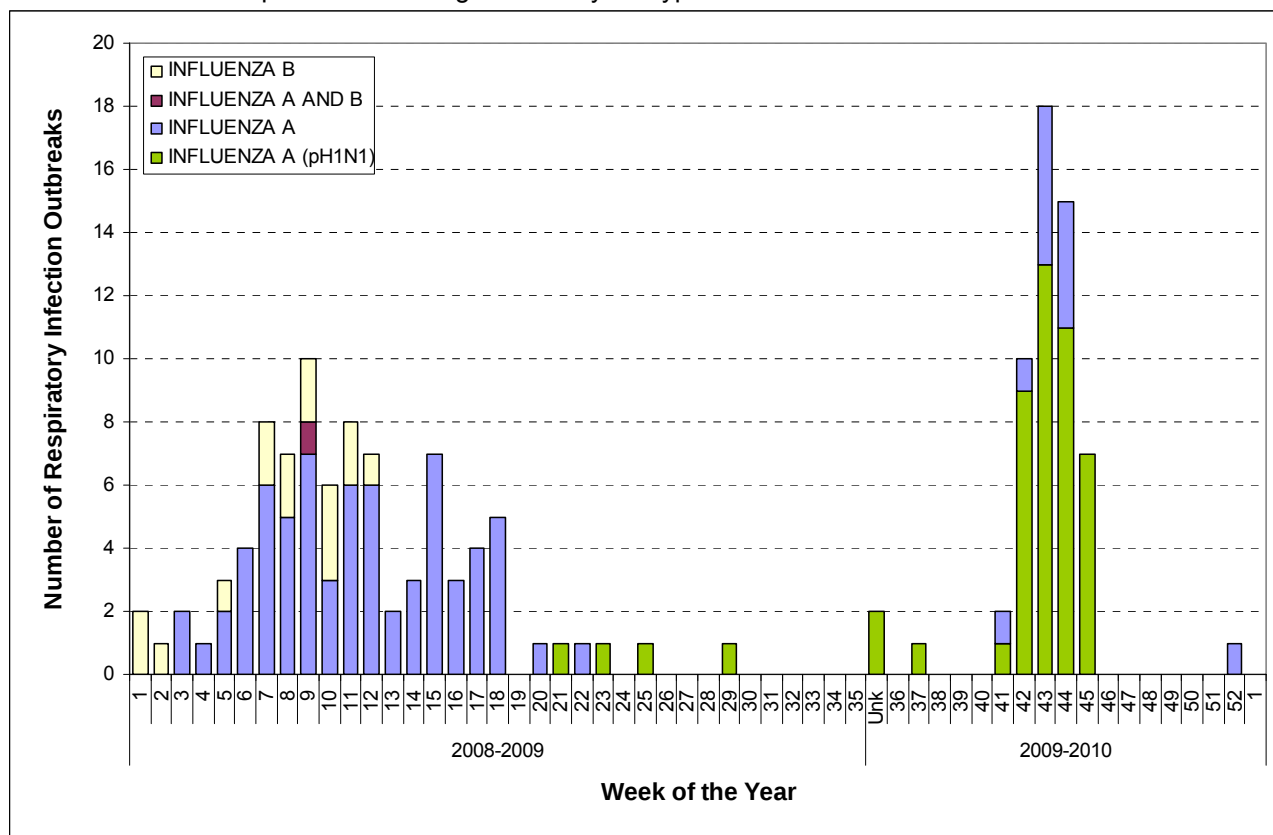
\* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2009 – January 9, 2010

**Figure 8:** Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total Outbreaks up to and including Week 1 by causative organism



**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

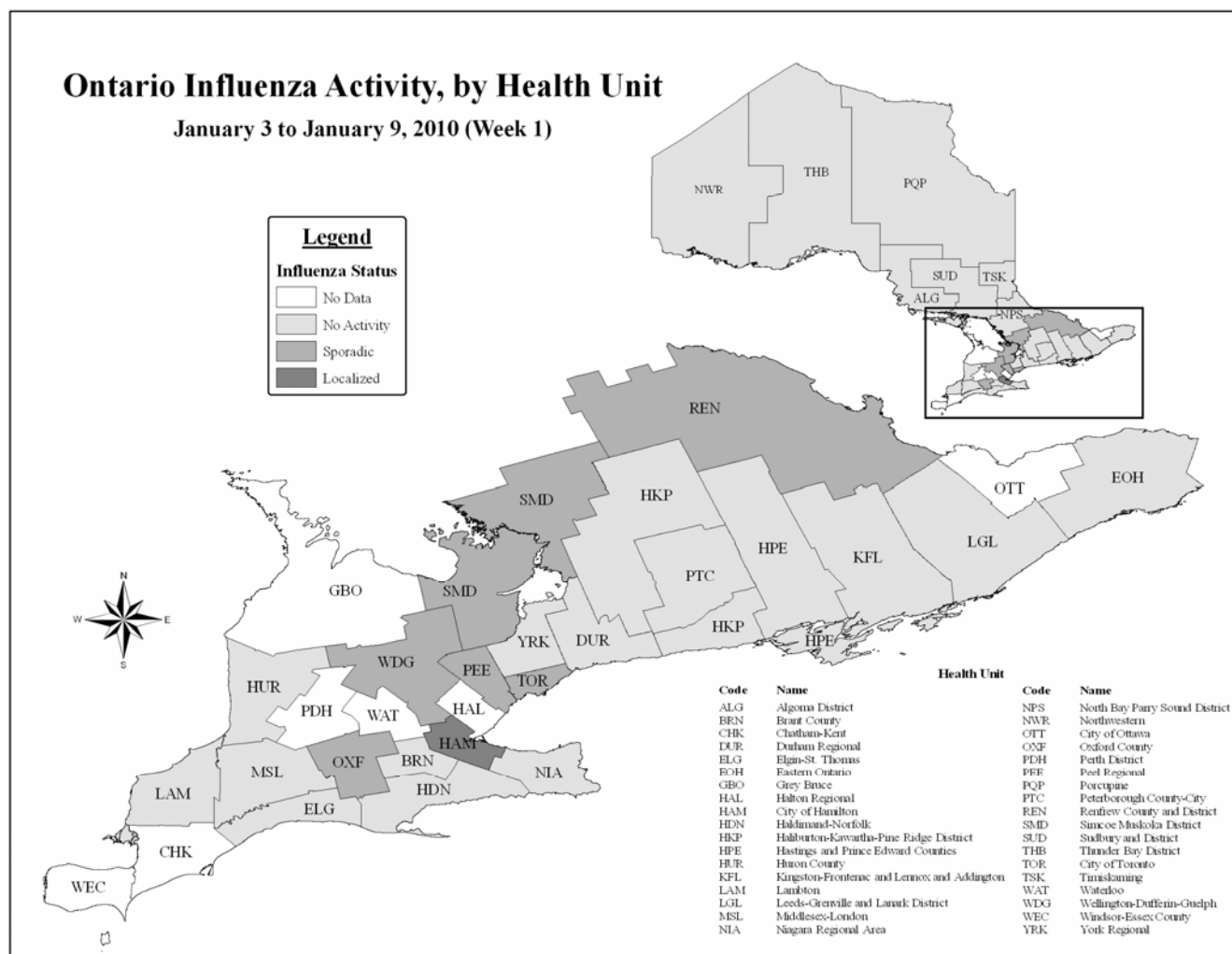
**Figure 9:** Institutional influenza outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including Week 1 by subtype\*



**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

\*School outbreaks are not included in this chart.

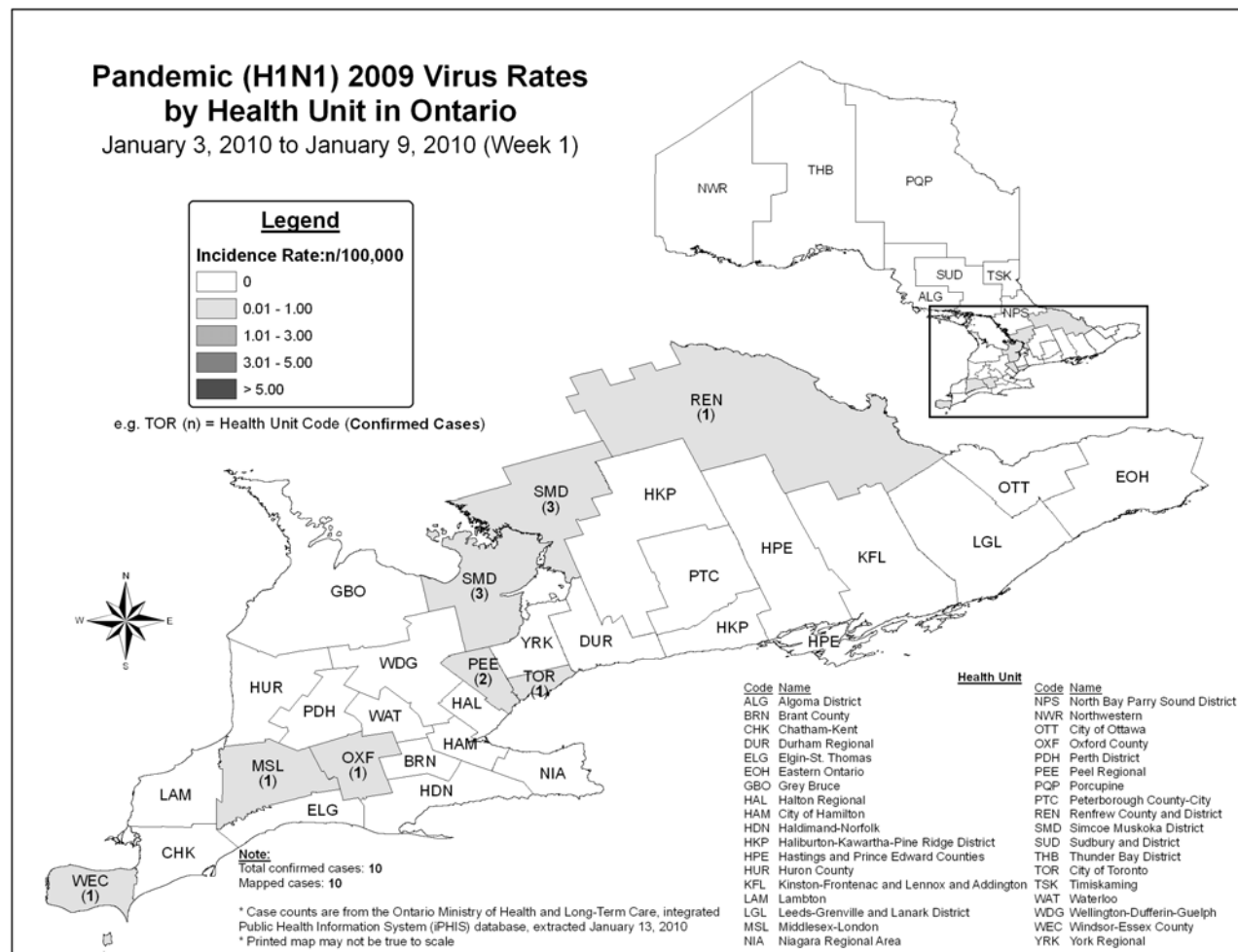
**Figure 10: Influenza Activity\* levels in Ontario by health unit for Week 1, 2009**



**SOURCE:** MOHLTC [Provincial Influenza Activity Report (Appendix C) Database]

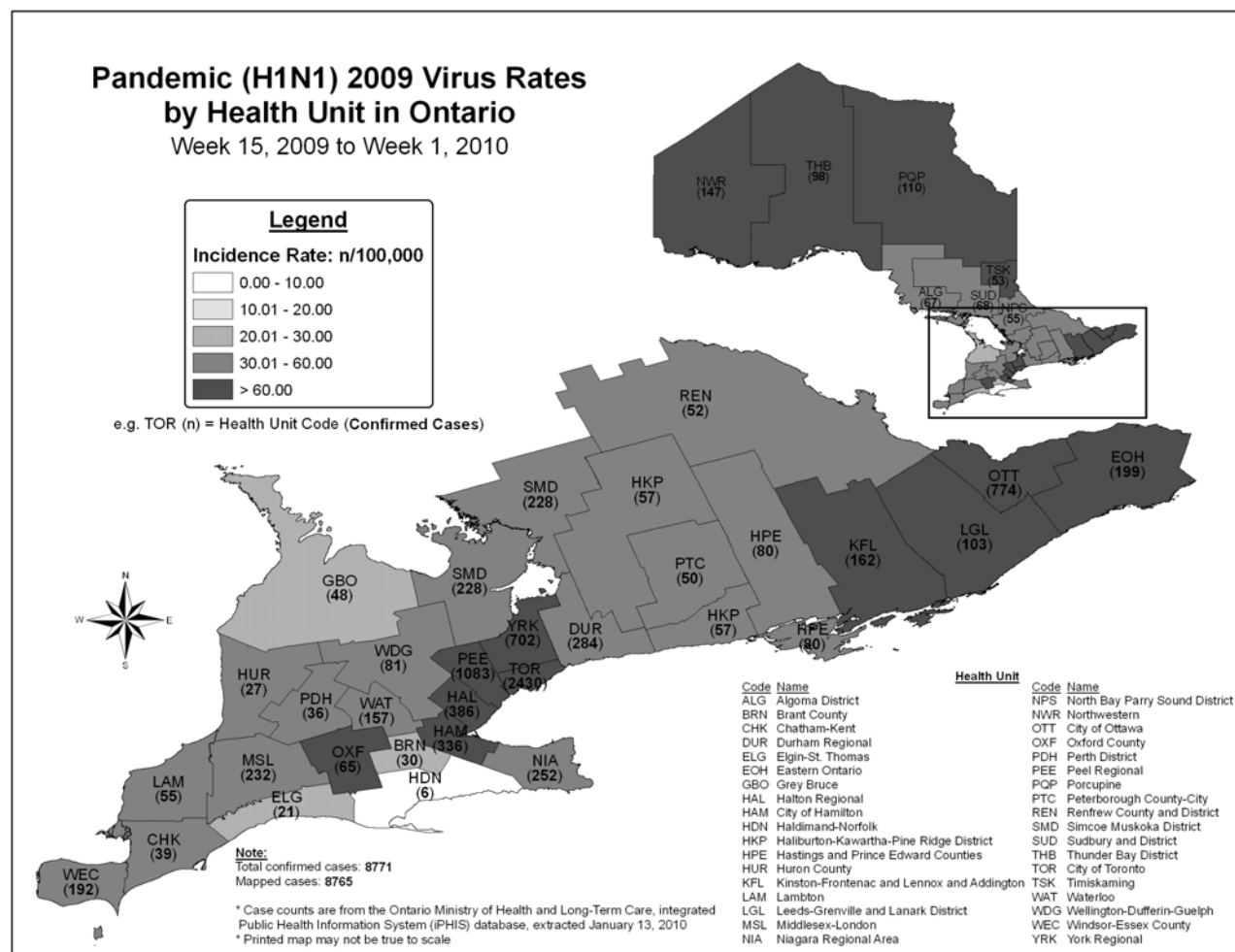
\* Influenza activity levels are assigned by local public health units and reported to the MOHLTC by the Tuesday following the end of the surveillance week at 4 pm. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory confirmed institutional outbreaks. Please refer to detailed definitions for the 2009-2010 season included in the Appendix-1]

**Figure 11:** Pandemic (H1N1) 2009 Virus incidence rates and counts in Ontario by health unit for Week 1, 2009



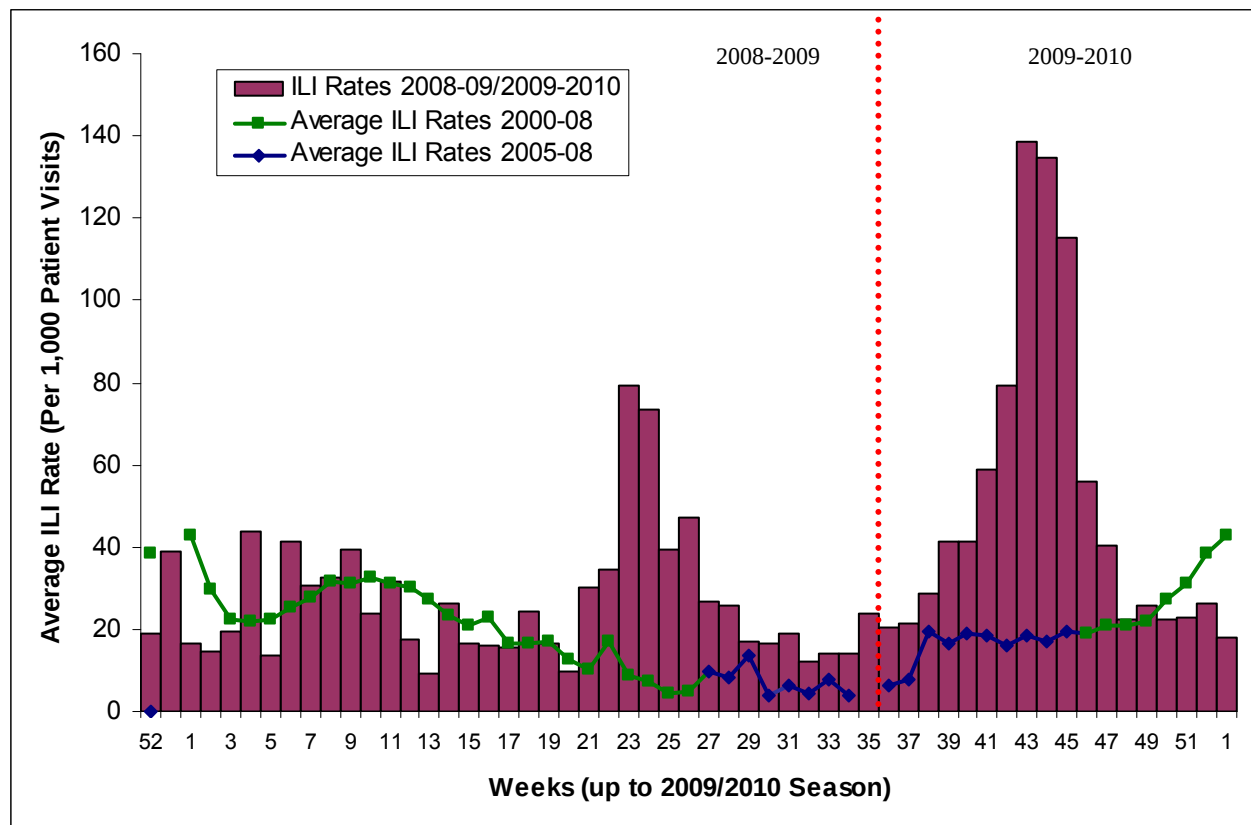
**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

**Figure 12:** Pandemic (H1N1) 2009 Virus cumulative incidence rates and counts in Ontario by health unit, Week 15 – 1 (April 12 – January 9, 2010)



**Source:** Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2010]

**Figure 13:** Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinel physicians\* in Ontario up to the 2009-10 surveillance season, by report week, compared to Ontario average† (1999/2000 to 2007/08 seasons).



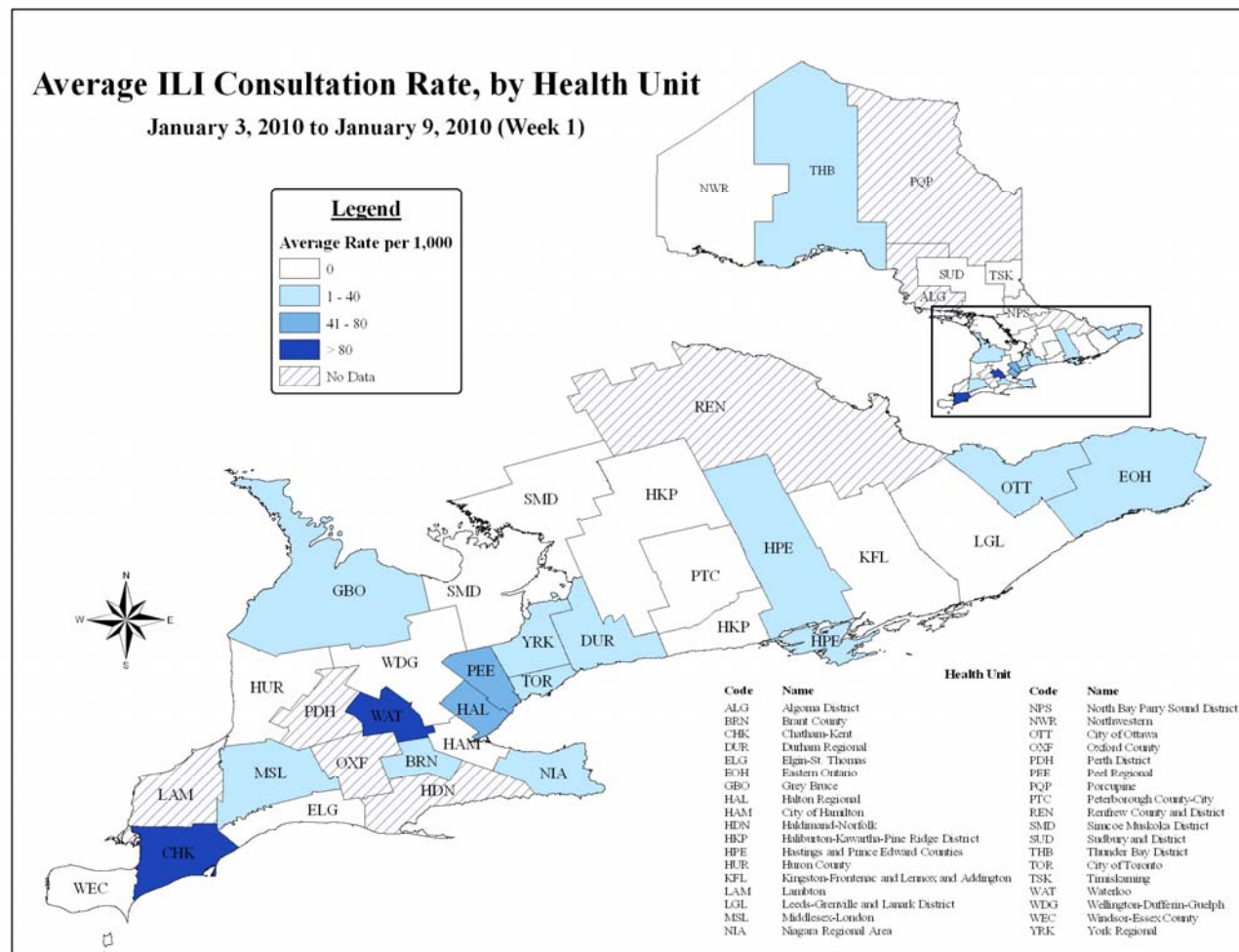
**Source:** Public Health Agency of Canada

\* Sentinel physician information is reported to Public Health Agency of Canada, 96 sentinels each reported in week 1.

† No data available for mean rate in previous years for weeks 21 to 39 (1999-2000 through 2004-2005 seasons). During weeks 20-39, 2002-2003/2004-2005 seasons, ILI is reported once every two weeks, on even weeks only.

Since Week 23, 2009, the number of sentinel physicians has increased, which might affect ILI rate starting from week 23.

**Figure 14:** Average influenza-like illness consultation rate (per 1,000 patient visits) by health unit as reported by sentinel physicians\* in Ontario, for Week 1.



**Source:** Public Health Agency of Canada

\* Sentinel physicians report ILI and patient data to the Public Health Agency of Canada; 96 sentinels reported this week of which all were matched to a health unit and represented in the above map.

**Note:** The small numbers of sentinel physicians reporting at the local level can make the ILI rates unstable. Please interpret these data correspondingly.

**Table 11:** Average influenza-like illness consultation rate (per 1,000 patient visits) by age group as reported by sentinel physicians\* in Ontario, for Week 1.

| Age Category                                        | 0 – 4 | 5 – 19 | 20 – 64 | 65 +  | Unknown | TOTAL |
|-----------------------------------------------------|-------|--------|---------|-------|---------|-------|
| ILI Sum                                             | 13    | 6      | 37      | 11    | 0       | 67    |
| ILI Consultation Rate<br>(per 1,000 patient visits) | 43.05 | 15.92  | 16.19   | 14.18 | 0.00    | 17.91 |

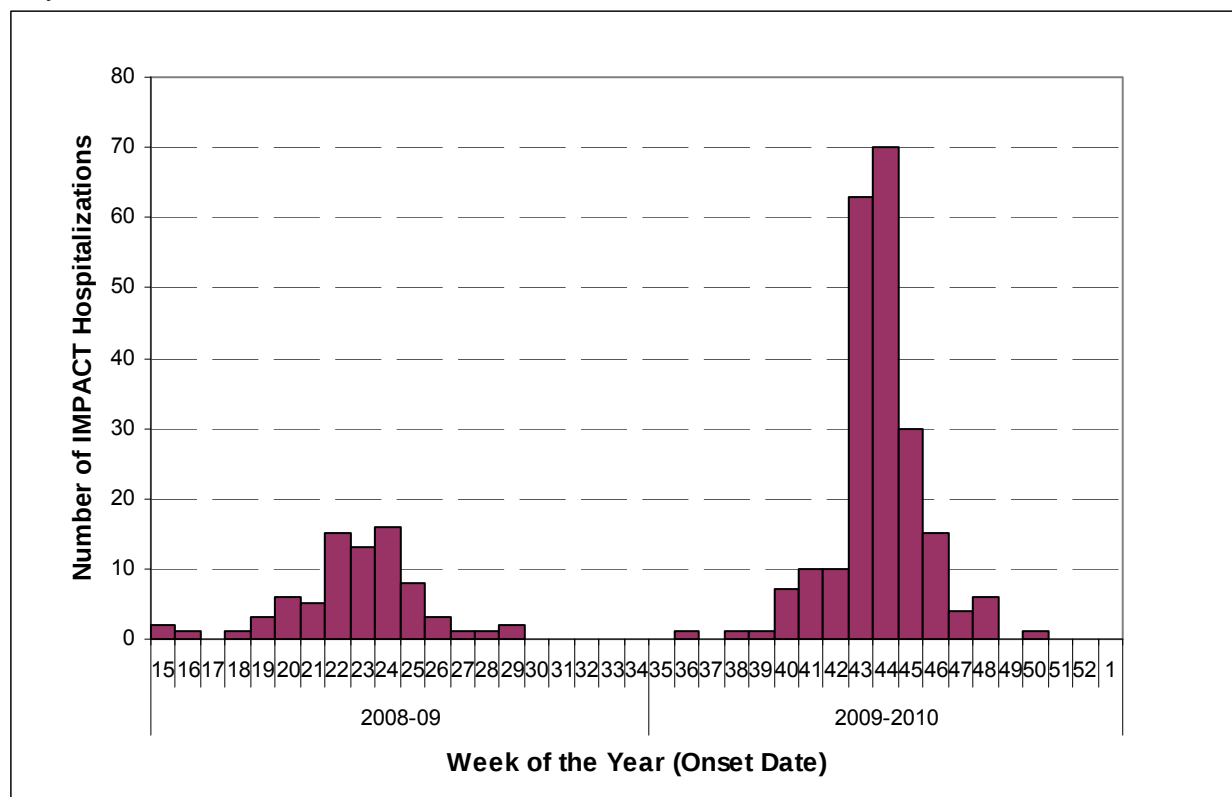
**Source:** Public Health Agency of Canada

Sentinel physician information is reported to the Public Health Agency of Canada; 96 sentinels reported this week.

Immunization Monitoring Program ACTive (IMPACT) is a paediatric hospital-based national active surveillance network for adverse events following immunization and selected infectious diseases in children, including influenza-associated pediatric hospitalizations and complements the [Canadian Adverse Event Following Immunization Surveillance System](#) (CAEFISS). It involves 12 Canadian centres, two of which are in Ontario (Children's Hospital of Eastern Ontario in Ottawa and the Hospital for Sick Children, Toronto).

Reports of adverse events following immunization are reported to the Vaccine Safety Unit at the Immunization Division of the Public Health Agency of Canada. Note that the number of IMPACT hospitalizations presented in this week's bulletin has been updated with the latest data received from PHAC.

**Figure 15:** Number of influenza A related hospitalizations in Ontario reported through IMPACT up to Week 1, by onset date.



**Source:** Public Health Agency of Canada

**\*Note:** The number of IMPACT hospitalizations presented reflect the latest data received at the time of publication, thus lower numbers of cases reported in recent weeks may be attributed in part to reporting delays.

**Table 12:** Number of RT-PCR & Multiplex test results by health unit and agent in Ontario by the Ontario Agency for Health Protection and Promotion Laboratory, for the period December 28, 2009 to January 8, 2010\*

| Health Unit | Results            | Total Specimens Testing Positive |
|-------------|--------------------|----------------------------------|
| OXFORD      | FLU A / RHINOVIRUS | 1                                |
| HAMILTON    | RHINOVIRUS         | 1                                |
| OTTAWA      | RSV A              | 1                                |

**Source:** Ontario Agency for Health Protection and Promotion, January 14, 2010

#### **FURTHER INFORMATION**

1. Ontario Ministry of Health and Long-Term Care  
Previous issues of the *Ontario Influenza Bulletin* can be accessed at:  
[http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu\\_09/flubul\\_mn.html](http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_09/flubul_mn.html)

When referencing material from the Ontario Influenza Bulletin please use the following format:  
Ontario Ministry of Health and Long-Term Care, Ontario Influenza Bulletin 2009-2010 Season, Surveillance Week ##. <URL>

2. Ontario Agency for Health Protection and Promotion  
OAHPP Weekly Laboratory Surveillance Update  
<http://www.oahpp.ca/SRI%20Bulletin.php>
3. Public Health Agency of Canada  
Issues of FluWatch can be accessed at:  
[www.phac-aspc.gc.ca/fluwatch/](http://www.phac-aspc.gc.ca/fluwatch/)
4. United States Centers for Disease Control and Prevention  
<http://www.cdc.gov/flu/weekly/fluactivity.htm>
5. European Influenza Surveillance Scheme  
[http://www.eiss.org/cgi-files/bulletin\\_v2.cgi](http://www.eiss.org/cgi-files/bulletin_v2.cgi)

#### **INFORMATION ABOUT H1N1 INFLUENZA (HUMAN SWINE INFLUENZA)**

1. CDC (Human swine flu investigation)  
<http://www.cdc.gov/swineflu/investigation.htm>
2. PHAC (Human swine flu investigation)  
[http://www.phac-aspc.gc.ca/alert-alerte/swine\\_200904-eng.php](http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php)
3. WHO Swine Flu general info  
<http://www.who.int/csr/disease/swineflu/en/index.html>
4. Ontario Ministry of Health (Important Health Notices)  
<http://www.health.gov.on.ca/english/providers/program/emu/ihn.html>

#### **INFORMATION ABOUT AVIAN INFLUENZA**

For latest information on the status of avian influenza worldwide please use the following link:  
**Public Health Agency of Canada**  
<http://www.phac-aspc.gc.ca/h5n1/index.html>

Influenza Surveillance Weeks 2009-2010 and date of submission of Appendix C

| <b>WEEKS</b> | <b>START</b> | <b>END</b> | <b>Appendix C Submission to MOHLTC</b> |
|--------------|--------------|------------|----------------------------------------|
| WK2          | 10-Jan-10    | 16-Jan-10  | 19-Jan-10                              |
| WK3          | 17-Jan-10    | 23-Jan-10  | 26-Jan-10                              |
| WK4          | 24-Jan-10    | 30-Jan-10  | 2-Feb-10                               |
| WK5          | 31-Jan-10    | 6-Feb-10   | 9-Feb-10                               |
| WK6          | 7-Feb-10     | 13-Feb-10  | 16-Feb-10                              |
| WK7          | 14-Feb-10    | 20-Feb-10  | 23-Feb-10                              |
| WK8          | 21-Feb-10    | 27-Feb-10  | 2-Mar-10                               |
| WK9          | 28-Feb-10    | 6-Mar-10   | 9-Mar-10                               |
| WK10         | 7-Mar-10     | 13-Mar-10  | 16-Mar-10                              |
| WK11         | 14-Mar-10    | 20-Mar-10  | 23-Mar-10                              |
| WK12         | 21-Mar-10    | 27-Mar-10  | 30-Mar-10                              |
| WK13         | 28-Mar-10    | 3-Apr-10   | 6-Apr-10                               |
| WK14         | 4-Apr-10     | 10-Apr-10  | 13-Apr-10                              |
| WK15         | 11-Apr-10    | 17-Apr-10  | 20-Apr-10                              |
| WK16         | 18-Apr-10    | 24-Apr-10  | 27-Apr-10                              |
| WK17         | 25-Apr-10    | 1-May-10   | 4-May-10                               |
| WK18         | 2-May-10     | 8-May-10   | 11-May-10                              |
| WK19         | 9-May-10     | 15-May-10  | 18-May-10                              |
| WK20         | 16-May-10    | 22-May-10  | 25-May-10                              |
| WK21         | 23-May-10    | 29-May-10  | 1-Jun-10                               |
| WK22         | 30-May-10    | 5-Jun-10   | 8-Jun-10                               |
| WK23         | 6-Jun-10     | 12-Jun-10  | 15-Jun-10                              |
| WK24         | 13-Jun-10    | 19-Jun-10  | 22-Jun-10                              |
| WK25         | 20-Jun-10    | 26-Jun-10  | 29-Jun-10                              |
| WK26         | 27-Jun-10    | 3-Jul-10   | 6-Jul-10                               |
| WK27         | 4-Jul-10     | 10-Jul-10  | 13-Jul-10                              |
| WK28         | 11-Jul-10    | 17-Jul-10  | 20-Jul-10                              |
| WK29         | 18-Jul-10    | 24-Jul-10  | 27-Jul-10                              |
| WK30         | 25-Jul-10    | 31-Jul-10  | 3-Aug-10                               |
| WK31         | 1-Aug-10     | 7-Aug-10   | 10-Aug-10                              |
| WK32         | 8-Aug-10     | 14-Aug-10  | 17-Aug-10                              |
| WK33         | 15-Aug-10    | 21-Aug-10  | 24-Aug-10                              |
| WK34         | 22-Aug-10    | 28-Aug-10  | 31-Aug-10                              |
| WK35         | 29-Aug-10    | 4-Sep-10   | 7-Sep-10                               |

## APPENDIX - I

### Definitions for influenza activity levels:

**No Data:** No activity report corresponding to the surveillance week was received at the Ministry of Health and Long-Term Care Call Centre by the Tuesday (at 4 p.m.) following the end of the surveillance period.

**No Activity:** **No laboratory-confirmed\* influenza and NO outbreaks detected** within the health unit/ influenza surveillance area, within the prior week, although sporadically occurring ILI may or may not be present.†

**Sporadic:** Sporadically (infrequently) occurring **ILI and at least one lab-confirmed influenza\* case with NO outbreaks** detected within the health unit area.†

**Localized:** sporadically occurring **ILI and lab-confirmed influenza\* together with outbreaks of ILI** in schools§ and work sites, or laboratory-confirmed influenza in residential institutions occurring in < 50% of the health unit. Outbreaks affect a single and/or adjacent geographic area within the health unit jurisdiction, e.g. outbreaks in a nursing home and a school in close proximity to each other.†

**Widespread:** sporadically occurring **ILI and lab-confirmed influenza\* together with outbreaks of ILI** in schools and work sites, or laboratory-confirmed influenza in residential institutions occurring in > 50% of the health unit. Outbreaks affect multiple and non-adjacent geographic areas within the health unit jurisdiction, such as two or more regions of the health unit, two or more municipalities, two or more electoral wards, etc.†

\* Confirmation of influenza within the surveillance region at any time within the prior week

† Sub-regions within the province or territory as defined by the provincial/territorial epidemiologist

§Health units have been requested to consider laboratory confirmed pH1N1 outbreaks in camps in their region when evaluating ILI activity levels

### Influenza-Like Illness (ILI) Definitions:

#### A) ILI in the general population:

Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which could be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

#### B) ILI/Influenza outbreaks:

**Schools and work sites:** greater than 10% absenteeism on any day, most likely due to ILI.

**Residential institutions:** two or more cases of ILI within a seven-day period, **including at least one laboratory confirmed case.**

### Current Provincial Surveillance Case Definition for pH1N1 (as of May 5, 2009):

#### Confirmed

Person with or without Influenza-like illness<sup>1</sup> and

Laboratory confirmation of swine influenza A (H1N1) virus infection by one or more of the following tests:

- RT-PCR with genotyping of H1 and/or N1 swine influenza virus
- Viral culture with strain typing
- Four-fold rise in swine influenza A(H1N1) virus specific antibodies by serology testing

<sup>1</sup>Influenza-like illness: Acute onset of respiratory illness with fever AND one or more of the following - cough, sore throat, arthralgia, myalgia, prostration, or malaise. In cases under 5 or 65 and older fever may not be prominent.