

**Ontario Agency for Health Protection and Promotion Laboratory Pandemic H1N1 Surveillance Report
Information current as of: Monday November 9, 2009**

This report summarizes patient specimens (1 specimen/patient) collected and received at OAHPP Public Health Laboratories (PHL) in Ontario for pandemic H1N1 influenza virus (pH1N1) testing since September 1, 2009. This information is current as of Monday November 9, 2009 and is updated weekly.

Specimen collection date is used in this weekly report to classify the specimens submitted and tested by time. A daily summary is also prepared which uses the date the specimen was logged into the PHL electronic system. Because of these differences, numbers may not always match accordingly.

The PHL performs the majority of testing for pH1N1; however, several hospital laboratories also perform pH1N1 testing. The numbers reported here may not reconcile precisely with those reported through the integrated Public Health Information System (iPHIS) since results from hospital laboratories may be entered into iPHIS without being entered into the PHL database.

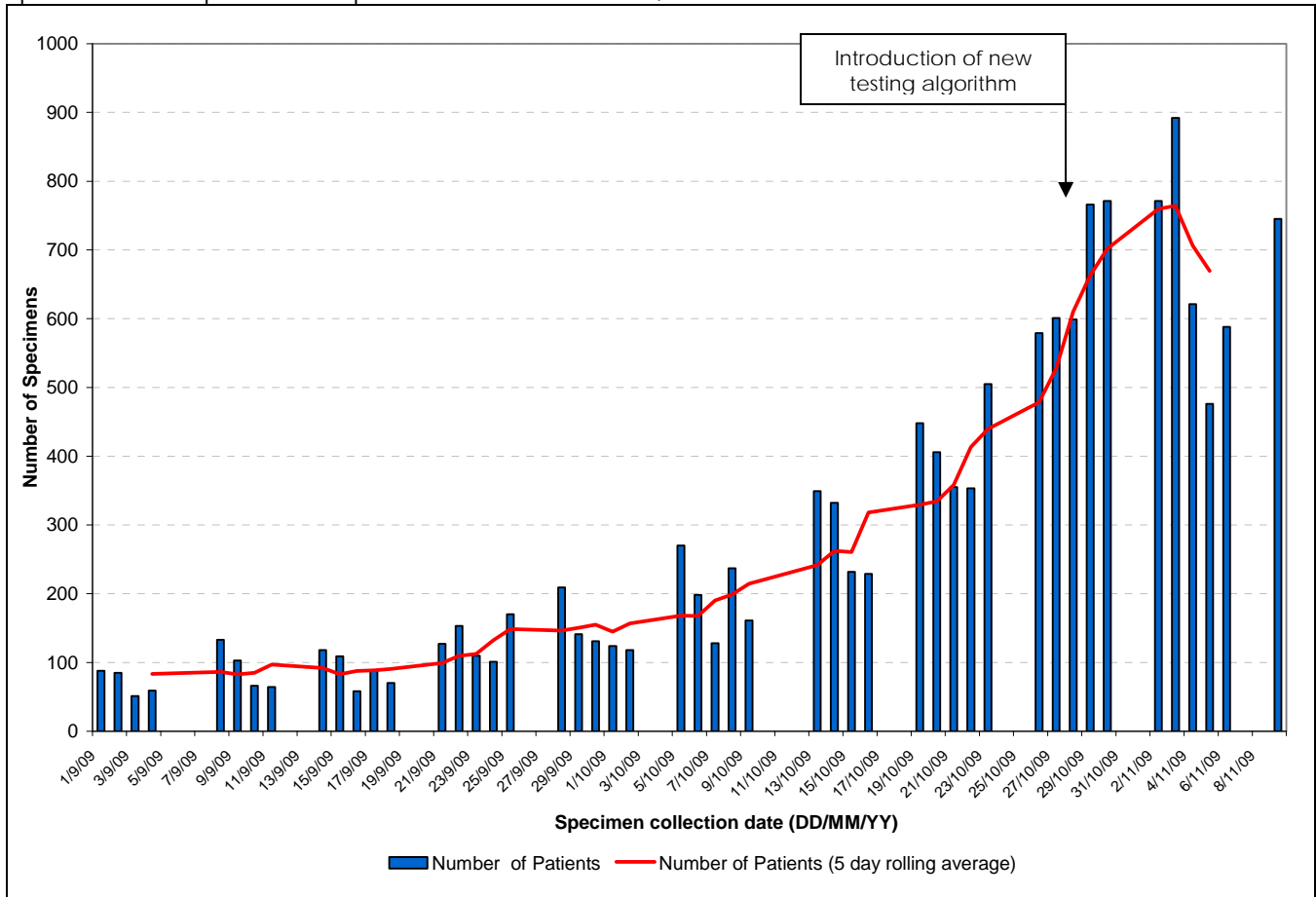
RECENT CHANGE IN LAB TESTING ALGORITHM:

Starting the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples. As the pre-test probability for an influenza A positive sample testing positive for pH1N1 is currently 99%, the percent positive for influenza A will be reported instead of the percent positive for pH1N1. Note that influenza A positivity rates are only reported for influenza A tests performed at the OAHPP laboratories. For additional details on changes to the laboratory testing algorithm, please see the November Lababstract at www.oahpp.ca.

Lab Submissions

Figure 1 displays the daily number of patient specimens (1 specimen/patient) received at PHL for pH1N1 testing since September 1, 2009, as well as a five-day rolling average. Rolling averages offer a method of smoothing time series data to reduce the effects of random variation and reveal underlying trends. The total number of patients with specimens received as of November 9, 2009 is 14,265. This number includes all specimens received, irrespective of testing status and also includes rejected specimens. The number of specimen submissions remained relatively constant in the first three weeks of September. However, this number has been steadily increasing in the past four weeks. There were 4174 specimens received for pH1N1 testing during the 7 day period between November 2 - November 9, 2009; 29.3% of the total received since September 1. The five-day rolling average has steadily increased since the beginning of October, however, within the most recent week has begun to decline.

Figure 1. The number of specimens received (1/patient) at PHL/OAHPP for pH1N1 testing by date. Specimen receipt dates: September 1- November 9, 2009.



Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

Case Statistics

Between September 1 and November 9, 2009, a total of 11,653 patient specimens and isolates (1/patient) have been submitted for pH1N1 testing at the PHL and entered into the PHL electronic system. This number does not include rejected samples or samples for which testing has been cancelled. 11,165 of the samples were submitted to PHL directly for influenza A testing and subsequent pH1N1 subtyping. The additional samples, tested for influenza A at hospitals, were forwarded to the PHL to be subtyped for pH1N1. The majority of specimens received at PHL, which have been approved for testing, are first tested for influenza A by real-time reverse transcriptase (RT) polymerase chain reaction (PCR). A subset of samples is tested by viral culture. Subtyping of positive influenza A tests is done to determine if samples are pH1N1 or seasonal H1/H3. Currently subtyping is being performed on 20% of influenza A tests, in addition to all intensive care patients and outbreak samples. For Influenza A real-time RT-PCR negative samples, 20% are followed up with viral culture to look for other viral pathogens. Viral culture analyses take considerably longer to process than analyses by real-time RT-PCR. The number of patient specimens and isolates submitted for pH1N1 testing by test result (or status) by collection date is displayed in **Figure 2**. The percentage of all patient specimens tested by RT-PCR and viral culture that have detected influenza A (percent positive Influenza A for RT-PCR and viral culture) in addition to the percentage of all subtyped specimens that have detected pH1N1 (percent positive pH1N1 for subtyped cases) across specimen collection weeks are displayed in **Table 1**. The percent positive pH1N1 for resulted subtyping has remained extremely high and stable since September 1st, 2009 indicating that the vast majority of influenza A positive tests are pH1N1. Due to the high percentage of

pH1N1 for resulted influenza A subtyping we can use the percent positive of influenza A tests as a proxy for the percent positive pH1N1 for all specimens submitted for testing. The highest influenza A percent positive since September 1st, 2009 reached 60.3% on October 27, 2009. At the height of the Spring/Summer pH1N1 outbreak, percent positive pH1N1 reached approximately 54% (Source: OAHPP Laboratory Pandemic H1N1 Surveillance Report: Tuesday September 22, 2009).

Figure 3 displays the number of influenza A cases detected, the total number of patients tested, as well as the 5 day rolling averages for total number of patients tested and the number of pH1N1 cases confirmed by laboratory results (average of the current date, 2 preceding and 2 following dates), by specimen collection date.

Since September 1, 2009, 10,169 patient specimens and isolates have been tested for influenza A at the PHL. Influenza A virus has been identified in 3,342 (32.9%) of the patients tested at PHL; an additional 488 patient specimens that tested positive for influenza A at hospital laboratories were forwarded to the PHL to be subtyped for pH1N1. Of all specimens and isolates subtyped for pH1N1, 2500 cases of pH1N1 have been detected. There are 1251 specimens that have been confirmed positive for influenza A but have not been subtyped. Two cases of seasonal influenza (H3) have been detected (**Table 1**). Seventy-four samples tested positive for influenza A but were indeterminate for pH1N1.

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Specimen collection date*	pH1N1 Cases	Positive influenza A, not subtyped	Seasonal H1/H3 influenza	Positive influenza A – indeterminate pH1N1	Positive influenza A – unsubtypeable	Indeterminate & negative influenza A	Total cases tested**	Percent positive influenza A % RT-PCR	Percent Positive influenza A %(n) Viral culture	Percent Positive (%) pH1N1 for influenza A subtyped cases
Sep. 1 – Sep. 5	2	8	0	0	0	241	251	3.5	5.8	100.0
Week 36 (Sep. 6 – 12)	2	3	1	0	0	334	340	1.6	2.1	66.7
Week 37 (Sep. 13 – 19)	11	3	1	1	0	436	452	4.9	0.0	84.6
Week 38 (Sep. 20 – 26)	27	1	0	1	0	558	587	6.0	0.8	96.4
Week 39 (Sep. 27 – Oct. 3)	59	3	0	0	0	600	662	10.9	1.7	100.0
Week 40 (Oct. 4 – 10)	125	3	0	3	0	741	872	13.8	10.2	97.7
Week 41 (Oct. 11 – 17)	293	11	0	4	0	806	1114	20.9	26.0	98.7
Week 42 (Oct. 18 – 24)	911	57	0	14	0	1066	2048	38.5	52.6	98.5
Week 43† (Oct. 25 – 31)	840	572	0	36	0	1211	2659	47.7	77.6	95.9
Week 44*** (Nov. 1 – 7)	230	590	0	15	0	840	1675	46.1	98.7	93.9
Total	2500	1251	2	74	0	6833	10660	31.8 (n=8400)	37.9(n=1779)	97.0

Table 1. Patient test results for specimens collected between September 1 and November 7, 2009, tested at the PHL in Ontario.

Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

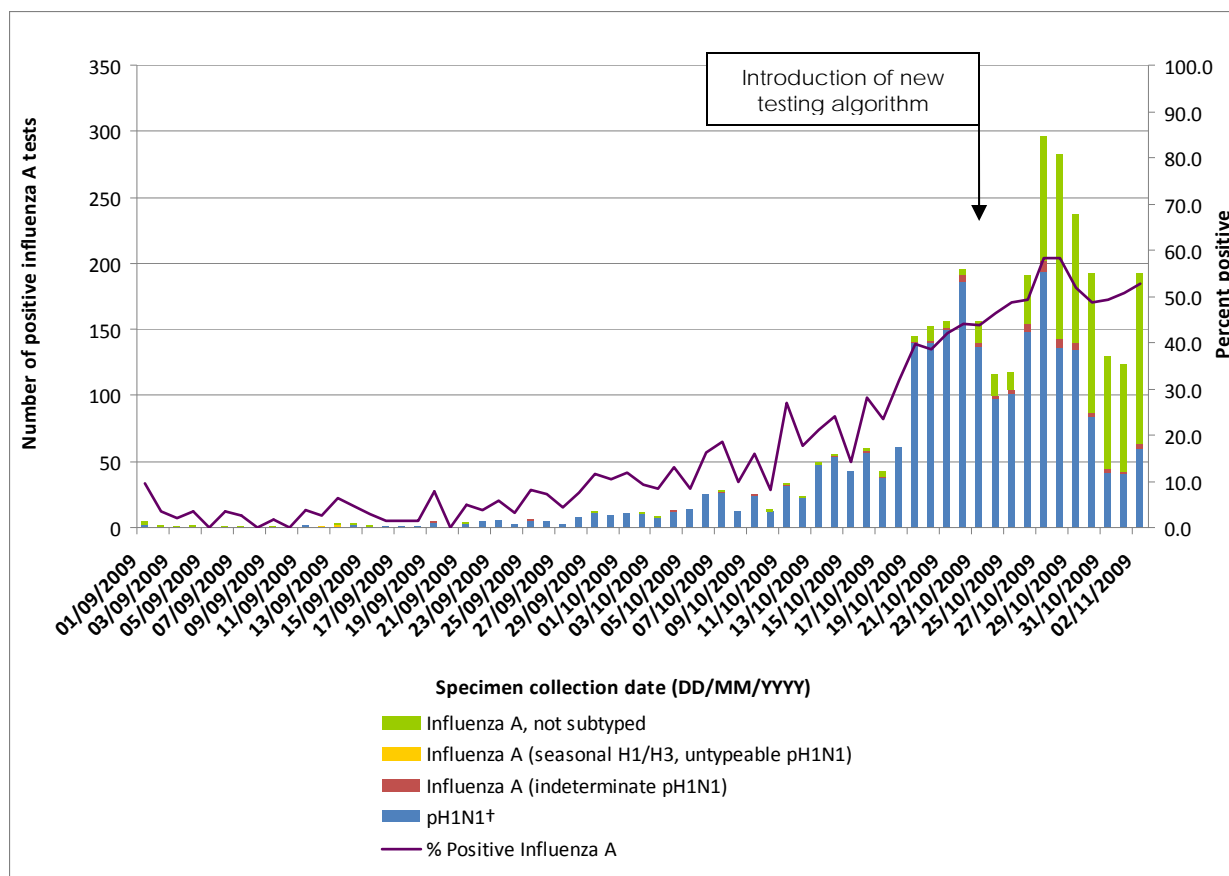
* For 666 specimens, no specimen collection date was available; the date the specimen was received at the lab has been used as a proxy.

** **This number includes specimens for which the primary detection was not completed at the PHL (N=488)**

*** Because of the lag in time from the date the specimen was collected to the date the final test result is confirmed, not all cases with specimens collected during the most recent week are included in this summary.

†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

Figure 2. The number of positive test results and the percent positive for influenza A, by subtype (pH1N1, seasonal H1/H3, negative & indeterminate pH1N1 or pending subtype), for specimen collection dates* September 1 – November 2, 2009, 2009**.



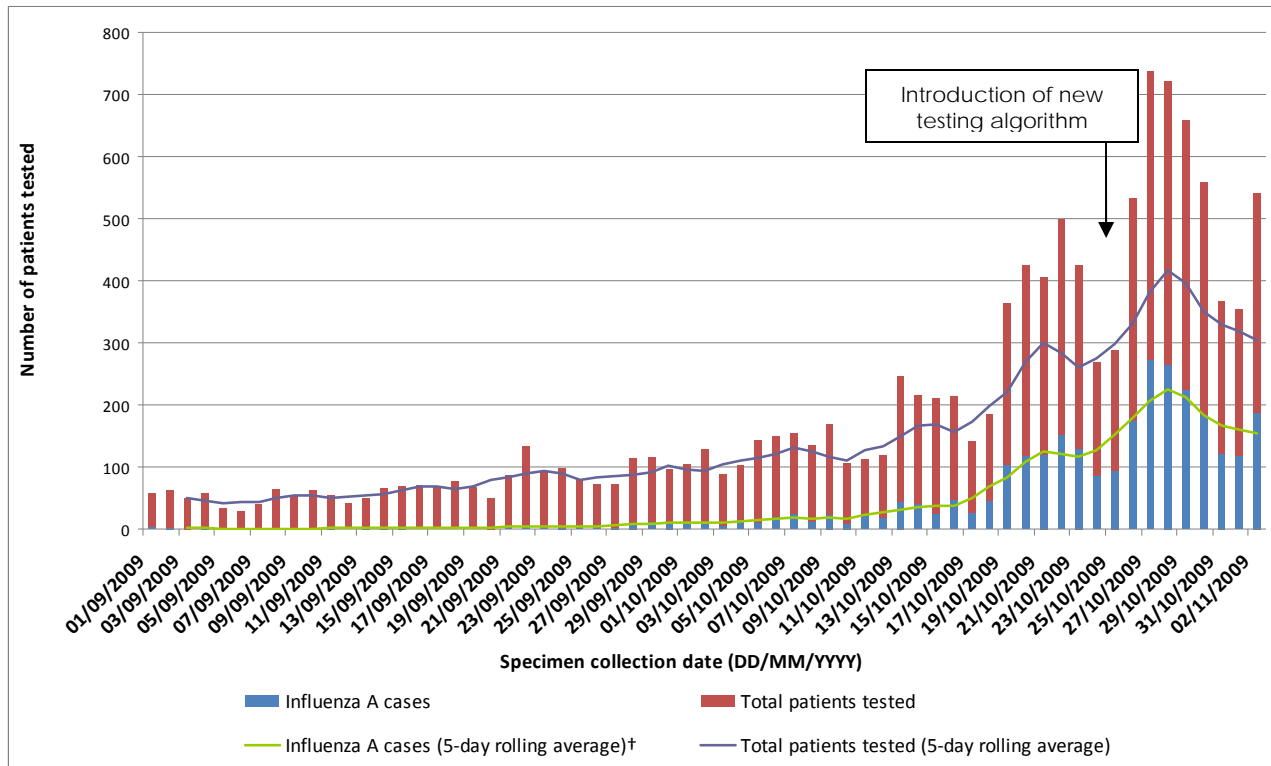
Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

* For 666 specimens, no specimen collection date was available; the date the specimen was received at the lab has been used as a proxy.

**Data collected since November 2nd, 2009 has been excluded from Figures 3. Since not all specimens collected on those dates have test results available, the data from those days may not reflect the current situation.

†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

Figure 3. Total counts and 5 Day rolling averages of the number of influenza A cases and number of patients tested, by specimen collection* dates September 1 - November 2, 2009**.



Source: PHL, Ontario Agency for Health Protection and Promotion (OAHP).

* For 666 specimens, no specimen collection date was available; the date the specimen was received at the lab has been used as a proxy.

**Data collected since November 2nd, 2009 has been excluded from Figures 3. Since not all specimens collected on those dates have test results available, the data from those days may not reflect the current situation.

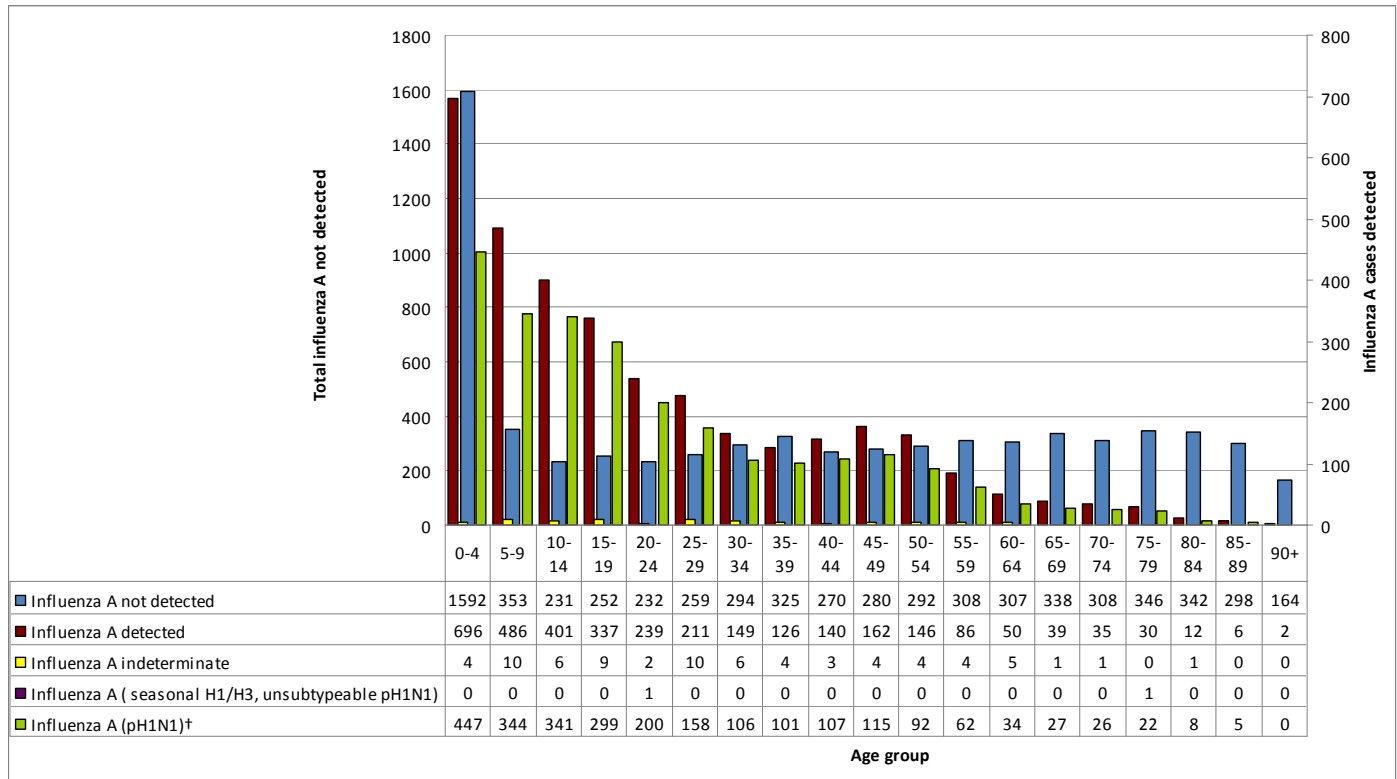
†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

Sex and Age Distribution

Over half (52.5%; n=5992) of all patient specimens submitted for testing for pH1N1 were from female patients. Males made up 47.5% (n=5419) of patients and sex was not reported for 242 of patients. Females make up 51.7% (n=1263) of all lab confirmed cases of pH1N1 detected. Males made up 48.3% (n=1181) of confirmed pH1N1 cases. Sex was not reported for 56 cases.

The age distribution of patients by pH1N1 test result since September 1, 2009 is shown in **Figure 4**. The largest amount of pH1N1 cases occurred in children under the age of five, with 447 cases (17.9%). Children aged 0-19 represent over half of the cases (57.4%; n=1431). There were 358 cases of pH1N1 among adults aged 20-29 (14.4%). Adults aged 30-59 make up 23.4% of pH1N1 cases (n=583). 122 pH1N1 cases occurred among adults 60 years of age and older.

Figure 4. Age distribution of patients tested at PHL for influenza A by test result, for specimens collected between September 1- November 9, 2009*.



Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

*Note: Age was not available for 28 patients.

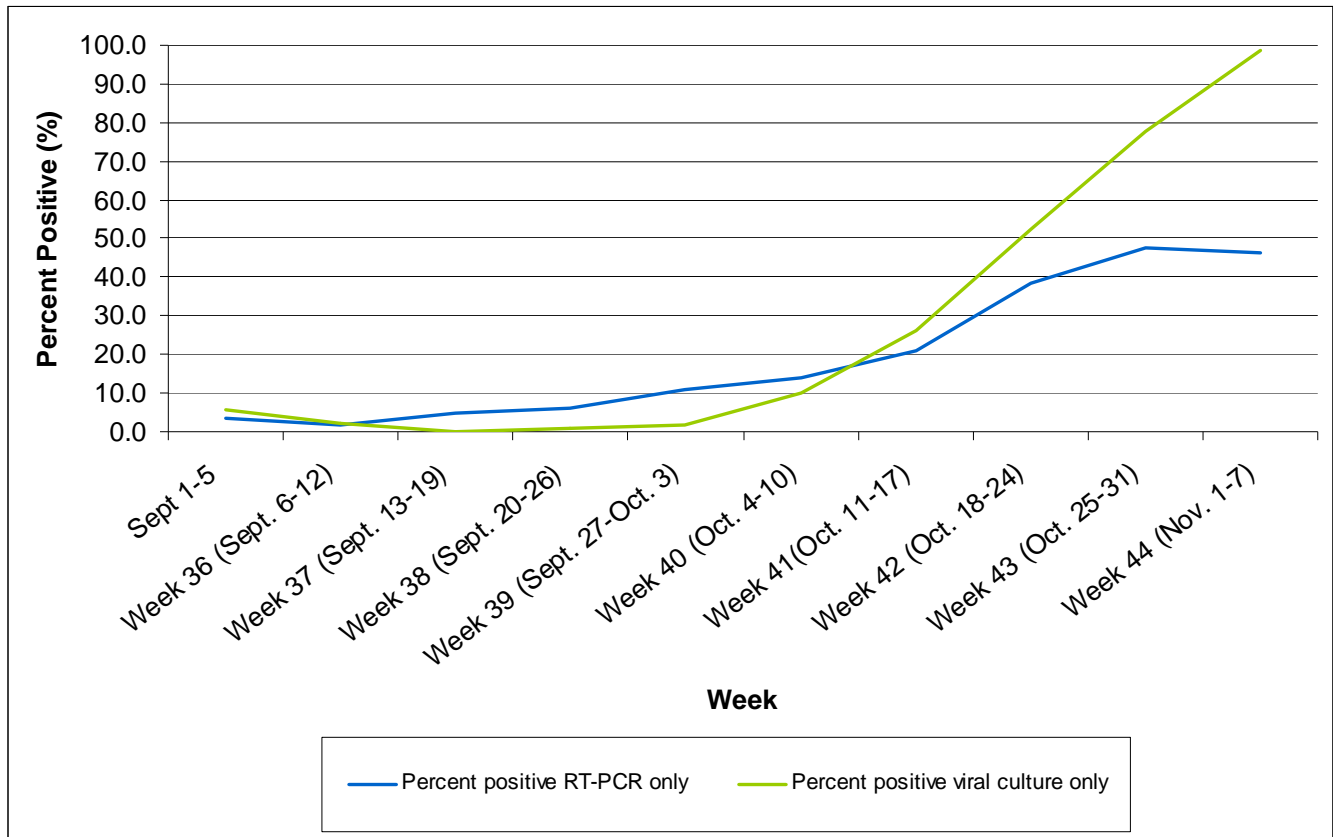
†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

Second wave peak

It is hard to know with any certainty when a peak in activity has been reached. However, this is easiest to identify in retrospect. To date various indicators (specimen submission, percent positive, activity at local health unit level) reveal that Ontario may be at or close to passing the peak activity in terms of infections. Note that the peak in hospitalizations and/or deaths would be anticipated to follow the peak in infections because of the lag between the onset of infection and hospitalization or death.

The percent positive for influenza A by testing method (PCR and viral culture) is shown in **Figure 5**. The percentage of specimens positive for influenza by RT-PCR appears to be levelling off for the two most recent weeks at 47%, while the percentage positive for influenza A by viral culture continues to increase. Over 98% of these specimens tested positive in the most recent reporting week. Percent positivity by RT-PCR provides a better indicator of the overall trend given that this test is performed on the majority of patient specimens, while viral culture is only performed on a subset of specimens (i.e. 8400 RT-PCR tests compared to 1779 viral cultures).

Figure 5: Percent positive of influenza A tests conducted by RT-PCR and viral culture at the public health labs from September 1st, 2009 to November 7th, 2009



Public Health Unit

The cumulative number of specimens submitted for pH1N1 testing, submission rates, number of lab-confirmed cases and percent positives by PHU, since September 1, 2009, are displayed in **Table 2**. The number of pH1N1 cases detected in Weeks 43 and 44, as well as the total number of specimens submitted, by public health unit (PHU), is displayed in **Tables 3 and 4**. Rates of the submission of specimens for pH1N1 testing and percent positive by PHU are also displayed. A map of pH1N1 cases by PHU and specimen collection week is displayed in **Figure 6**. Each ring on the map represents one week, with the most recent full week (Week 44 – November 1 – November 6) as the outermost ring. The rings are divided into sections representing each PHU in Ontario. The map of Ontario includes the cumulative number of pH1N1 cases by PHU since the beginning of the outbreak. At the PHL, a patient is sorted into a PHU based on their place of residence. If this information is not available, the address of the physician who submitted the sample is used to classify patients into PHUs. As a result, pH1N1 cases may not necessarily be residents of the PHU in which they have been classified.

Cumulative: September 1 – November 9

Since, September 1, the highest submission rates for specimens being tested for pH1N1 observed were from the Porcupine (507.4 submissions/100,000 persons) and Northwestern (274.4 = submissions/100,000 persons) PHUs. The Toronto area had the highest number of influenza A cases in the province (n=404) during this time period, followed by Peel Region (n=252) and Porcupine (n=210) (**Table 2**). Percent positive for influenza A was greatest in Hamilton, with 52.6% of samples tested yielding positive results.

Week 43: October 25 – October 31

In the recent full week, Porcupine (181.8 submissions/100,000 persons) and Timiskaming (87.7 submissions/100,000 persons) PHUs had the highest submission rates for specimens to be tested for pH1N1. In Week 43, 840 new cases of pH1N1 and 1336 new influenza A cases have been identified to date. The greatest number of influenza A cases was identified in Toronto (n=165). This was followed by Porcupine (n=101) and Peel Region (n=98)(**Table 3**).

Most recent full week: November 1 – November 7 (Week 44)

In the most recent full week, Porcupine (86.7 submissions/100,000 persons) and Algoma (55.1 submissions/100,000 persons) PHUs had the highest submission rates for specimens to be tested for pH1N1. In Week 44, 230 new cases of pH1N1 and 809 new influenza A cases have been identified to date. The greatest number of cases was identified in Toronto (n=130) followed by Peel Region (n=90), and Simcoe Muskoka District (n=51) (**Table 4**).

Table 2. Number of pH1N1 specimens submitted for testing, pH1N1 cases, percent positive and submission rate (/100,000) by PHU. Specimen collection dates: September 1- November 9, 2009.

Public Health Unit	Total number of specimens submitted	Submission rate (/100,000)	Number of lab confirmed cases of pH1N1*†	Number of lab confirmed Influenza A cases	Percent positive (%) influenza A**
Algoma District	272	234.0	43	83	33.2
Brant County	129	103.1	21	39	37.1
Chatham-Kent	96	88.4	23	37	46.3
City of Hamilton	373	73.9	247	110	52.6
City of Ottawa	70	8.6	15	22	32.8
City of Toronto	2130	85.1	240	404	21.4
Durham Regional	402	71.6	101	120	34.2
Eastern Ontario	213	111.8	86	96	48.5
Elgin-St. Thomas	73	85.5	15	33	50.0
Grey Bruce	258	163.5	27	80	34.0
Haldimand-Norfolk	83	77.0	28	36	52.2
Haliburton-Kawartha-Pine Ridge District	150	87.4	33	38	28.4
Halton Regional	417	94.9	113	106	30.8
Hastings & Prince Edward Counties	224	143.6	76	67	36.2
Huron County	104	175.3	20	42	45.7
Kingston-Frontenac and Lennox & Addington	356	193.1	118	116	40.4
Lambton	122	95.2	28	44	37.6
Leeds-Grenville and Lanark District	142	87.1	38	55	41.7
Middlesex-London	227	53.7	124	92	58.6
Niagara Regional Area	362	84.7	97	146	43.1
North Bay Parry Sound District	183	149.0	34	57	32.4
Northwestern	221	274.4	48	69	35.0
Oxford County	100	97.3	23	42	45.2
Peel Regional	1292	111.4	154	252	22.0
Perth District	136	182.9	25	39	31.7
Peterborough County-City	129	96.9	37	56	45.2
Porcupine	427	507.4	158	210	50.2
Renfrew County & District	47	47.3	10	16	37.2
Simcoe Muskoka District	754	157.2	91	158	25.4
Sudbury & District	236	122.7	43	78	37.0
Thunder Bay District	277	179.8	68	116	44.3
Timiskaming	79	230.9	28	34	45.3
Waterloo	264	55.2	66	104	43.5
Wellington-Dufferin-Guelph	245	96.1	27	61	27.4
Windsor-Essex County	313	79.6	82	113	45.4
York Regional	700	78.4	101	178	28.9
Out of Province/Not Available	47	N/A	12	13	30.2
Grand Total	11653	95.8	2500	3362	33.1

Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

**Percent positive influenza A is calculated based on the number of specimens where testing has been completed. This may not equal the number of specimens submitted for testing.

†Commencing during the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples, as per the new testing algorithm.

Table 3. Number of pH1N1 specimens submitted for testing, pH1N1 cases, percent positive and submission rate (/100,000) by PHU. Specimen collection dates: October 25–October 31, 2009(Week 43).

Public Health Unit	Total number of specimens submitted	Submission rate (/100,000)	Number of lab confirmed cases of pH1N1*†	Number of lab confirmed Influenza A cases	Percent positive (%) influenza A**
Algoma District	60	51.6	17	30	52.6
Brant County	34	27.2	7	21	70.0
Chatham-Kent	24	22.1	5	10	58.8
City of Hamilton	74	14.7	45	36	69.2
City of Ottawa	15	1.8	3	6	42.9
City of Toronto	456	18.2	104	165	43.7
Durham Regional	94	16.7	29	49	58.3
Eastern Ontario	52	27.3	25	32	65.3
Elgin-St. Thomas	23	26.9	5	17	73.9
Grey Bruce	76	48.2	7	42	61.8
Haldimand-Norfolk	21	19.5	5	13	68.4
Haliburton-Kawartha-Pine Ridge District	40	23.3	13	17	48.6
Halton Regional	93	21.2	32	37	48.1
Hastings & Prince Edward Counties	59	37.8	23	22	44.0
Huron County	33	55.6	6	23	74.2
Kingston-Frontenac and Lennox & Addington	57	30.9	26	20	54.1
Lambton	39	30.4	10	15	39.5
Leeds-Grenville and Lanark District	32	19.6	7	14	46.7
Middlesex-London	40	9.5	14	10	45.5
Niagara Regional Area	106	24.8	33	59	56.7
North Bay Parry Sound District	50	40.7	17	35	77.8
Northwestern	64	79.5	21	30	57.7
Oxford County	28	27.2	7	13	56.5
Peel Regional	289	24.9	61	98	36.3
Perth District	39	52.5	9	18	48.6
Peterborough County-City	40	30.1	13	23	60.5
Porcupine	153	181.8	82	101	68.7
Renfrew County & District	11	11.1	1	6	54.5
Simcoe Muskoka District	220	45.9	50	70	45.8
Sudbury & District	75	39.0	22	40	55.6
Thunder Bay District	92	59.7	34	60	70.6
Timiskaming	30	87.7	18	19	63.3
Waterloo	77	16.1	16	43	63.2
Wellington-Dufferin-Guelph	63	24.7	5	20	37.7
Windsor-Essex County	84	21.4	22	37	53.6
York Regional	175	19.6	39	78	53.1
Out of Province/Not Available	11	N/A	7	7	63.6
Grand Total	2929	24.1	840	1336	52.9

Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

**Percent positive influenza A is calculated based on the number of specimens where testing has been completed. This may not equal the number of specimens submitted for testing

†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

Table 4. Number of pH1N1 specimens submitted for testing, pH1N1 cases, percent positive and submission rate (/100,000) by PHU. Specimen collection dates: Nov. 1– Nov. 7, 2009 (Week 44).

Public Health Unit	Total number of specimens submitted	Submission rate (/100,000)	Number of lab confirmed cases of pH1N1*†	Number of lab confirmed Influenza A cases	Percent positive (%) influenza A**
Algoma District	64	55.1	7	31	66.0
Brant County	21	16.8	1	5	62.5
Chatham-Kent	27	24.9	1	8	42.1
City of Hamilton	30	5.9	6	14	56.0
City of Ottawa	14	1.7	1	5	38.5
City of Toronto	444	17.7	31	130	40.8
Durham Regional	71	12.7	7	31	53.4
Eastern Ontario	17	8.9	2	5	55.6
Elgin-St. Thomas	16	18.7	0	5	50.0
Grey Bruce	36	22.8	0	14	63.6
Haldimand-Norfolk	14	13.0	3	8	66.7
Haliburton-Kawartha-Pine Ridge District	27	15.7	4	9	45.0
Halton Regional	69	15.7	9	17	41.5
Hastings & Prince Edward Counties	39	25.0	7	15	51.7
Huron County	17	28.7	1	3	42.9
Kingston-Frontenac and Lennox & Addington	46	24.9	0	6	42.9
Lambton	22	17.2	4	12	63.2
Leeds-Grenville and Lanark District	24	14.7	5	14	73.7
Middlesex-London	32	7.6	5	11	61.1
Niagara Regional Area	84	19.7	3	33	41.3
North Bay Parry Sound District	30	24.4	7	13	44.8
Northwestern	39	48.4	18	25	69.4
Oxford County	15	14.6	1	9	64.3
Peel Regional	311	26.8	32	90	43.5
Perth District	12	16.1	0	5	83.3
Peterborough County-City	24	18.0	3	10	43.5
Porcupine	73	86.7	14	42	60.0
Renfrew County & District	15	15.1	3	5	41.7
Simcoe Muskoka District	149	31.1	9	51	49.5
Sudbury & District	65	33.8	8	25	51.0
Thunder Bay District	61	39.6	17	32	59.3
Timiskaming	13	38.0	2	7	70.0
Waterloo	33	6.9	2	16	66.7
Wellington-Dufferin-Guelph	48	18.8	1	19	47.5
Windsor-Essex County	78	19.8	6	38	64.4
York Regional	149	16.7	10	45	41.7
Out of Province/Not Available	6	N/A	0	1	20.0
Grand Total	2235	18.4	230	809	49.4

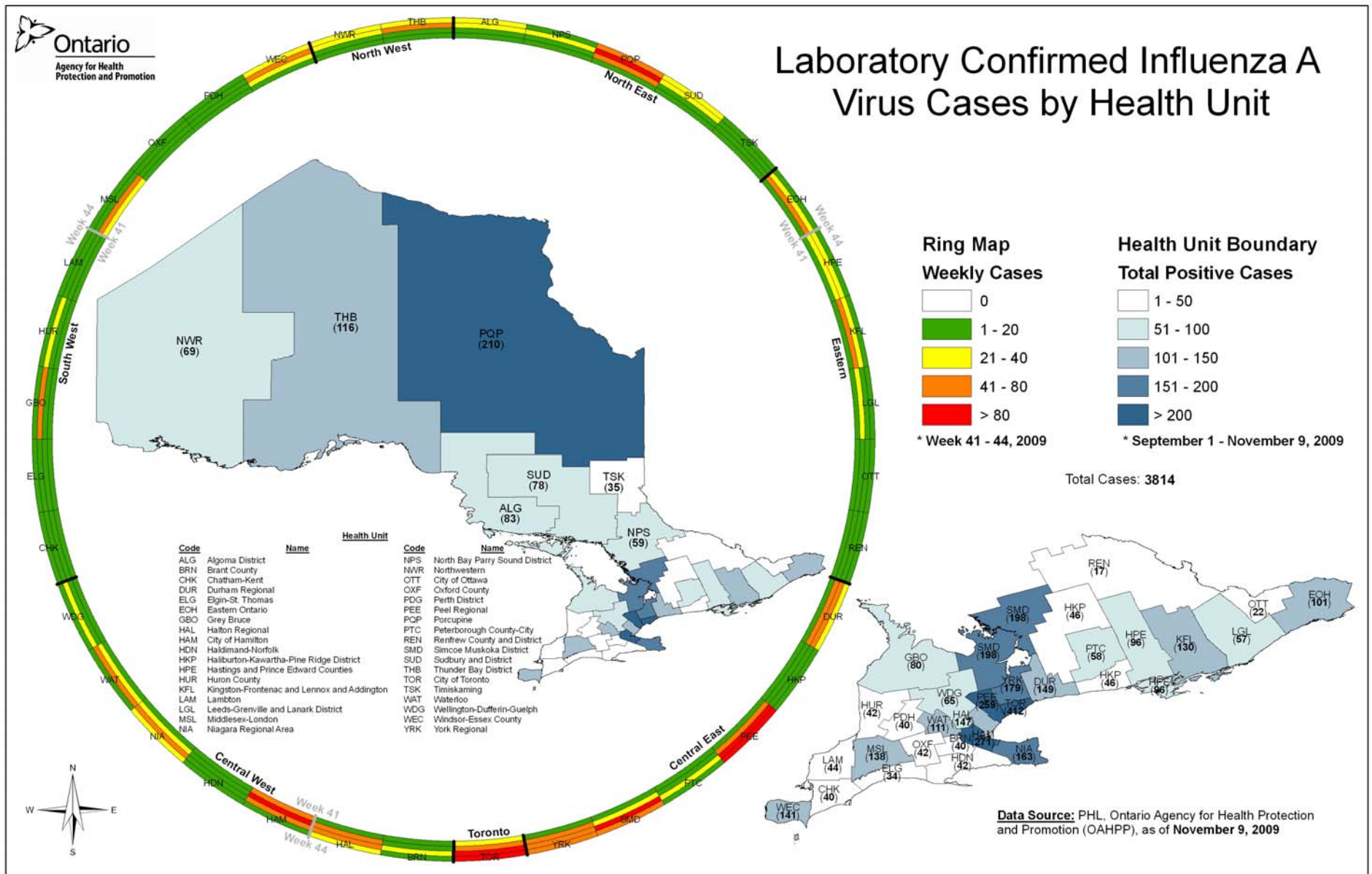
Source: PHL, Ontario Agency for Health Protection and Promotion (OAHPP).

†Commencing the week of Oct 25-31st, 2009, subtyping will be only performed on 20% of influenza A positive tests, in addition to all intensive care patients and outbreak samples.

**Percent positive influenza A is calculated based on the number of specimens where testing has been completed. This may not equal the number of specimens submitted for testing

*** Because of the lag in time from the date the specimen was collected to the date the final test result is confirmed, not all cases with specimens collected during the most recent week are included in this summary.

Figure 6. Map of the laboratory confirmed influenza A cases by PHU. Weekly cases are represented in the ring map, and the total number of positive influenza A cases is represented in brackets in the map of Ontario (PHU was not available for 13 influenza A cases).



Ontario Influenza Vaccine Effectiveness Program: Weekly Report.

Information current as of: November 6, 2009

Background: The Ontario Influenza Vaccine Effectiveness (VE) Program is part of a national surveillance system that monitors circulating influenza viruses. Through a case-control design, laboratory testing results are linked with patient's epidemiological information to measure the effectiveness of yearly influenza vaccine. Ontario joined the VE study in the 2006/07 influenza season along with British Columbia, Alberta and Quebec. The Ontario VE program represent a collaborations of OAHPP Public Health Laboratories and Surveillance and Epidemiology teams, the Ontario Ministry of Health and Long Term Care (MOHLTC), the College of Physicians and a network of 115 sentinel physicians across the province. Sentinel physicians who volunteer to join the VE study submit respiratory specimens (nasal or nasopharyngeal) for influenza testing along with vaccine history and other epidemiologic information collected from eligible consenting participants from community presenting within 7 days of onset of influenza like illness (ILI). ILI is defined as acute onset of respiratory illness with fever and cough and with one or more of the following: sore throat, arthralgia, myalgia or prostration. Sentinel physicians are exempted from any restrictions placed on other clinicians who submit respiratory specimens. Sentinel physicians are permitted to collect specimens without restrictions as they contribute to national and provincial influenza surveillance systems.

At the Toronto Public Health Laboratory (TPHL) specimens are tested for influenza A/B and subtypes (seasonal H1N1 and H3N2, and pH1N1). They are also screened for a panel of common respiratory viruses and cultured for antigenic strain characterization (performed at the National Microbiology Laboratory (NML)). Lab results are merged with epidemiological data to calculate VE from cases and controls with adjustments for covariates such as age and chronic conditions. Data in this report represents VE specimens (1specimen/1patient) tested at TPHL since the beginning of September up to November 6, 2009. Rejected specimens are not included in the analyses.

Figure 1 shows that starting from September 1, the number of VE specimens submitted to be tested for influenza and the number of specimens tested positive for influenza A has been consistently increasing, reaching the peak on Week 9 at 177 specimens. Since October 30, there was a slight decrease in the number of VE specimens submitted and the number of specimen tested positive for influenza A. The percentage of specimens that tested positive for influenza A was also decreased during week 44 compared to the previous week from 67.8 % to 63.2 %, respectively. The predominant virus strain was pandemic H1N1 influenza (pH1N1). There was a slight increase in the number of specimens that were indeterminate for pH1N1 and were unable to be subtyped (Flu A positive/ negative for seasonal influenza (sH3N2 and sH1N1)) at 5.8 % and 3.8 % of the total number of specimens tested respectively.

Figure 1. Weekly epidemic curve of influenza for VE specimens, Sept 1- Nov 6, 2009

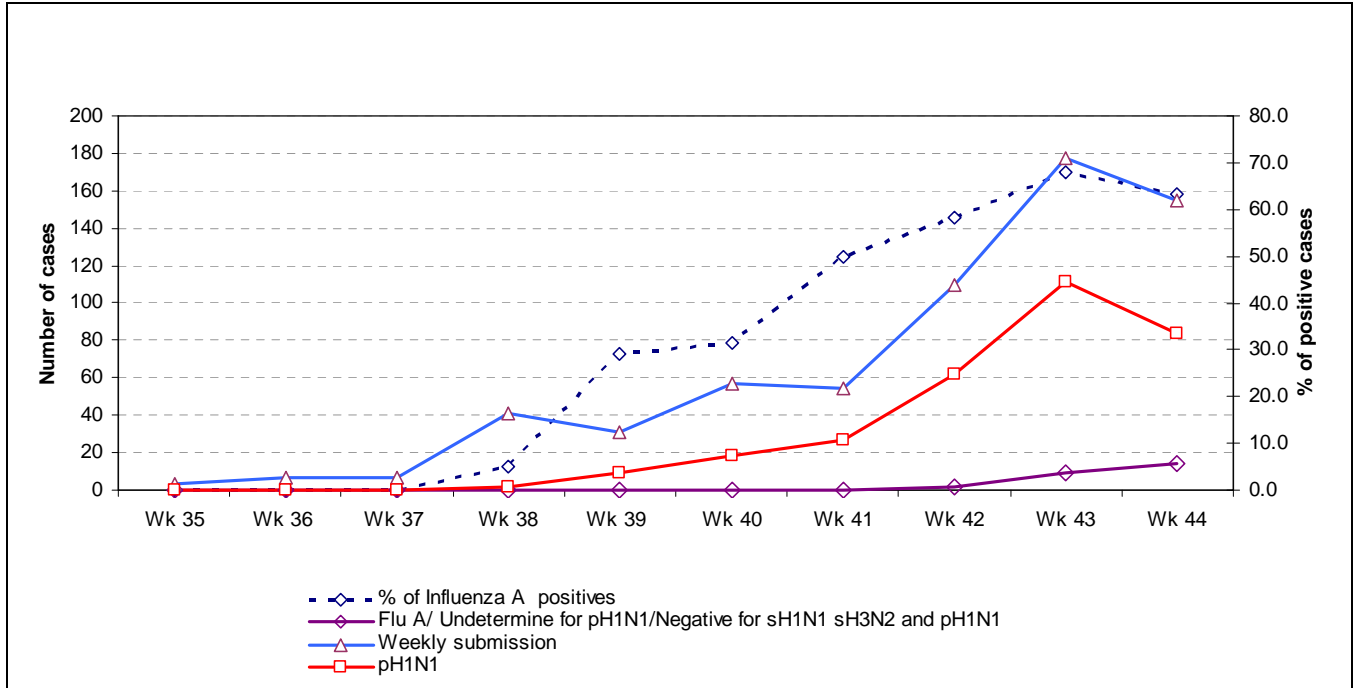


Figure 2 shows the distribution of age of influenza A positive patients (cases) and influenza A negative patients (controls). Influenza A was more commonly detected in younger age groups, with the most cases detected in the 15-19 year age group. Seventy three per cent of cases were between the ages 0-24. Influenza detection was less common in older age groups. In samples tested from individuals 60 and over, 3/42 were positive for influenza A and all of them were positive for pH1N1. Influenza A (negative for sH1N1, sH3N2 and pH1N1) that was unable to be subtyped and influenza A -indeterminate for pH1N1 were more common in the age interval of 0-49 years.

Figure 2. Age distribution of VE patients tested for influenza by influenza subtype, September 1 – November 6.

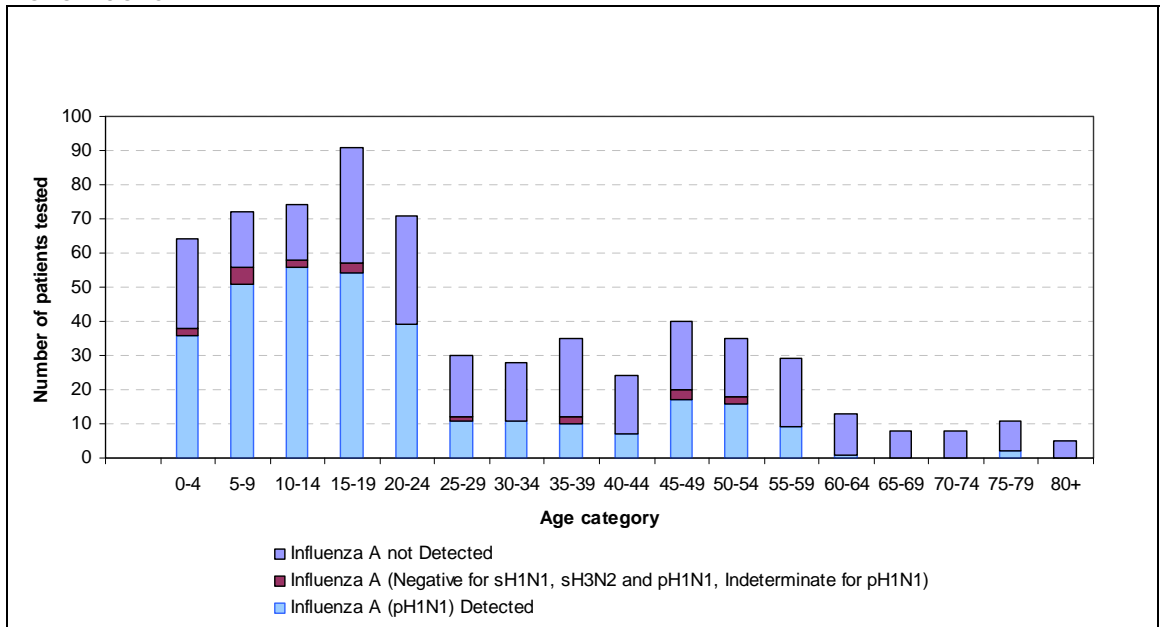


Table 1 shows the distribution of other respiratory viruses detected among VE Influenza negative specimens using the Seegene as method of testing. The total number of specimens tested was 50 and in 30% of them at least one respiratory virus was detected. Specifically Rhinovirus was detected in 22% of specimens tested and Parainfluenza1 and 2 was detected in 2% of specimens, respectively. Coinfection by Parainfluenza I and Rhino was detected in 4% of specimens tested.

Table 1. Other circulating respiratory viruses detected by Seegene, November 2 to November 6, 2009

SEEGENE RESULTS	RHINOVIRUS	11	22
	PARA1/RHINOVIRUS	2	4
	PARA2	1	2
	PARA1	1	2
	TOTAL POSITIVES	15	30

Table 2 shows the age geographical and age distribution of patients tested positive by Seegene during the specified week. Due to small sample size it is difficult to observe any geographical or age distribution tendency among patients who tested positive by Seegene.

Table 2 Geographical and age distribution of positive tested patients by Seegene, November 2- November 6, 2009.

SEEGENE RESULTS	PHU	AGE CATEGORY
Rhinovirus	Hasting and Prince Eduard	60-64
Rhinovirus	Peel	10-14
Parainfluenza 1	Brant County	0-4
Rhinovirus	Oxford County	55-59
Parainfluenza2 Rhinovirus	Middlesex London	0-4
Rhinovirus	Ottawa	50-54
Rhinovirus		45-49
Rhinovirus	Niagara Region	30-34
Parainfluenza 1/Rhinovirus	Toronto	20-24
Parainfluenza1/Rhinovirus		60-64
Rhinovirus	Simcoe Muscoca	0-4
Rhinovirus		15-19
Rhinovirus		55-59
Rhinovirus	Windsor-Essex County	45-49