



Epidemiology, Surveillance and Laboratory

Sentinel Provider Surveillance: Influenza-like illness activity

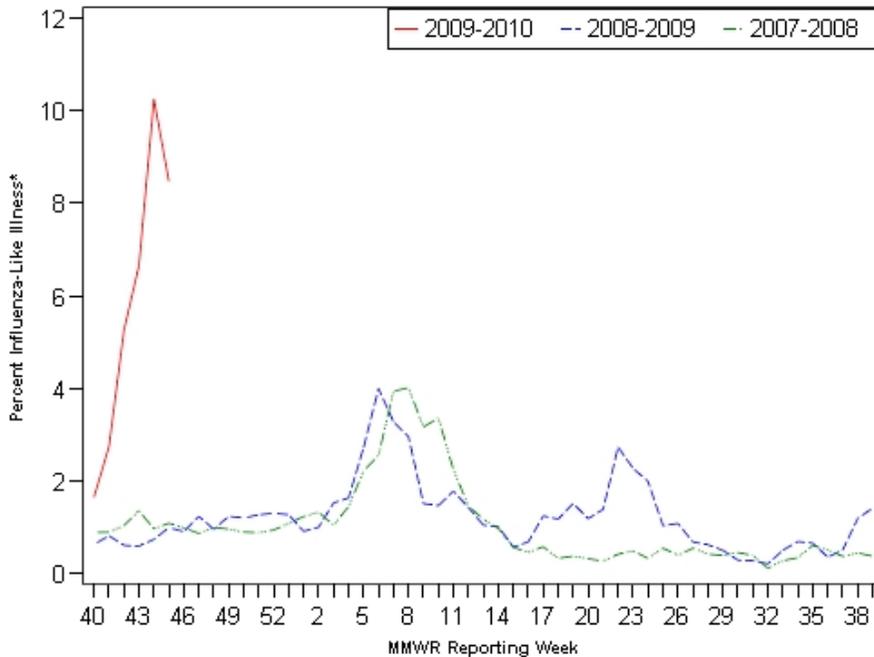
Week 45 activity level: Widespread

Provider offices across the US report the amount of influenza-like illness (ILI) they see in their patients each week during regular flu season. These doctors' offices are called 'sentinel sites'. Here we present Massachusetts sentinel site data. Please note that the data do not represent only confirmed influenza cases, but also those just with ILI. ILI is defined as fever above 100F² in addition to either cough or sore throat. ILI is a marker of influenza and is used throughout the regular flu season to monitor influenza since most people are not tested. Figure 1 shows that although ILI activity seems to have peaked and is on a decline, activity is still at a level that is significantly higher than what was seen at the same time during the last two years.

¹ <http://www.cdc.gov/h1n1flu/update.htm>

² Per CDC definition for influenza-like illness: <http://www.cdc.gov/h1n1flu/casedef.htm>

Figure 1: Percentage of ILI visits reported by sentinel provider sites



*Influenza-like illness (ILI, defined by fever >100F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites.

Table 1 below shows a geographical distribution of reported ILI in Massachusetts. Table 1 shows that all regions of the state continue to report highly elevated ILI activity.

Table 1: Percent ILI reported weekly by Massachusetts sentinel sites

	2009-2010			2008-2009		
	%ILI	Report. Sites	Total enroll.	%ILI	Report. Sites	Total enroll.
Boston	6.47	3	7	0.26	4	5
Central	8.63	8	12	0.77	7	8
Inner Metro Boston	5.01	4	9	0.65	3	2
Northeast	9.46	6	12	0.65	8	9
Outer Metro Boston	16.24	3	4	3.85	2	2
Southeast	1.98	3	6	0.68	6	6
West	14.13	6	9	0.77	8	10

Automated Epidemiologic Geotemporal Integrated Surveillance System (AEGIS) Flu Data

The AEGIS System is the syndromic surveillance system for MDPH, and performs automated, real-time surveillance for infectious disease outbreaks. As an adaptation of the AEGIS surveillance system, AEGIS Flu is designed to provide early warning of influenza epidemics and pandemics. With special focus on demographic and spatial patterns of illness, AEGIS Flu provides automated, real-time surveillance of influenza rates, location, and spread. Emergency department (ED) ILI data are collected from 19 hospitals in Massachusetts. Visits from emergency departments can be affected by several factors, including how worried people are about the flu, whether people can see their own doctor, media announcements, etc. The data are most useful for following trends over several days or weeks. In Figure 2 below, we can see current rates of total visits to emergency departments in MA due to flu-like symptoms compared to historical trends. AEGIS data shows a peak in ILI activity followed by a slight decline, which is similar to what is being seen in Massachusetts Sentinel Site Data.

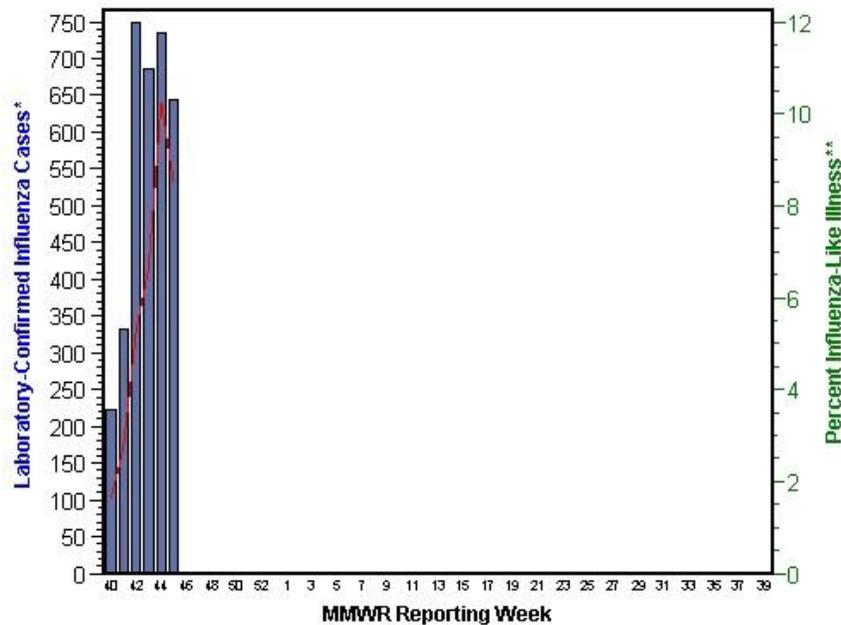


Figure 2: Percentage of Total Visits to MA Emergency Departments Due to Flu-Like Symptoms

Laboratory testing for influenza

The William A. Hinton State Laboratory Institute (HSLI) has been doing confirmatory testing of H1N1 since mid-April, which is typically the late part of the influenza season. The number of 'confirmed' cases does not reflect the overall incidence of H1N1 flu. The majority of cases are not tested. This is true during seasonal flu as well. Below are two tables reflecting current laboratory data.

*Figure 3: Laboratory-confirmed Influenza Cases and Influenza-like Illness
Massachusetts, October 4, 2009 - November 19, 2009*



*Influenza cases confirmed via viral culture, PCR or rapid test by specimen collection date.

**Influenza-like illness (ILI, defined as fever >100F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites by CDC week date.

Figure 4 summarizes the testing conducted at the HSLI since MMWR week 35 or week ending September 5, 2009. On October 1, 2009 testing for influenza B was reinstated in preparation for the start of the 2009-2010 season (MMWR wk 40); the first influenza B result for the new season was reported on October 22, 2009 of MMWR week 42 as indicated in Table 2. There have been no positive specimens for seasonal influenza A since early June 2009. The majority of specimens tested at the HSLI continue to be novel influenza A (H1N1) 2009 virus as indicated in Figure 4 and Table 2. Complete strain surveillance testing for seasonal influenza A/H1, A/H3, and influenza A (H1N1) 2009 virus occurred throughout the 2009 summer with the exception of influenza B which was reinstated beginning the MMWR week 40.

Note- For data reported in the previous MDPH Weekly Influenza Update dated November 12, 2009, an error resulted in double counting the number of A (2009) H1N1 reported for MMWR week 44. This error is corrected in this report in both Figure 4 and Table 2 below. One additional data correction was the decision to remove a subset of samples included in last week's MDPH Weekly Influenza Update dated November 12, 2009. These samples were already counted in a separate reporting system for which data is shown above in Figure 3.

Figure 4: Influenza positive tests reported to CDC by HSLI, August-October 2009

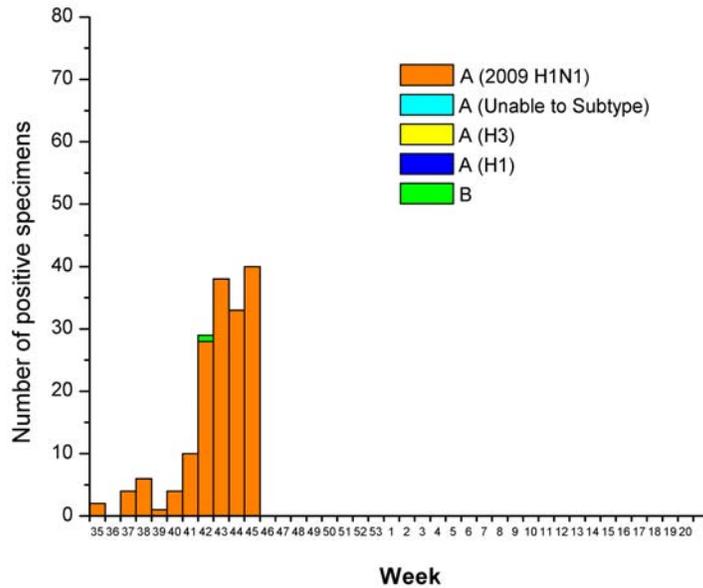


Table 2: Weekly Summary of HSLI Influenza Surveillance Test Results

2009-2010 Season: Influenza Surveillance William A. Hinton State Laboratory Institute								
MMWR Week: (Specimen Collected)	Seasonal Influenza A H1/N1	Seasonal Influenza A H3/N2	Influenza B	Swine-Origin Influenza A H1N1	Negative for Influenza	% Swine-Origin Influenza A H1N1	% Seasonal Influenza	Total Tested
40 (10/4-10/10/09)	0	0	0	4	17	19	0	21
41 (10/11-10/17/09)	0	0	0	10	18	36	0	28
42 (10/18-10/24/09)	0	0	1	28	34	44	1.6	64
43 (10/25-10/31/09)	0	0	0	38	38	48	0	79
44 (11/01-11/07/09)	0	0	0	33	37	46	0	71
45 (11/08-11/14/09)	0	0	0	40	30	57	0	70
Total	0	0	1	153	176	46	<1	333

2009 H1N1 influenza

As of November 19, 2009, 1768 confirmed cases of H1N1 have been reported throughout Massachusetts since April of 2009. The 2009-2010 influenza season officially started on October 4, 2009. Table 3 below represents H1N1 cases that have been confirmed in Massachusetts since October 4, 2009; the final column of this table is the number of cases of seasonal and influenza of unknown type, also since October 4. Table 4 shows the cumulative H1N1 cases that have been confirmed in Massachusetts since April 26, 2009. Both tables are updated weekly. The CDC is no longer reporting the national total of confirmed cases of H1N1 and is instead focusing on hospitalized cases and deaths. Nationally, influenza-like illness continues to be reported as widespread. Please visit the CDC's website for up-to-date information (www.cdc.gov/h1n1).

Table 3. Confirmed Influenza cases in Massachusetts, October 4, 2009 - November 19, 2009

	H1N1: Age group (N)	H1N1: Pregnant (N)	H1N1: Hospitalized (N)	H1N1: Deaths (N)	Seasonal and Untyped Influenza by Age Group (N)
0-4 years	58	0	30	1	459
5-12 years	87	0	43	0	1105
13-18 years	59	0	20	0	717
19-25 years	60	2	7	0	397
26-44 years	39	2	10	1	581
45-64 years	38	0	17	2	386
65+ years	9	0	4	1	83
Unknown	0	0	0	0	24
TOTAL	350	4	131	5	3752

Table 4. Confirmed H1N1 cases in Massachusetts, April 26, 2009 - November 19, 2009

	Age group (N)	Age group (%)	Female (%)	Pregnant (N)	Hospitalized (N)	Hospitalized (%)	Deaths (N)
0-4 years	259	14.6	39.00	0	65	25.10	1
5-12 years	482	27.3	39.83	0	74	15.35	0
13-18 years	350	19.8	48.57	6	39	11.14	1
19-25 years	202	11.4	62.87	20	24	11.88	2
26-44 years	267	15.1	66.29	32	41	15.36	4
45-64 years	181	10.2	59.67	0	52	28.73	7
65+ years	26	1.47	73.08	0	13	50.00	2
Unknown	1	0.06	0	0	0	0	0
TOTAL	1768	~~	50.57	58	308	17.42	17

As shown in Table 4 above, school-aged individuals (5-18 years) have been primarily affected by H1N1, with approximately 62% of cases age 18 or younger. The median age of cases is 15 and cases ranged from 0 to 92 years. To date, males and females have been equally impacted by H1N1. Overall, 308 cases have been hospitalized (17%) and 17 individuals have died. Of the 17 deaths, 14 individuals had underlying conditions.

The immunization epidemiologists received and responded to 234 calls related to influenza from Nov. 13 – 19, 2009 (compared to 284 last week). Commonly received questions include the following: the general public looking for H1N1 and/or seasonal vaccine (e.g., frustrated callers wanting to know why some local health departments are holding clinics while others are not; adults with chronic health conditions wanting to get vaccinated); clinicians inquiring about submitting specimens for testing.

The current ILI activity level in MA, based on the sentinel provider system, is “widespread.” This level has been seen in MA the last several weeks and although ILI activity decreased slightly this week, it is unclear whether this downward trend will persist. Follow-up of individual cases by MDPH epidemiologists and local health departments continues to be focused on severely ill and hospitalized cases.

Vaccination

H1N1 Vaccine Allocations in Massachusetts as of November 20, 2009

Date	PFS 0.25	PFS 0.5	MDV	PFS	MDV	PFS	MDV	MDV	LAIV	Total
Age Indication	6 – 35 mo.	≥ 3 yr.	≥ 6 mo.	≥ 4 yr.	≥ 4 yr.	≥ 3 yrs.	≥ 6 mos	≥ 18 yr.	2 – 49 yr.	
Totals	86,200	4,100	365,400	129,200	224,100	28,500	6,800	0	254,600	1,098,900

* Includes doses coming to the Hinton State Laboratory Institute

H1N1 Influenza Vaccination Program Update 11/20/09

PFS = Prefilled syringes

MDV = Multidose vial

LAIV = Live, attenuated influenza vaccine (nasal spray)

Target Groups for H1N1 Vaccine:

- All children 6 months to 18 years of age;
- Pregnant women, up to 2 weeks post partum (including after pregnancy loss);
- Household contacts of infants younger than 6 months of age;
- Household contacts of pregnant women in their third trimester to ensure their newborns go home to a safe environment; and
- Healthcare personnel with direct patient contact.
- Because our goal is to ensure that as many people are protected as soon as possible, when you have vaccinated the target groups listed above and you still have vaccine available, begin vaccinating adults 19 – 64 years of age with high risk conditions and all healthcare personnel. High risk conditions include:
 - Pulmonary (including asthma)
 - Cardiovascular (except hypertension)
 - Renal, hepatic, cognitive, hematologic, neurologic/neuromuscular, or metabolic disorders (incl. diabetes mellitus)
 - Immunosuppression (incl. that caused by medications or by HIV)

Reporting of Doses Administered: We remind providers that it is important to report doses administered data every week by Monday for the previous week. The link is <http://www.mass.gov/flu/h1n1reporting> . As of Tuesday, November 13, we have reported to the CDC that a total of 471,460 doses of H1N1 vaccine have been administered in Massachusetts.

When you report doses administered, you also have the opportunity to request additional doses by formulation. We will do our best to accommodate your requests.

Help Desk Information: If you have questions about registering or reporting, please contact the MDPH H1N1 Vaccine Program Help Desk:

- o Help Desk phone number: 888-578-5585 or 617-983-6898
- o Help Desk email address: MDPHH1N1Registration@state.ma.us
- o Registration website: <http://www.mass.gov/dph/h1n1registration>
- o Reporting website: <http://www.mass.gov/flu/h1n1reporting>

For a list of public seasonal and H1N1 flu vaccination clinics in Massachusetts, go to:
<http://flu.masspro.org>, or call 211.

Vaccinator Training

Below is an update on web-traffic for the on-line vaccinator training. By far the majority of individuals trained are MDs and RNs, but paramedics have also accessed the online modules.

Completed exams as of 11-19-09

Course	MMS	WEB	Total
MDPH Vaccinator Training Module 1 (1.00 CME Credit)	6	43	49
MDPH Vaccinator Training Module 2 (1.00 CME Credit)	5	35	40
MDPH Vaccinator Training Module 3 (1.00 CME Credit)	4	38	42

Treatment-Related (health care utilization, coordination with hospitals and providers)

Distribution of Tamiflu for Oral Suspension from the SNS

Tamiflu® for Oral Suspension is currently in short supply across the country and the manufacturer, Roche Pharmaceuticals, is unable to produce sufficient supplies of the product to alleviate the ongoing shortage. The Massachusetts Department of Public Health (DPH) has confirmed reports of local shortages. Therefore, DPH has distributed approximately half of Tamiflu® for Oral Suspension currently held in the state stockpile to acute care hospitals, community health centers, and large ambulatory care practices that treat pediatric outpatients who may be at risk for complications from H1N1 influenza. Receiving facilities were directed to dispense the medication to appropriate patients in accordance with clinical DPH guidelines which can be found at www.mass.gov/flu. The intent of this distribution was to ensure that facilities have on hand supplies of Tamiflu® for Oral Suspension to dispense directly to appropriate outpatients rather than issue prescriptions that may not be able to be filled at community pharmacies.

Below are some treatment related documents and guidance from CDC

[New: 2009 H1N1 Flu Information for People with Disabilities and Their Caregivers or Personal Assistants](#)

People with certain types of disability have a higher risk of getting flu-related complications, such as pneumonia. The 2009 H1N1 Flu Information for People with Disabilities and Their Caregivers or Personal Assistants is now available to the public.

[New: Updated Guidance for the Use of CSL 2009 H1N1 Monovalent Vaccine](#)

On November 11, 2009, the FDA expanded the approved use of CSL's seasonal and 2009 H1N1 monovalent influenza vaccines to include children aged 6 months and older. Both vaccines had previously been approved only for use in adults, aged 18 years and older

[Update: FDA-Issued Peramivir IV EUA Letter \(PDF\)](#)

Revised documents to reflect new peramivir IV renal dosing and administration recommendations, authorized by FDA on November 19, 2009.

[Update: Peramivir IV Fact Sheet for Health Care Providers \(PDF\)](#)

Revised documents to reflect new peramivir IV renal dosing and administration recommendations, authorized by FDA on November 19, 2009.

[Update: FDA Questions and Answers for Health Care Providers: Renal Dosing and Administration Recommendations for Peramivir IV](#)

Questions and answers for renal dosing and administration for peramivir IV

Information regarding Peramivir utilization

On October 23, 2009, Margaret Hamburg, Commissioner, Food and Drug Administration issued an Emergency Use Authorization for the utilization of the unapproved drug peramivir when administered by intravenous injection for treatment of the novel 2009 H1N1 influenza. Peramivir is an investigational intravenously administered antiviral medication in the neuraminidase inhibitor class similar to the FDA approved orally administered antiviral agent oseltamivir (Tamiflu®, Roche Pharmaceuticals) and the inhaled antiviral agent zanamivir (Relenza®, GlaxoSmithKline Pharmaceuticals).

Peramivir may be ordered by physicians directly from the Centers for Disease Control and Prevention (CDC). As of November 19, 2009, peramivir has been sent to 13 hospitals in Massachusetts.

School Closures

There are no reported school closures at this time due to influenza like illness.

Public Information

DPH Communications continued activities on our **FluFacts: What You Need to Know** public information campaign:

- Commissioner John Auerbach and Medical Director Dr. Lauren Smith participated in the half-hour cable show "Physician Focus." The show will be sent to cable access stations across the state on Friday.
- We have filmed the Spanish and Chinese versions of the vaccine safety commercial and are scheduled to film the additional languages in the coming weeks.
- The FluFacts Spanish PSA is now airing on both Telemundo and Univision, and Spanish and Portuguese radio PSA's can now be heard on stations across the state.
- We are continuing our outreach efforts on college campuses in order to raise awareness amongst college students about flu prevention. The campaign involves sending a FluFacts van and street team to twenty schools across Massachusetts where they hand out free hand sanitizer and flyers promoting the FluFacts video challenge.
- Orders for the FluFacts materials are continuing. The total number of materials ordered as of November 19th, are summarized in the chart below:

Wallet size	Requested as of Nov. 19	Posters	Requested as of Nov. 19
English	318,173	English	9,193
Spanish	60,162	Spanish	2,571
Portuguese	32,405	Portuguese	1,320
Chinese	6,709	Chinese	397
Vietnamese	7,868	Vietnamese	326
Haitian Creole	9,665	Haitian Creole	445

Lastly, we continue to update the [H1N1 blog](#) and DPH [twitter](#) accounts on a regular basis.

Mass211 received 510 calls this week which is down from the 649 calls received last week. The vast majority of questions continues to concern clinic locations and questions about how to access vaccine.

Other calls were related to:

- Do people need a doctor’s note to attend a clinic
- Symptoms of the flu
- Can people still get vaccinated if they are presently on Tamafly
- The number of vaccine doses allocated in Massachusetts
- Will DPH supply nurses to help employers administer vaccine

Updates to Policies and Guidance Documents

DPH posted several materials to www.mass.gov/flu including:

- An [update](#) on the H1N1 vaccine situation
- The H1N1 Screening Questionnaire for Seasonal and H1N1 Influenza Intranasal Vaccination in [Somali](#)
- An [Amharic](#) translation of the Influenza Vaccine Consent Form
- Revised Joint [Guidelines](#) for Infection Control with Respect to Influenza Including 2009 H1N1 Influenza in Healthcare Settings
- [Frequently Asked Questions](#) about Animals and Flu
- A [sample letter](#) for hospitals to distribute to patients titled What to Expect During Your Visit for Evaluation of Flu Symptoms
- A Revised [H1N1 Vaccine Model Standing Orders](#) for the Inactivated 2009 H1N1 Influenza Vaccine
- A Podcast on the availability of H1N1 vaccine in Massachusetts in both [Portuguese/Brazilian](#) dialect and [Portuguese/Continental](#) dialect
- A [60-second PSA](#) on Vaccine Availability in Spanish
- A link to ACOG’s “Pregnant Women and the Flu Fact Sheet” in [English](#) and [Spanish](#)
- A link to ACOG’s “2009–2010 Influenza Season Assessment and Treatment for Pregnant Women with Influenza-Like Illness” [guidance](#)