



**MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH**

**WEEKLY INFLUENZA UPDATE**

August 20, 2009

*All data in this report are preliminary and subject to change as more information is received.*

**New information since last update: H1N1 influenza**

As of August 20, 2009, 1,393 confirmed cases of H1N1 have been reported throughout Massachusetts. As of August 13, there have been 7,511 hospitalized cases of H1N1 nationally, with 477<sup>1</sup> deaths.

**Table 1.** Confirmed H1N1 cases in MA, as of 8/20/09

	Age Group (N)	Age group (%)	Female (%)	Pregnant (N)	Hospitalized (N)	Hospitalized (%)	Deaths (N)
0-4 years	200	14.4	38.5	0	37	18.5	0
5-11 years	325	23.3	39.7	0	27	8.3	0
12-18 years	352	25.3	48.6	6	22	6.3	1
19-25 years	136	9.8	64.7	18	19	14.0	2
26-44 years	221	15.9	69.2	27	24	10.9	3
45-64 years	139	10.0	64.0	0	33	23.7	4
65+ years	16	1.1	75.0	0	9	56.3	1
Unknown	4	0.3	25.0	0	0	0	0
TOTAL	1393	9999	51.7	51	171	12.3	11

As shown in Table 1 above, school-aged individuals (5-18 years) have been primarily affected by H1N1, with 63% of cases aged 18 or younger. The median age of cases is 14 and cases have ranged in age from 0 to 84 years. To date, males and females have been equally impacted by H1N1. Overall, 171 cases have been hospitalized (12%), which is similar to the national hospitalization rate of 11% as of July 10. In Massachusetts, 11 confirmed H1N1 cases have died. Of the 11 deaths, 8 had underlying conditions. Please note that the number of confirmed cases does not reflect the overall incidence of H1N1 flu because the majority of cases are not tested and are therefore not confirmed (this is true for seasonal flu as well).

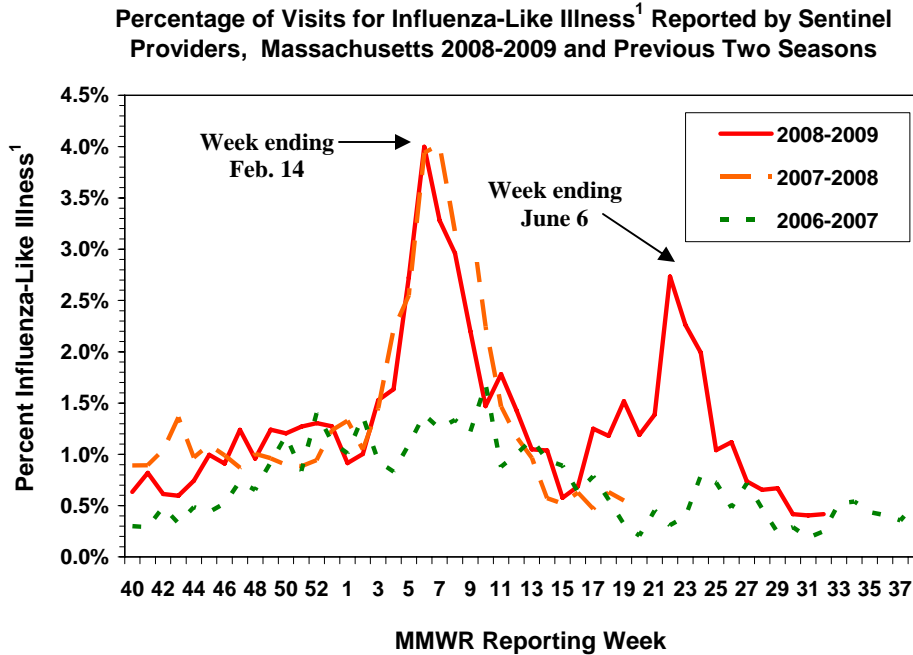
**Sentinel Provider Surveillance: Influenza-like illness activity**

Provider offices across MA 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." Given the unusual occurrence of influenza activity at this time of year, providers throughout the country are continuing to report to their state health departments. Please note that the data do not represent confirmed H1N1 cases, only those with ILI.

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

ILI is defined as fever above 100.0<sup>2</sup> in addition to either cough or sore throat. ILI is a marker of influenza and is used throughout the regular influenza season to monitor influenza since most people are not tested for influenza. Figure 1 indicates that after rising to high levels due to circulating novel H1N1, ILI appears to have returned to normal inter-seasonal levels.

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



<sup>1</sup>Influenza-like illness (ILI, defined as fever >100°F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites by CDC week date.

Table 2 below shows a geographical distribution of reported ILI in Massachusetts. From this table, we can see that sentinel sites in all regions are reporting low levels of ILI.

**Table 2. Percent ILI reported weekly by Massachusetts sentinel sites.**

Region:	2008-2009			2007-2008		
	%ILI:	Report. Sites	Total enroll.	%ILI:	Report. Sites	Total enroll.
West	0.524%	6	11	0.000%	5	11
Central	0.000%	2	10	0.000%	1	10
Northeast	0.579%	3	9	0.000%	1	8
Outer Metro Boston	~	~	3	~	~	3
Inner Metro Boston	0.304%	1	4	0.314%	1	5
Boston	0.375%	2	5	0.000%	2	5
Southeast	0.438%	1	7	~	~	3
<b>Totals:</b>		<b>15</b>	<b>49</b>		<b>10</b>	<b>45</b>

**Automated Epidemiologic Geotemporal Integrated Surveillance System (AEGIS) Flu Data:**

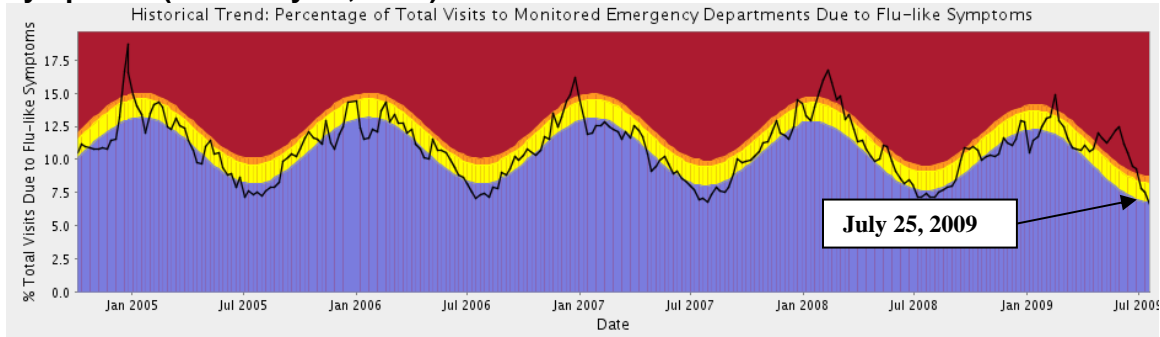
The AEGIS System is the syndromic surveillance system for MDPH, and performs automated, real-time surveillance for infectious outbreaks. As an adaptation of the AEGIS surveillance system, AEGIS Flu is designed to provide early warning of influenza epidemics and pandemics. With special focus on demographic and spatial patterns of illness, AEGIS Flu provides automated, real-time surveillance of influenza rates,

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

location, and spread. Emergency department (ED) ILI data are collected from 19 hospitals in Massachusetts for this dataset.

It is important to note that 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. Figure 2 shows current rates of total visits to emergency departments in MA due to flu-like symptoms compared to historical trends. Similar to Massachusetts sentinel site data, AEGIS data shows a substantial decrease in influenza-like illness toward the end of July, the most recent data available.

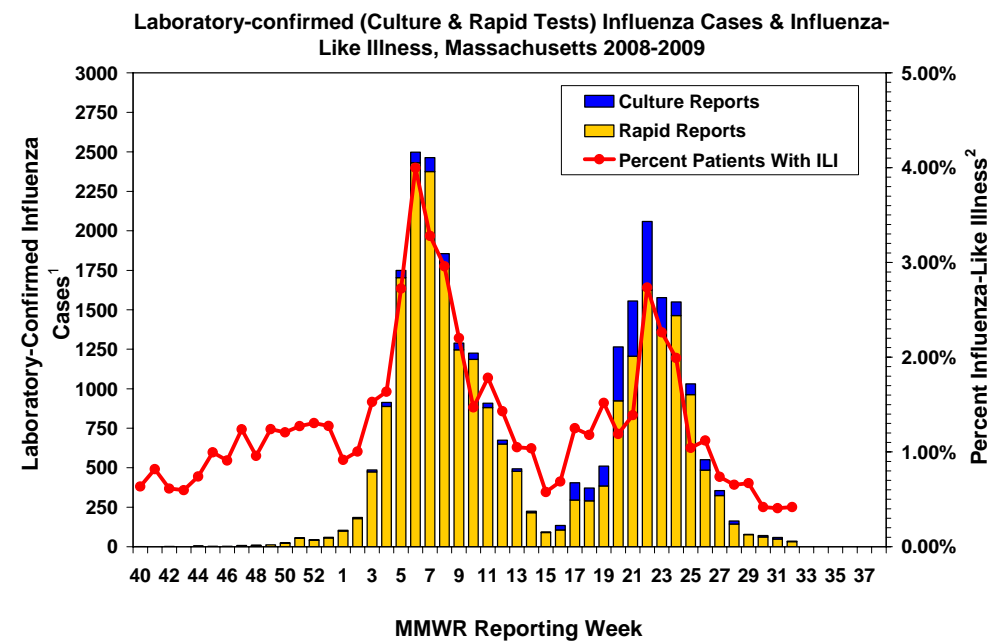
**Figure 2: Percentage of Total visits to MA Emergency Departments due to flu-like symptoms (as of July 25, 2009)**



**Laboratory testing for influenza**

The William A. Hinton State Laboratory Institute 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 because the majority of cases are not tested. This is true for seasonal flu as well. The figure and table below reflect current laboratory data.

**Figure 3: Laboratory-confirmed (Culture & Rapid Tests) Influenza Cases & Influenza-Like Illness, Massachusetts 2008-2009**



1. Influenza cases confirmed via viral culture or rapid test by specimen collection date.  
 2. Influenza-like illness (ILI, defined as fever >100°F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites by CDC week date.

Table 3 summarizes the testing conducted at the State Lab since April 19. The lab stopped testing for influenza type B as of May 24, after no positive specimens were seen for two weeks. There have been no positive specimens for seasonal influenza A since early June. 35% of all specimens tested at the State Lab since April 19, 2009 has been novel influenza A (H1N1).

**Table 3: Laboratory description for influenza specimens.**

Influenza Surveillance William A. Hinton State Laboratory Institute								
Specimen Collection Week	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
1 (4/19-4/25/09)	0	0	3	1	2	17	50	6
2 (4/26-5/02/09)	18	29	10	55	401	11	11	517
3 (5/03-5/09/09)	5	17	2	68	351	15	5	445
4 (5/10-5/16/09)	2	7	0	86	191	30	3	290
5 (5/17-5/23/09)	1	7	0	276	295	47	1	593
6 (5/24-5/30/09)	0	4	NT	256	293	45	1	571
7 (5/31-6/06/09)	0	2	NT	366	268	56	0	658
8 (6/07-6/13/09)	0	0	NT	139	111	53	0	264
9 (6/14-6/20/09)	0	0	NT	11	18	34	0	32
10 (6/21-6/27/09)	0	0	NT	9	15	38	0	24
11 (6/28-7/04/09)	0	0	NT	11	12	44	0	25
12 (7/05-7/11/09)	0	0	NT	10	12	45	0	22
13 (7/12-7/18/09)	0	0	NT	8	8	47	0	17
14 (7/19-7/25/09)	0	0	NT	3	1	75	0	4

15 (7/26-8/01/09)	0	0	NT	1	4	20	0	5
16 (8/02-8/08/09)	0	0	NT	2	11	15	0	13
<b>Total</b>	<b>24</b>	<b>59</b>	<b>15</b>	<b>1216</b>	<b>1802</b>	<b>35</b>	<b>3</b>	<b>3486</b>