

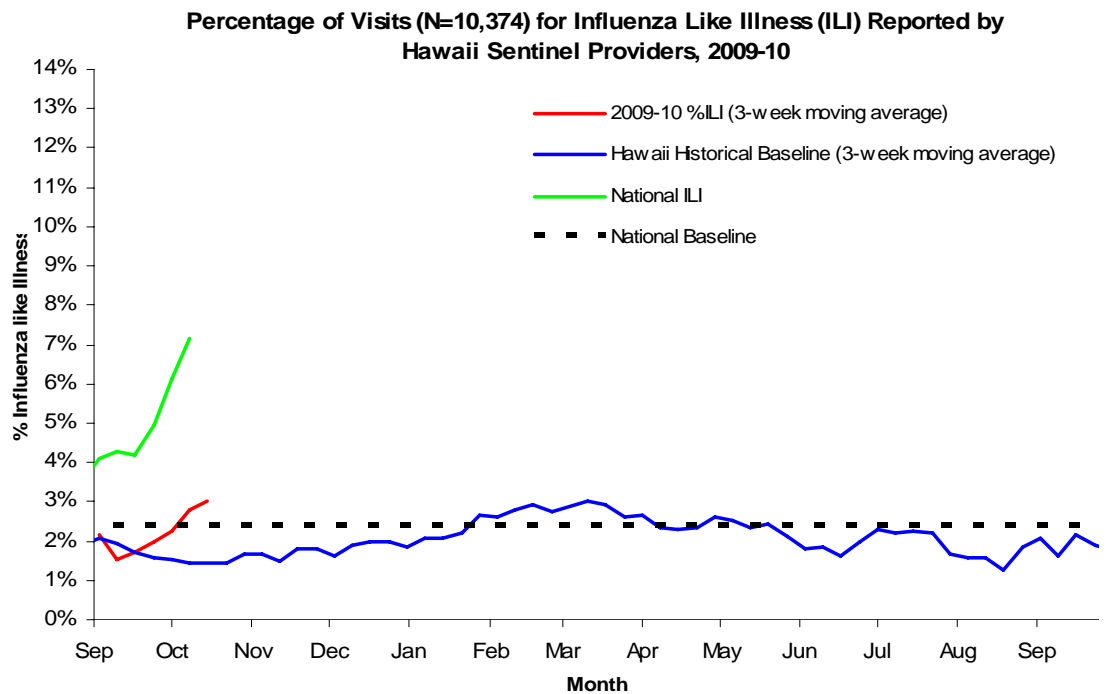
HAWAI‘I STATE DEPARTMENT OF HEALTH DISEASE OUTBREAK CONTROL DIVISION

Influenza Surveillance Report

October 4-24, 2009: MMWR¹ Weeks 40-42

I. Surveillance of Influenza-like Illness (ILI):

During weeks 40, 41 and 42 of the 2009-10 influenza year, 2.4% (95% CI 1.5-3.3%), 2.2% (95% CI 1.5-2.9%), and 3.8% (95% CI 2.7-4.9%) respectively, of outpatient visits to Hawai‘i Sentinel Providers were due to influenza-like illness (ILI). Outpatient ILI reported during weeks 40 and 41 were comparable, but that reported during week 42 was higher than the historical baseline in Hawai‘i ($p < 0.05$)^{2,3}. The percent ILI of all visits to Sentinel Providers reported during week 41 of the current flu year (1.9%, 95% CI 1.6-2.2%)⁴ is lower than the national ILI (7.2%) for week 41 and the national baseline⁵ (2.4%).



II. Pneumonia and Influenza (P&I) Related Mortality:

During weeks 40, 41 and 42 of the 2009-10 influenza season, 12.1% (95% CI 3.7-20.5%), 8.8% (95% CI 1.4-16.1%), and 10.8% (95% CI 3.2-22.3%) respectively, of all deaths in Honolulu, Hawai‘i were due to pneumonia or influenza. This P&I was comparable to the historical P&I baseline⁶ in Hawai‘i for weeks

¹ MMWR stands for ‘Morbidity and Mortality Weekly Report,’ conventionally used by the Centers for Disease Control and Prevention (CDC). The weeks of a flu season are often referred to by their respective MMWR week. See appendix 1 for interpretation of MMWR weeks

² The Hawai‘i historical baseline (%ILI and %P&I) is the average of five 3 week moving averages over the preceding five flu seasons of historical data (2004-05, 2005-06, 2006-07, 2007-08 and 2009-10).

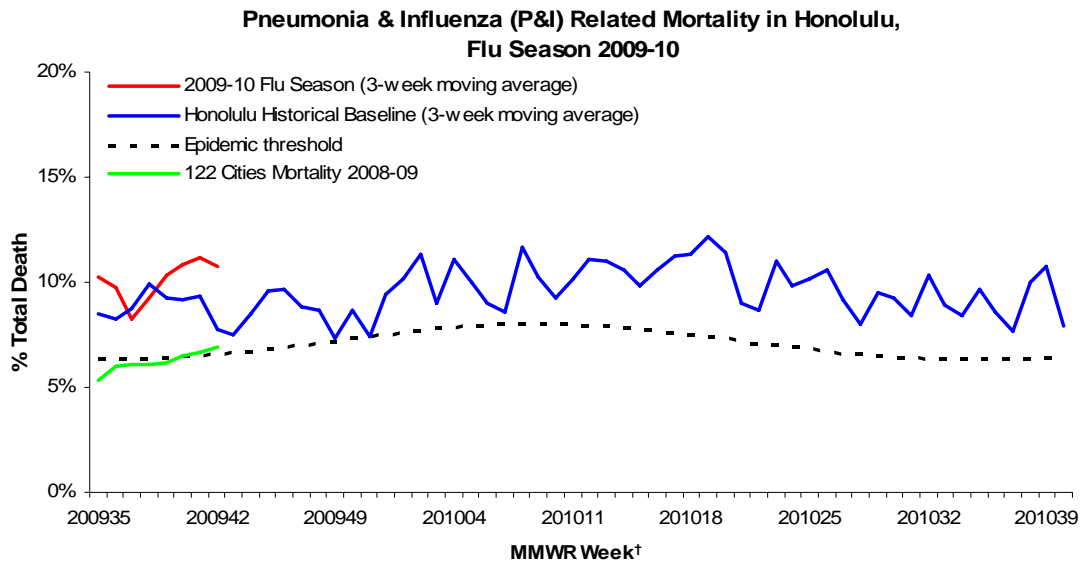
³ Based on comparison of actual outpatient ILI to the historical baseline, which only captured outpatient ILI. No historical baseline for urgent care, emergency and inpatient visits exists, since this category represents a new class of ILINet providers. The chart above represents a 3-week moving average and not the actual ILI by week.

⁴ Not depicted in chart

⁵ The National Baseline is calculated by the CDC as the mean percentage of visits for ILI during weeks 21-39 with two standard deviations. Because of large variability in regional ILI, comparison of the national baseline to local ILI may not be appropriate. It is provided in this report because no meaningful regional baselines are available for comparison. The national baseline combines all data reported by states to CDC, including ILI in outpatient, ER, urgent care, and inpatient settings.

⁶ The Hawai‘i historical baseline (%ILI and %P&I) is the average of five 3 week moving averages over the preceding five flu seasons of historical data (2004-05, 2005-06, 2006-07, 2007-08 and 2009-10). P&I values were not available for a few weeks in previous influenza seasons.

40, 41 and 42. Honolulu P&I mortality for week 41 was comparable to the epidemic threshold (6.6%) and national P&I mortality (6.9%).



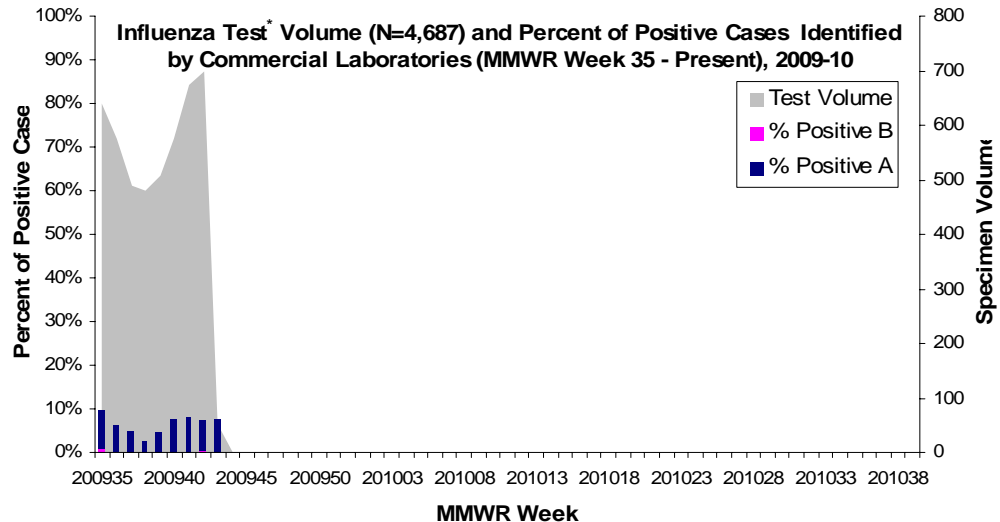
*Influenza Associated Pediatric Mortality*⁷

There have been 53 influenza-associated pediatric deaths in the United States during the current influenza season (beginning week 35, 2009), 47 of which were confirmed to be due to pandemic influenza A(H1N1) virus infections.

III. Laboratory Surveillance

A. Commercial Laboratory Testing⁸

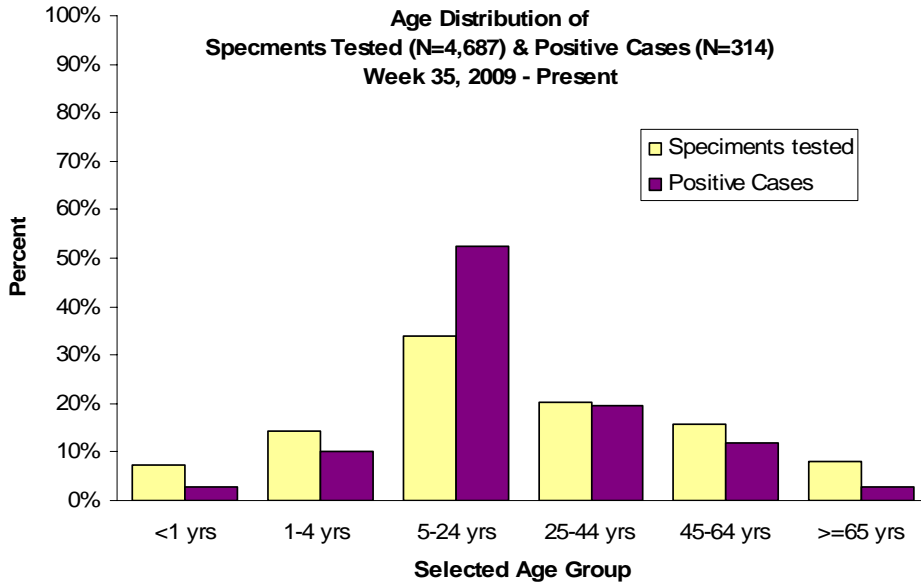
Since the beginning of the 2009-10 influenza season, commercial laboratories in Hawai‘i tested 4,687 specimens for influenza A and B. A total of 307 (6.6%) and 7 (0.2%) of these specimens were positive for influenza A and influenza B, respectively. In the week ending October 24, 2009 (MMWR week 41), influenza A accounted for 96.2% of positive influenza tests.



*includes rapid antigen and reverse transcription polymerase chain reaction (RT-PCR) tests

⁷ These data were reported by the Hawai‘i State Department of Health Vital Statistics Office.

⁸ Commercial laboratory testing includes results from both RT-PCR and rapid antigen testing.

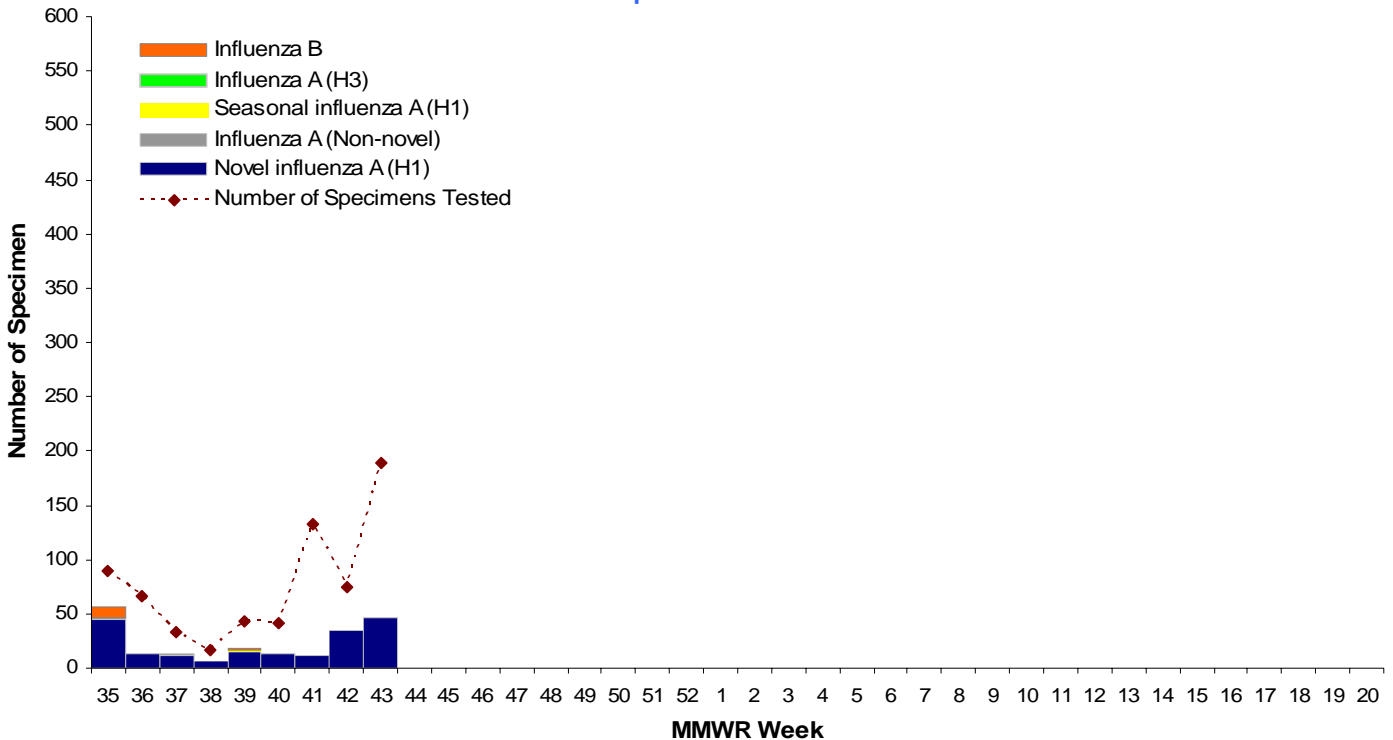


The proportions of specimens tested and positive influenza results to all submitted specimens (N=45,948) in Hawai‘i by age group during the 2009-10 influenza season are shown.

B. State Laboratories Division Influenza Typing and Subtyping

A subset of commercial laboratory influenza A specimens and additional specimens submitted through the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) have undergone typing and sub-typing by the HDOH State Laboratories Division.

Distribution of Influenza Viruses Identified by State Laboratories Division, MMWR Week 35 - Present, 2009-10
 Number of Specimens Tested = 684



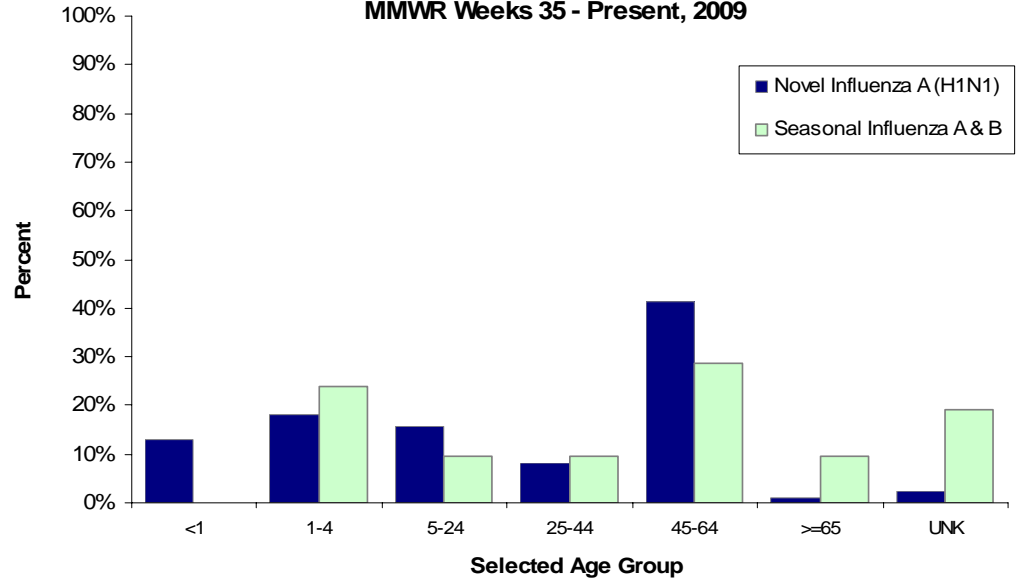
*Pending seasonal H1/H3 subtyping
 Preliminary Data, Subject to Change

During 8/30/2009-Present (Weeks 35-42), the State Laboratories Division performed influenza A & B testing on 684 specimens. Of these, 198 (28.9%) were positive for 2009 H1N1 virus, and 19 (2.8%) were positive for seasonal influenza A and B strains. Results of recent testing suggest ongoing predominantly novel influenza A(H1) activity.

Novel influenza A(H1N1) accounted for 100% of influenza A subtypes identified during the week ending 10/17/09 (Week 42).

Age distribution of persons testing positive for novel influenza A(H1) and seasonal influenza A & B during 8/30/09-10/24/09 is shown above.

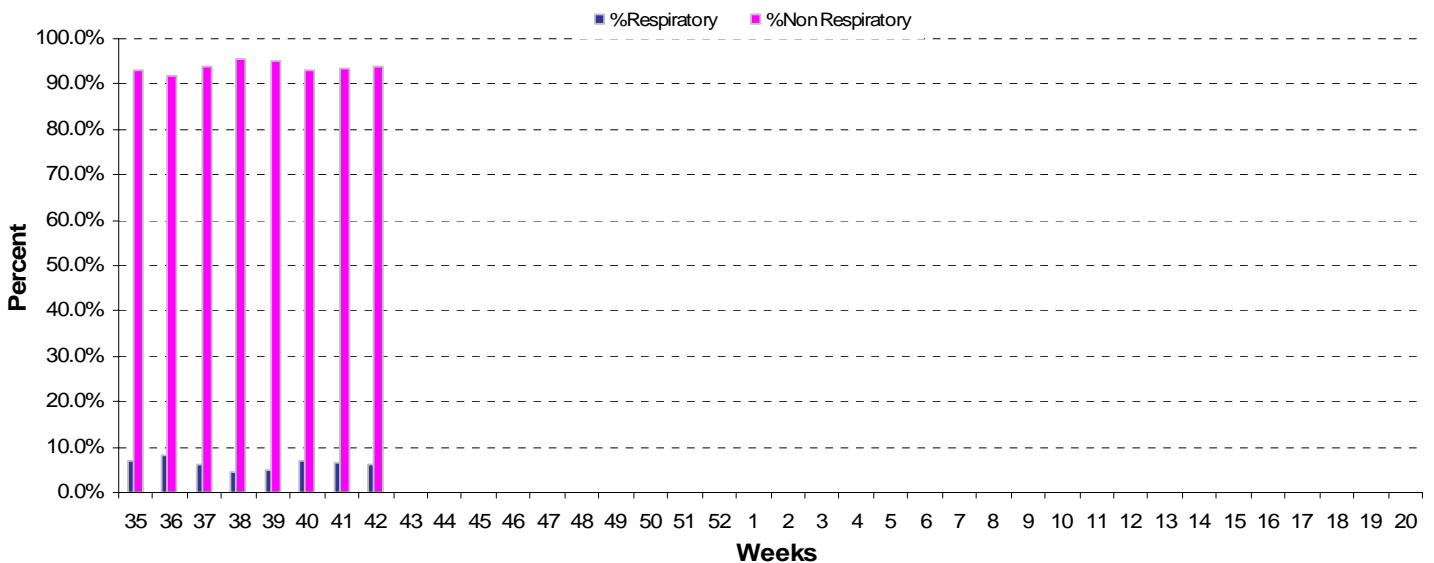
Age Distribution of Novel Influenza A(H1) (N=198), Seasonal Influenza A & B (N=19), and Specimens Tested (N = 684) MMWR Weeks 35 - Present, 2009



IV. Weekly Active Respiratory Illness Hospitalization Surveillance

During the surveillance period from October 18-24, 2009, 12 (50%) of the 24 hospitals throughout the State of Hawai'i that routinely report hospitalization data to HDOH reported information on new and pre-existing hospitalizations. Of the 87 patients who were admitted to hospitals for respiratory illness during this period, 11 (12.6%) were severe enough to be admitted or transferred to an intensive care unit.

Weekly Respiratory Hospitalizations Compared with Non-Respiratory Hospitalizations in Hawai'i Influenza Season 2009-10



New Hospitalizations by Illness Severity

(10/11/2009-10/17/2009, 12 of 24 hospitals reporting)

	Respiratory	Non Resp.	Total
Ward	76	994	1070
ICU	11	88	99

New Hospitalizations by Age group

	Respiratory	Non Resp.	Total
Age 0-4	26	129	155
Age 5-18	2	50	52
Age 19-24	0	106	106
Age 25-49	0	314	314
Age 50-64	13	199	212
Age 65+	38	327	365

V. Clustered ILI Activity

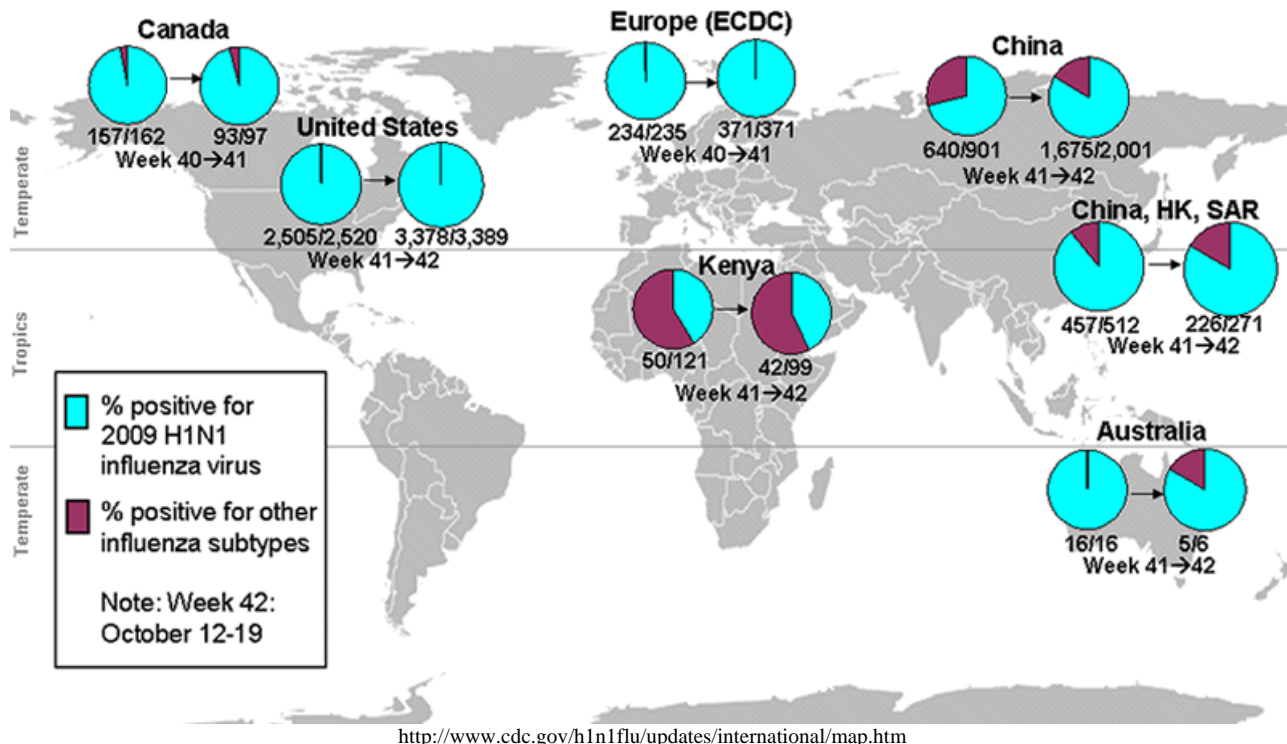
One cluster of ILI was reported by a school in Honolulu County to HDOH during week 41, 2009. Results from specimens collected indicate the presence of 2009 H1N1 virus.

VI. Novel Influenza A(H1N1) Virus Activity

HDOH and CDC discontinued reporting of individual confirmed and probable cases of 2009 H1N1 infection in July 2009, once widespread novel H1N1 activity was confirmed. The CDC no longer collects H1N1-specific information on deaths and hospitalizations. Data reported to CDC now pertains to all influenza types and subtypes.

As of October 23, 2009, according to the World Health Organization (WHO), over 414,000 laboratory-confirmed cases of novel influenza A(H1N1), including nearly 5,000 deaths have been reported worldwide.

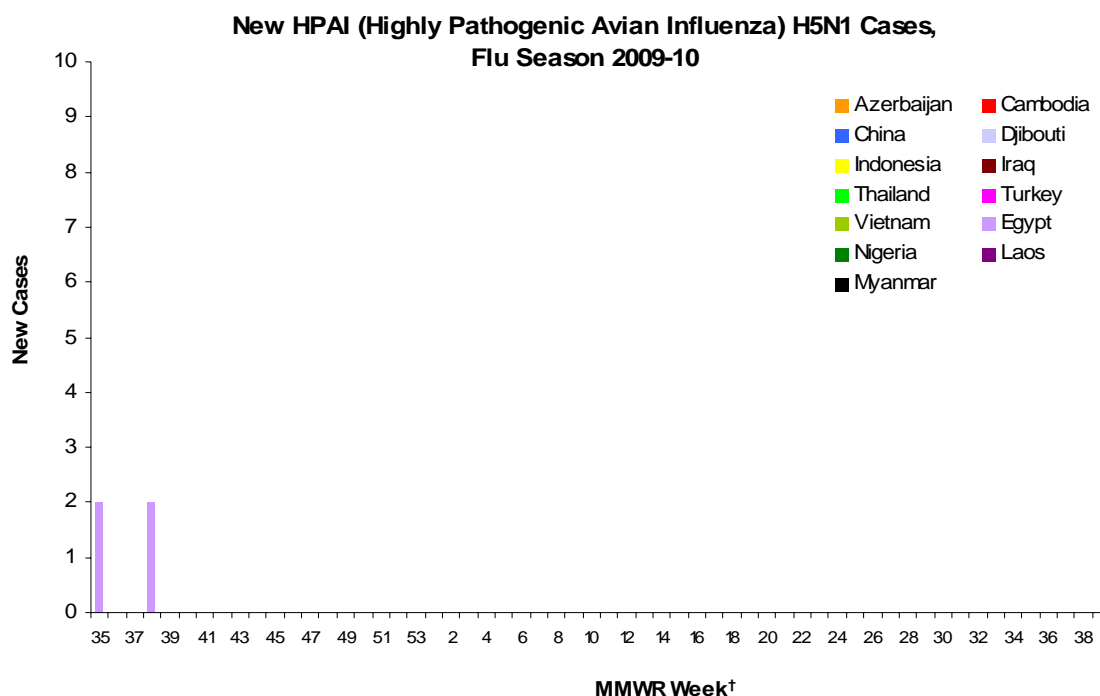
Map: International Co-circulation of 2009 H1N1 and Seasonal Influenza
(As of October 23, 2009)



VIII. Avian Influenza – Last Updated September 24, 2009

Country	2003		2004		2005		2006		2007		2008		2009		Total	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
Azerbaijan	0	0	0	0	0	0	8	5	0	0	0	0	0	0	8	5
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Cambodia	0	0	0	0	4	4	2	2	1	1	1	0	0	0	8	7
China	1	1	0	0	8	5	13	8	5	3	4	4	7	4	38	25
Djibouti	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Egypt	0	0	0	0	0	0	18	10	25	9	8	4	36	4	87	27
Indonesia	0	0	0	0	20	13	55	45	42	36	24	20	0	0	141	115
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	0	0	3	2
Laos	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
Myanmar	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	0	0	12	4
Viet Nam	3	3	29	20	61	19	0	0	8	5	6	5	3	3	111	56
Total	4	4	46	32	98	43	115	79	88	59	44	33	47	12	442	262

Total number of cases (C) includes number of deaths (D). WHO reports only laboratory-confirmed cases. All dates refer to onset of illness.



⁹ For more information regarding the ongoing outbreak in the United States, refer to CDC’s website at <http://www.cdc.gov/h1n1flu/>. Updates from WHO are posted at <http://www.who.int/en/>.

Appendix 1: MMWR Week

Please refer to the table below to interpret data presented by MMWR week.

Week Ending	MMWR	Week Ending	MMWR
10/4/2009	40	4/4/2010	14
10/11/2009	41	4/11/2010	15
10/18/2009	42	4/18/2010	16
10/25/2009	43	4/25/2010	17
11/1/2009	44	5/2/2010	18
11/8/2009	45	5/9/2010	19
11/15/2009	46	5/16/2010	20
11/22/2009	47	5/23/2010	21
11/29/2009	48	5/30/2010	22
12/6/2009	49	6/6/2010	23
12/13/2009	50	6/13/2010	24
12/20/2009	51	6/20/2010	25
12/27/2009	52	6/27/2010	26
1/3/2010	1	7/4/2010	27
1/10/2010	2	7/11/2010	28
1/17/2010	3	7/18/2010	29
1/24/2010	4	7/25/2010	30
1/31/2010	5	8/1/2010	31
2/7/2010	6	8/8/2010	32
2/14/2010	7	8/15/2010	33
2/21/2010	8	8/22/2010	34
2/28/2010	9	8/29/2010	35
3/7/2010	10	9/5/2010	36
3/14/2010	11	9/12/2010	37
3/21/2010	12	9/19/2010	38
3/28/2010	13	9/26/2010	39
4/4/2010	14	10/3/2010	40