

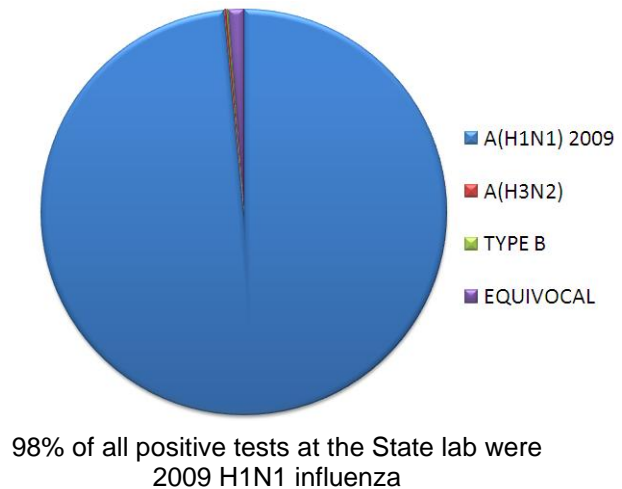
# Maryland Influenza Activity Report

2009-2010 Season Summary | September 2009 to May 2010

Maryland Department of Health and Mental Hygiene  
Infectious Disease and Environmental Health Administration  
Office of Infectious Disease Epidemiology and Outbreak Response

## SUMMARY

The 2009-2010 influenza season was an unique season, as it encompassed the second wave of the 2009 H1N1 influenza pandemic. The pandemic strain 2009 H1N1 strain eclipsed those influenza A and B strains usually present during the influenza season. The second wave of 2009 H1N1 influenza occurred earlier than the expected seasonal influenza peak, in October 2009, after which no further peaks of influenza activity were detected. In non-pandemic years, Maryland's summer influenza activity usually decreases to levels that are too low to detect with current surveillance methods. However, during the summer of 2009, influenza activity in Maryland remained above normally expected levels as a result of the 2009 H1N1 influenza pandemic. Coincident with the beginning of the school year, influenza activity rose from sporadic and local activity to regional then widespread activity in most of the United States, including Maryland.



The **peaks of influenza activity** in Maryland are usually seen in the winter months of January and February, but peaks as early as November and as late as March have been detected. This influenza season, the peak of activity occurred during October. For those weeks where influenza activity was at its peak, over 1,000 specimens were analyzed at the State Laboratory, and over 5,000 rapid influenza tests were reported to have been performed at clinical laboratories throughout Maryland. Also, over 3,000 patients with influenza-like illness (ILI) were seen by health care providers participating in the sentinel provider network during the peak of activity. **ILI is defined as a fever and cough or fever and sore throat.**

The 2009 H1N1 influenza (pandemic) virus predominated in specimens tested at the State Laboratory: representing over 98% of positive specimens. Very few other influenza viruses were detected, a deviation from what is normally seen during non-pandemic influenza seasons. During a regular influenza season, both type A H1 and A

H3 viruses are detected, while type B viruses are often detected more toward the end of the season. That was not the case this season.

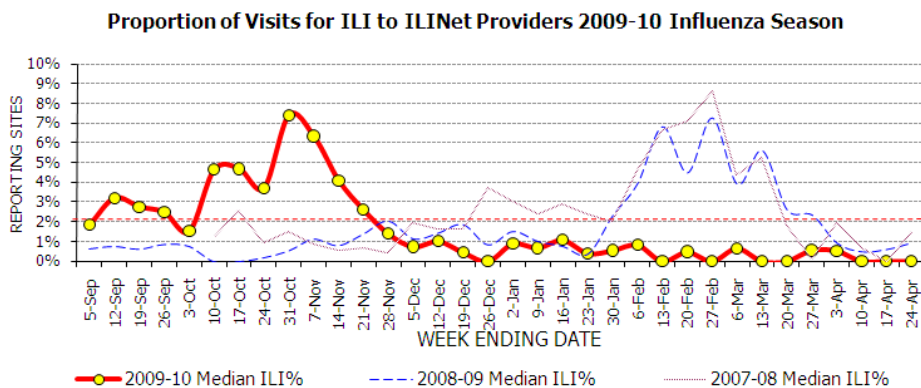
There were **46 reported deaths** in Maryland residents associated with 2009 H1N1 influenza. Prior to the 2009 H1N1 influenza pandemic, influenza-related deaths in adults were not reported. However, in an attempt to characterize the severity of the pandemic, data on both adult and pediatric deaths associated with influenza were collected in Maryland. It is suspected that the number of confirmed influenza hospitalizations and deaths may be under-reported in Maryland, for several reasons, including a lack of universal testing of all hospitalized patients with ILI symptoms, clinical diagnosis of influenza made without testing, and alternate diagnoses/coinfections among those hospitalized.

Likewise, overall numbers of influenza cases are likely under-represented by Maryland surveillance data. CDC estimates an infection rate of 5% to 20% in the United States. However, many affected are not tested, as many do not seek medical care, may have had sub-clinical infection, or been evaluated in clinical facilities without influenza testing materials. Nevertheless, public health gained much information from influenza surveillance this season. That information was instrumental in guiding vaccine and other mitigation efforts during the pandemic.

## U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet)

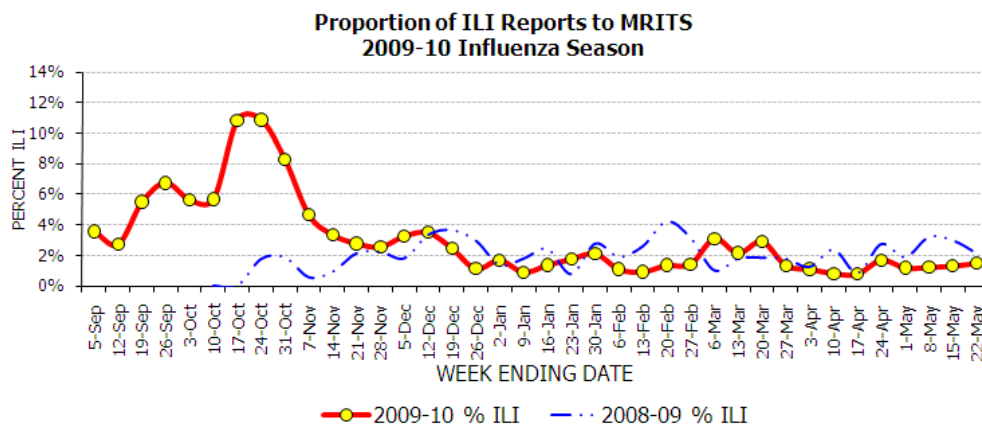
Over the course of the influenza season, 30 providers in 20 jurisdictions reported a total of 11,268 cases of ILI visiting their practices. The highest proportion of visits due to ILI was reported during the last week of October 2009, when the weekly ILI proportion was over 7%. The proportion of visits due to ILI was above baseline in Maryland for ten weeks between September and November 2009. The majority of ILI cases were in the 5 to 24 age group, followed by the 25 to 64 age group. Certain providers may be over-represented in ILINet, such as student health practitioners, pediatricians, and obstetricians, thus the reported data may not be representative of all age group

in the distributions population.



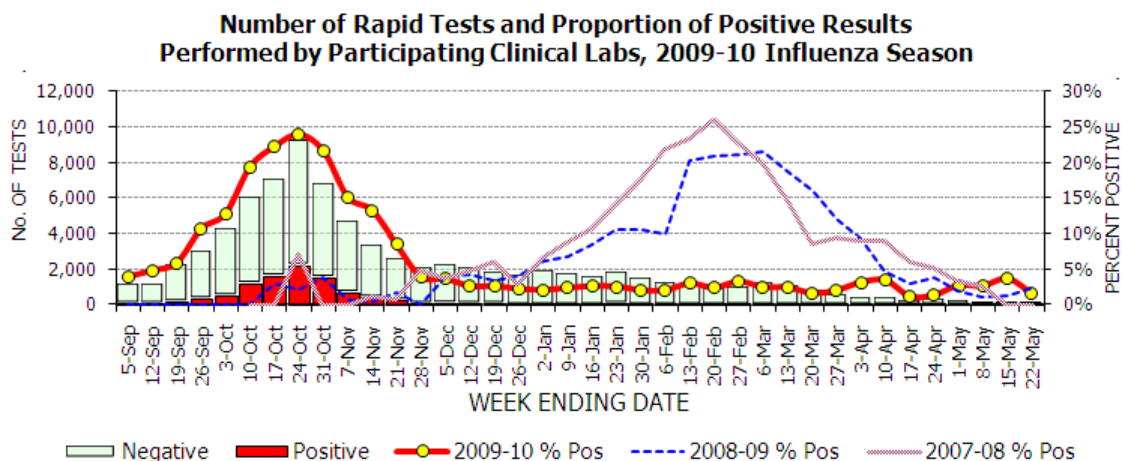
# Maryland Resident Influenza Tracking Survey (MRITS)

First used during the 2008-2009 influenza season, the MRITS is an on-line survey of Maryland households. Heads of households report weekly on the number of persons in their household with ILI. About 1,600 Maryland residents participate in the system, comprising about 600 households. During the 2009-2010 influenza season, a total of 876 participants reported having symptoms compatible with ILI. The highest proportions of participants with ILI were reported in the middle weeks of October 2009.



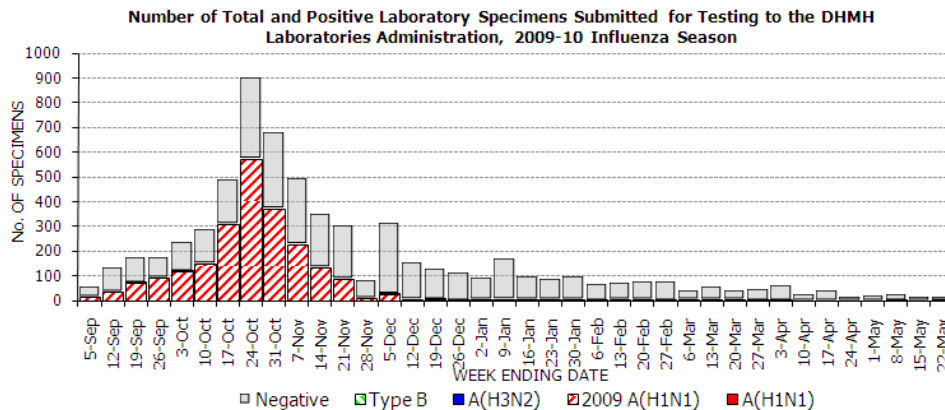
## Clinical Laboratory Influenza Surveillance

Thirty clinical laboratories located in hospitals, clinics, and physician offices in Maryland participated in influenza surveillance by reporting each week the number of rapid influenza tests they performed. The highest numbers of tests, total and positive, were reported during the middle of October 2010. During the week ending October 24, 2009, over 9,300 rapid tests were reported by 28 of the clinical labs, of which 2,236 (24%) were positive. Similar proportions have been observed in previous influenza seasons, although later in the season.



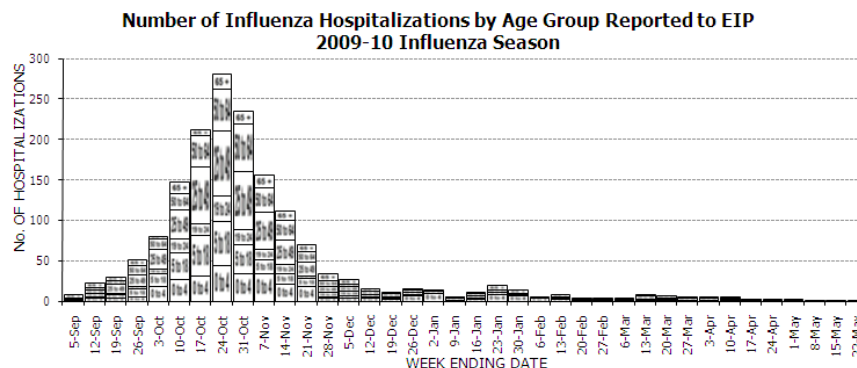
## DHMH Laboratory Influenza Surveillance

The DHMH Laboratories Administration has performed polymerase chain reaction (PCR) tests for influenza in over 6,300 respiratory specimens so far this season. Of those, 2,320 (36%) were positive for influenza (all types). Of those, 2,284 (98% of positives) were positive for 2009 H1N1 influenza. Four samples were positive for the H3N2 seasonal strain of influenza. Three were positive for type B, and 29 specimens were “equivocal” (where the samples were not of a quality to yield definitive results).

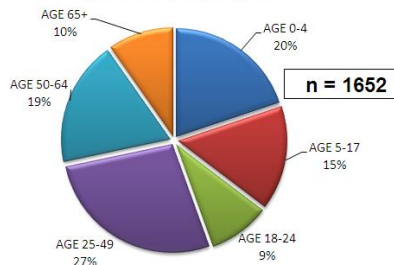


## Emerging Infections Program Influenza Hospitalization Tracking

The Emerging Infections Program (EIP) tracks hospital admissions associated with influenza. A person admitted to a hospital with a positive influenza test (of any kind) is counted as a case. So far this influenza season, 1,652 cases have been reported to EIP from hospitals all over Maryland. Of those, 929 (56%) were confirmed to be cases of 2009 H1N1 influenza. The highest number of cases was reported during the week ending October 24, 2009, when 281 cases were reported. Of the cases reported, 727 (44%) were under the age of 24.

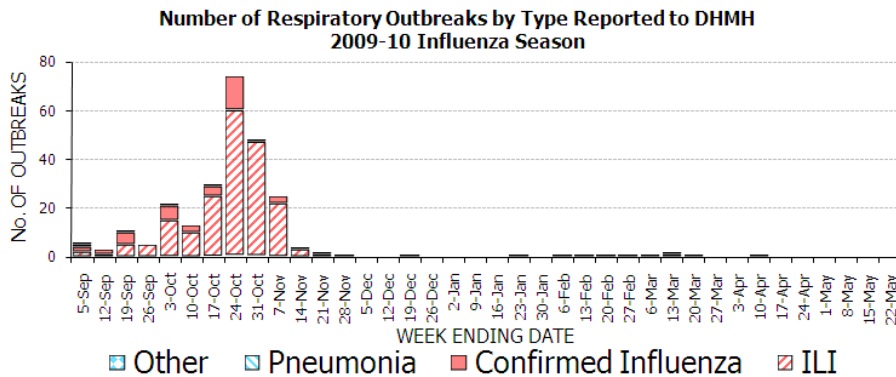


**Distribution of Influenza Hospitalizations in Maryland by Age Groups 2009-10 Influenza Season**



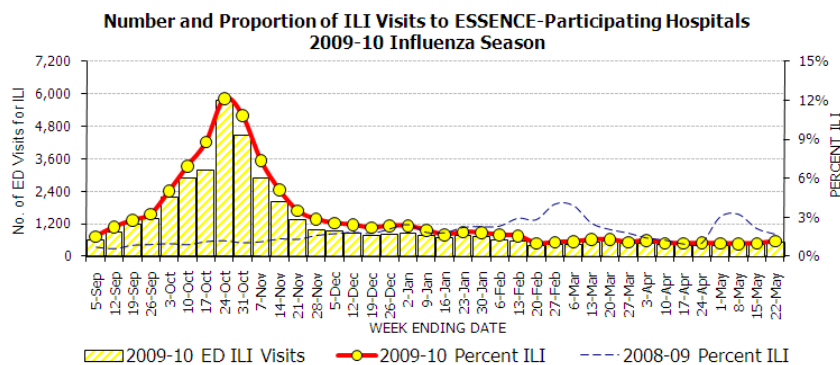
# Reports to the Division of Outbreak Investigation

The Division of Outbreak Investigation receives reports of outbreaks of communicable diseases in institutional settings and follows-up on them. During the current influenza season, 255 outbreaks of respiratory disease (ILI, confirmed influenza, pneumonia) have been reported to the Division. Of those, 198 (78%) were reports of ILI, and 44 (17%) were reports of confirmed influenza outbreaks. Most of the ILI and influenza outbreaks reported were associated with schools and daycare settings. The most reported outbreaks in one week occurred during the week ending October 24, 2009, when a total of 74 outbreaks (60 ILI and 14 influenza) were reported.



# ESSENCE Reports

The Office of Preparedness and Response oversees the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE). The system looks at, among other things, chief complaints of people visiting emergency departments in hospitals throughout Maryland. These chief complaints are analyzed and classified to understand why people are visiting those emergency departments. During the current influenza season, over 1.5 million visits to emergency departments were reported through ESSENCE. Of those, 44,576 (2.9%) were visits for ILI. The highest proportion of visits for ILI was reported during the week ending October 24, 2009.



## Continued Activities

Influenza surveillance continues year-round. While influenza activity is not as active during the summer months, it is still important to look at influenza-like illness and other syndromes to detect potential threats to the health of Maryland residents. Influenza summary reports will be published as necessary, resuming weekly publication in October 2010. If you have any questions about influenza surveillance in Maryland, contact the influenza surveillance coordinator at 410-767-6700 or at [influenza@dhmh.state.md.us](mailto:influenza@dhmh.state.md.us).

Questions? Comments? Visit our website at <http://dhmh.maryland.gov/fluwatch> or contact Mr. Rene Najera, influenza surveillance coordinator at [flu@dhmh.state.md.us](mailto:flu@dhmh.state.md.us) or 410-767-6700.

As always, the information contained in this report is preliminary and subject to change as more data are reported by collaborating sites. Also, the information is not intended to be used for individual diagnoses.