



Infectious Disease Epidemiology Report

Voluntary Reporting of Influenza Testing - Maine, 2008-2009



Synopsis

Influenza is a viral illness that typically occurs during the winter months. Illness is characterized by the abrupt onset of constitutional and respiratory signs and symptoms, such as fever, muscle aches, headache, severe malaise, non-productive cough, sore throat, and runny nose. Influenza is spread from person to person primarily by coughing and sneezing.

Methods

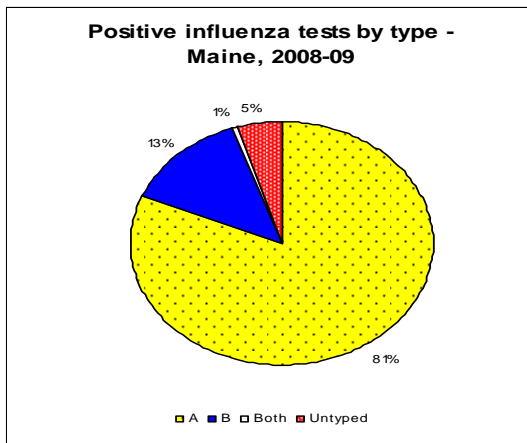
Seasonal influenza is not required to be reported in the state of Maine (novel influenza is considered a reportable disease). However, many outpatient offices, laboratories, and hospitals report positive tests including culture, Polymerase Chain Reaction (PCR), Enzyme ImmunoAssay (EIA), Direct Fluorescent Antibody (DFA) and titer results. The majority of tests that were voluntarily reported were rapid diagnostic tests. These tests have varying sensitivity and specificity depending on the prevalence of influenza in the area. Therefore, rapid tests are traditionally not classified as "Lab Confirmed." This convenience sample was entered into a database to look at influenza trends.

Results

During the 2008-09 season, a total of 690 positive influenza tests were reported to Maine CDC.

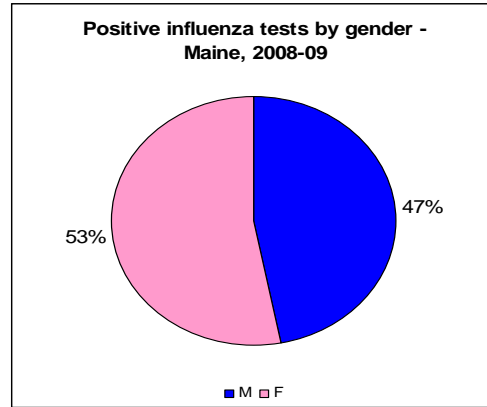
Influenza Type

PCR, culture, titer and many rapid tests are able to distinguish between influenza types A and B. Influenza was classified as type A, type B, co-infected with A and B, or not typed. For the 2008-09 season, 561 patients tested positive for type A, 92 patients tested positive for type B, 5 patients tested positive for both A and B, and 32 patient tests did not differentiate between types.



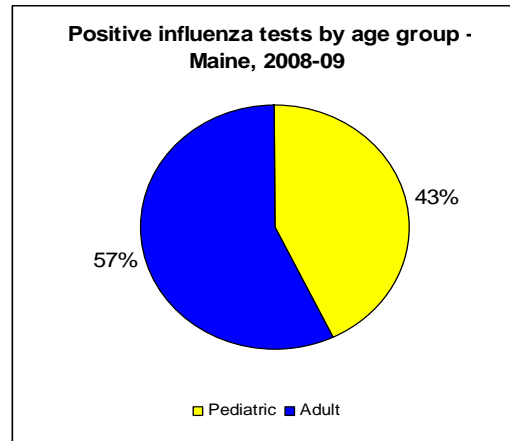
Gender

For the 2008-09 influenza season gender was available for 667 patients; 354 of the patients with positive tests were female, and 313 of the patients with positive tests were male.



Pediatric Burden of Disease

A total of 663 positive influenza reports included the patient's date of birth. The date of birth was subtracted from the date of testing and then divided by 365.25 to determine the patient's age in years at the time of the test. Patients were coded as pediatric (under the age of 18) or adult (18 years or older). For the 2008-09 influenza season, 284 of the patients were pediatric, and 379 patients were adult.

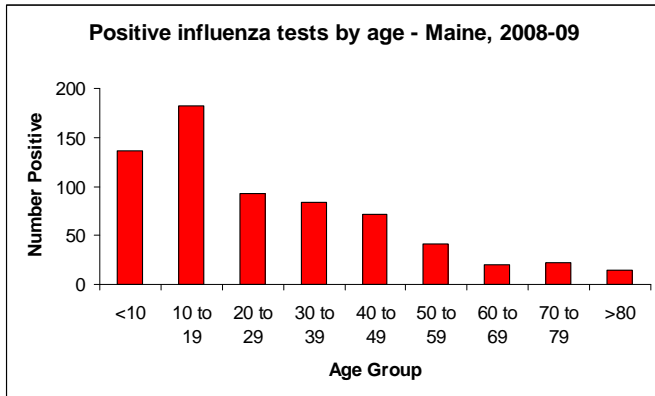


Age Distribution

Using the age calculated from the date of birth, the data were arranged into age groups by decade, starting with less than 10 and increasing to greater than 80. The youngest person reported with influenza during the 2008-09 season

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was 6 weeks old and the oldest was 99. The mean age among reported patients positive for influenza was 28.



Geographic Distribution

Many of the influenza reports included the city of residence for the patient. For those that did not have a city listed, the city from the reporting source was used. Using this method, city was available for 656 patients. These were then coded into county.

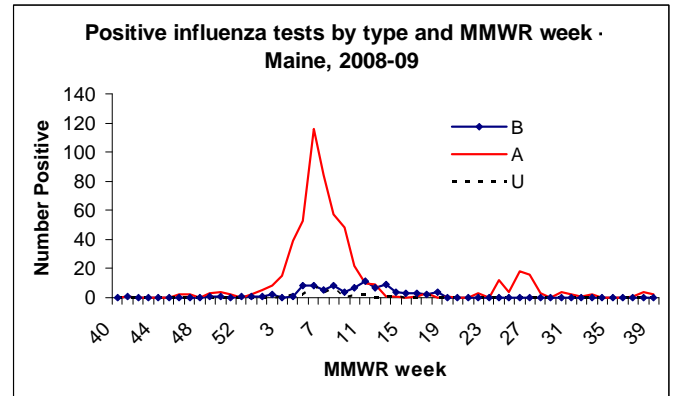
Positive influenza tests by county – Maine 2008-09

County	Number Positive	Percentage of total cases in Maine
Androscoggin	127	19.36
Aroostook	61	9.30
Cumberland	103	15.70
Franklin	17	2.59
Hancock	49	7.47
Kennebec	29	4.42
Knox	7	1.07
Lincoln	44	6.71
Oxford	18	2.74
Penobscot	79	12.04
Piscataquis	4	0.61
Sagadahoc	15	2.29
Somerset	8	1.22
Waldo	5	0.76
Washington	20	3.05
York	70	10.67
Total	656	100

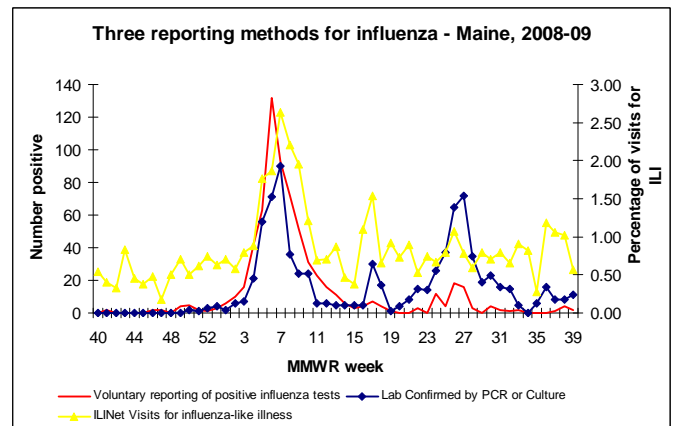
Time Frame

There were a few sporadic cases in September, October and November. The positive tests reported to Maine CDC peaked in February with 360 tests reported during the month. Influenza was reported for the entire year, due mostly to the emergence of the pandemic strain of Influenza A. Influenza type A was present throughout the entire year, influenza B was not seen during the summer months. Influenza A peaked in February, whereas the

highest number of influenza B positives occurred in March (35).



These voluntary reports paralleled what the state of Maine saw through the traditional surveillance methods (Reference Labs, HETL and ILINet Provider Network).



Discussion

During the 2008-09 influenza season in Maine, in this sample of positive lab tests, influenza A was reported more than influenza B. In this sample, more positive influenza tests were reported in females than males. Overall, influenza was reported in more adults than pediatric patients. However, the most affected age group was 10 to 19. Androscoggin county reported the most cases of influenza with 127, while Piscataquis reported the least with 4. The 2008-09 season ran from October to September, and peaked in February and again in June with novel H1N1.

Although these results cannot be used to make inferences they do allow us a glimpse at the burden of disease by age group, gender, geographical location, and time of year, as well as demonstrating trends. Even though influenza reporting is not required by the state, those reports received offer an interesting look into the distribution and range of the influenza virus during the 2008-09 influenza season.