



Infectious Disease Epidemiology Report

Voluntary Reporting of Influenza Testing - Maine, 2010-2011



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. The 2010-2011 influenza season ran from October 3, 2010 to October 1, 2011.

Methods

Seasonal influenza infection 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 Enzyme ImmunoAssay (EIA), Direct Fluorescent Antibody (DFA) and titer results. These tests have varying sensitivity and specificity depending on the prevalence of influenza in the area. Therefore, rapid tests are positive but not classified as "Lab Confirmed." This convenience sample was entered into a database to identify trends and characterize influenza burden.

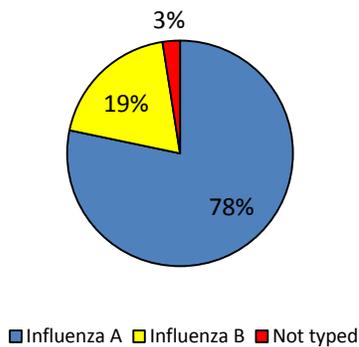
Results

During the 2010-11 season, a total of 281 positive influenza tests were reported to Maine CDC.

Influenza Type

Serology and many rapid tests are able to distinguish between influenza types A and B. Influenza was classified as type A, type B, or not typed. For the 2010-11 season, 220 (78%) patients tested positive for type A, 54 (19%) patients tested positive for type B, and 7 (3%) patient tests did not differentiate between types.

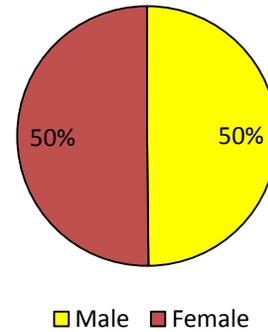
Positive Influenza Tests by Type – Maine, 2010-11



Gender

For the 2010-11 influenza season gender was available for 277 patients; 139 (50%) of the patients with positive tests were female, and 138 (50%) of the patients with positive tests were male.

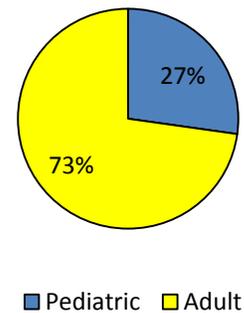
Positive Influenza Tests by Gender – Maine, 2010-11



Pediatric Burden of Disease

A total of 276 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 categorized as pediatric (under the age of 18) or adult (18 years or older). For the 2010-11 influenza season, 75 (27%) of the patients were pediatric, and 201 (73%) patients were adult.

Positive Influenza Tests by Age Group – Maine, 2010-11

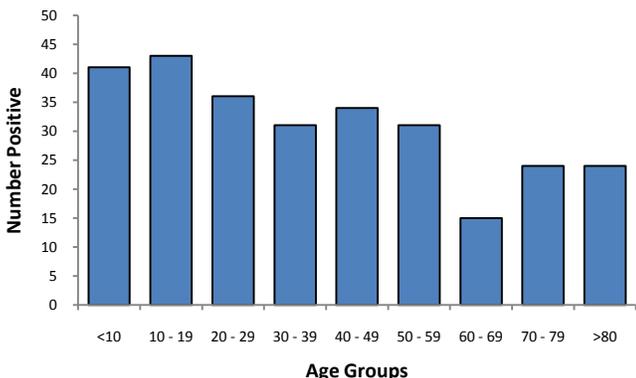


Age Distribution

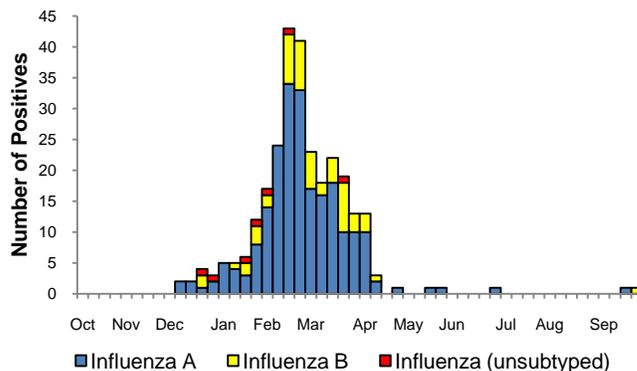
Using the age calculated from the date of birth, the data were categorized into age groups by decade, starting with less than 10 and increasing to greater than 80. The youngest person reported with influenza during the 2010-11 season was 6 weeks old and the oldest was 93. The mean age among reported patients positive for influenza was 39.

Voluntary Reporting of Influenza Testing – Maine, 2010-2011

Positive Influenza Tests by Age – Maine, 2010-11

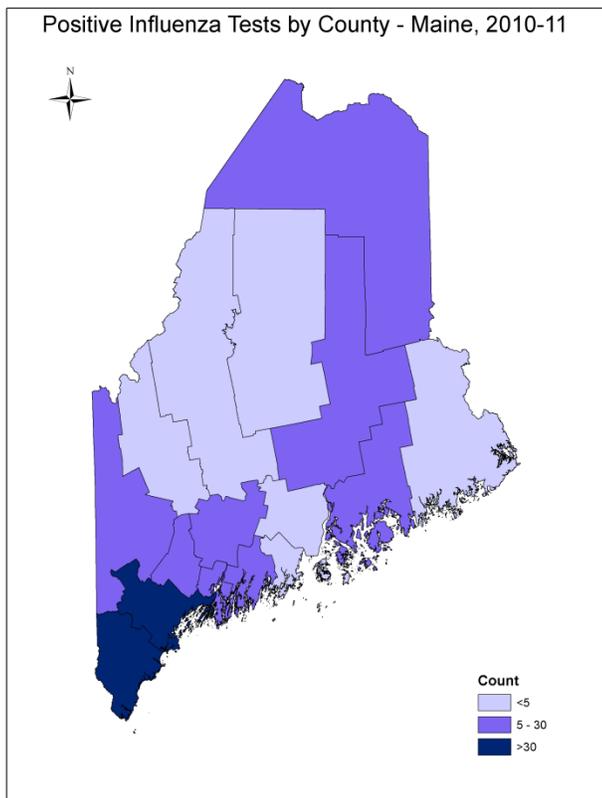


Positive Influenza Tests by Type– Maine, 2010-11



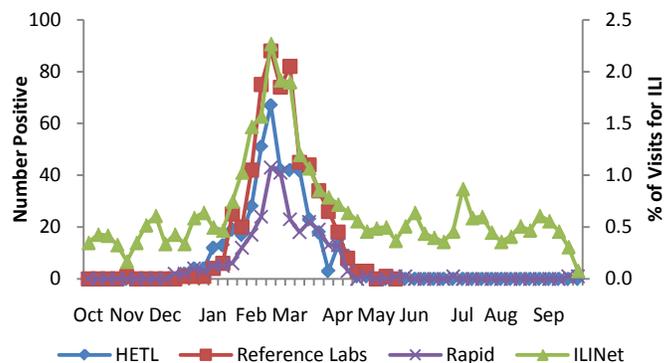
Geographic Distribution

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 and county was available for 272 patients. Nine patients had out of state residences.



The findings of voluntary test surveillance were well matched to the trends identified through other passive surveillance methods (Reference Labs, HETL and ILINet Provider Network).

Four Reporting Methods for Influenza – Maine, 2010-11



Discussion

During the 2010-11 influenza season in Maine, in this sample of positive lab tests, influenza A was reported more than influenza B. Overall, influenza was reported in more adults than pediatric patients. The most commonly reported age group was 10 to 19, which is consistent from previous years. York and Cumberland counties reported the most cases of influenza with 64 and 63 respectively, while Waldo reported the least with 2. Influenza activity during the 2010-11 season peaked in February.

Although these rapid test results have limitations, they demonstrate the burden of disease by age group, gender, geographical location, and time of year. Even though seasonal influenza reporting is not required by the state, the reports received offer insights into the distribution and range of the influenza virus during the 2010-11 influenza season.

Time Frame

Positive rapid tests were first reported to Maine CDC in December. The positive tests reported to Maine CDC peaked in February (123 tests reported). There were no positive tests reported in July and August, and a few positives reported in September 2011.