



Infectious Disease Epidemiology Report

Voluntary Reporting of Influenza Testing - Maine, 2014-2015



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 virus is spread from person to person primarily by coughing and sneezing. The 2014-2015 influenza season ran from September 28, 2014 to October 3, 2015. Maine CDC released weekly reports from October 14, 2014 to May 26, 2015, which is when the majority of activity occurred.

Methods

Maine does not require seasonal influenza infection to be reported (novel influenza is considered a reportable disease). However, many outpatient offices, laboratories, and hospitals report positive tests. These tests have varying sensitivity and specificity depending on the prevalence of influenza in the area and which test is used. Serology results (titers) are not included in this report because it is impossible to differentiate between disease and vaccine response without clinical information. Every positive test is entered into Maine's surveillance system to identify trends and characterize influenza burden.

Results

During the 2014-15 season, a total of 4,238 individuals with a positive influenza test were reported to Maine CDC. This includes rapid antigen, polymerase chain reaction (PCR), and culture results. These results are de-duplicated so each patient is counted only once, even if they had both a rapid and PCR test.

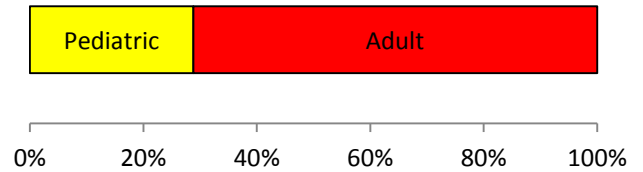
Gender

For the 2014-15 influenza season, gender data were available for all patients; 2,380 (56.2%) of the patients with positive tests were female, and 1,858 (43.8%) of the patients with positive tests were male.

Pediatric Burden of Disease

All positive influenza reports included the patient's date of birth which was used to calculate age. Patients were categorized as pediatric (under 18 years) or adult (18 years or older). For the 2014-15 influenza season, 1,220 (28.8%) of the patients were pediatric, and 3,018 (71.2%) patients were adult.

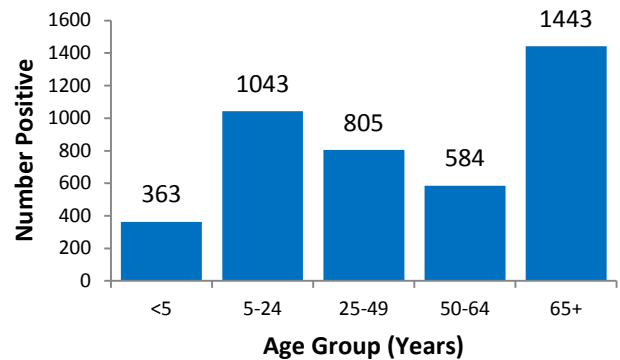
Positive Influenza Tests by Age Group – Maine, 2014-15



Age Distribution

Using the age calculated from the date of birth, the data were categorized into age groups. The youngest person reported with influenza during the 2014-15 season was 2 days old and the oldest was 103 years old. The mean age among reported patients positive for influenza was 46 years.

Positive Influenza Tests by Age – Maine, 2014-15



Influenza Type

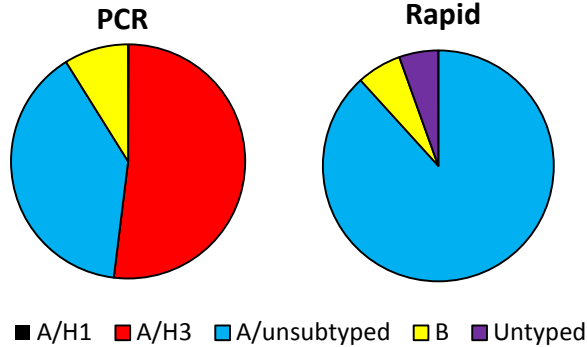
PCR positive tests were classified as A/H1, A/H3, A/unsubtyped, or B. For the 2014-15 season, 2,209 individuals tested positive by PCR: 2 for influenza A/H1, 1,143 for influenza A/H3, 871 for influenza A/unsubtyped, and 193 for influenza B.

Rapid positive tests were classified as type A, type B, or not typed. For the 2014-15 season, 2,104 individuals tested positive by rapid test: 1,861 for influenza A, 127 for influenza B, and 116 for influenza untyped.

Patients may have tested positive by both methods. The typing results are not de-duplicated.

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Positive Influenza Tests by Type – Maine, 2014-15



Geographic Distribution

Most of the influenza reports included the city of patient's residence. For those that did not have a city listed, the city from the reporting source was used. Using this method, city and county data were available for all patients. Influenza was reported in all 16 counties.

Positive Influenza Tests by County and Type – Maine, 2014-15

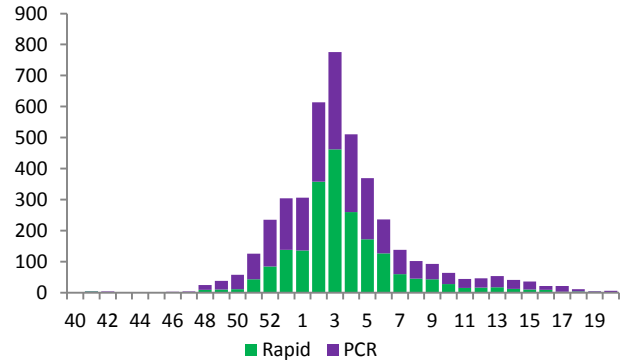
County	Rapid	PCR	Total Individuals*
Androscoggin	49	74	122
Aroostook	263	92	337
Cumberland	197	440	641
Franklin	178	20	189
Hancock	3	148	156
Kennebec	156	44	199
Knox	156	106	249
Lincoln	112	57	155
Oxford	32	31	59
Penobscot	163	635	791
Piscataquis	6	23	29
Sagadahoc	20	83	103
Somerset	66	129	191
Waldo	37	68	104
Washington	8	92	96
York	658	167	817
Total	2104	2209	4238

* Total individuals is calculated by deduplicating the rapid and PCR positive results, removing the individuals who tested positive by both methods.

Time Frame

Positive tests were first reported to Maine CDC in October 2014. The positive tests reported to Maine CDC peaked in the second week of January 2015. Seven positive tests were reported during the off season months: six rapid positives and 1 PCR positive.

Positive Influenza Tests by Test type – Maine, 2014-15



Discussion

In this sample of positive lab tests from the 2014-15 influenza season in Maine, influenza A was reported more than influenza B, with influenza A/H3 as the predominant strain in those samples that were typed.

Overall, influenza was reported in more adults than pediatric patients. The most commonly reported age group was 65 years and older, which is not uncommon for years when H3 strains predominate.

Although influenza itself is not reportable, this voluntary data provides valuable information on the burden and severity of the influenza season including providing information about influenza type, age group, gender, geographical location, and time of year.