

Influenza Surveillance Report

www.infectiousdisease.dhh.louisiana.gov

Week 12: 3/18/17 - 3/25/17

Influenza activity is beginning to decrease in Louisiana. The percent of influenza positives is still high at both clinical labs and the state public health laboratory. The most common non-influenza respiratory virus being reported is Rhino/Enterovirus.

The Influenza Surveillance Summary Report describes the results of the tracking done by the Louisiana Office of Public Health Infectious Disease Epidemiology Section (IDEpi). This report relies on data supplied by sentinel surveillance sites, including hospital emergency departments (ED), laboratories and physicians' offices. Sentinel sites provide weekly data on Influenza Like Illness (ILI) and/or laboratory confirmed cases.

Taken together, ILI surveillance and laboratory surveillance provide a clear picture of the influenza activity occurring in Louisiana each week. If you have any questions about our surveillance system or would like more information, please contact Julie Hand at 504-568-8298 or julie.hand@la.gov.

ILI is defined as an illness characterized by cough and/or cold symptoms and a fever of 100° F or greater in the absence of a known cause. While not every case of ILI is a case of influenza, the CDC has found that trends in ILI from sentinel sites are a good proxy measure of the amount of influenza activity in an area. For this reason, all states and territories participating in the national surveillance program monitor weekly ILI ratios from their sentinel surveillance sites.

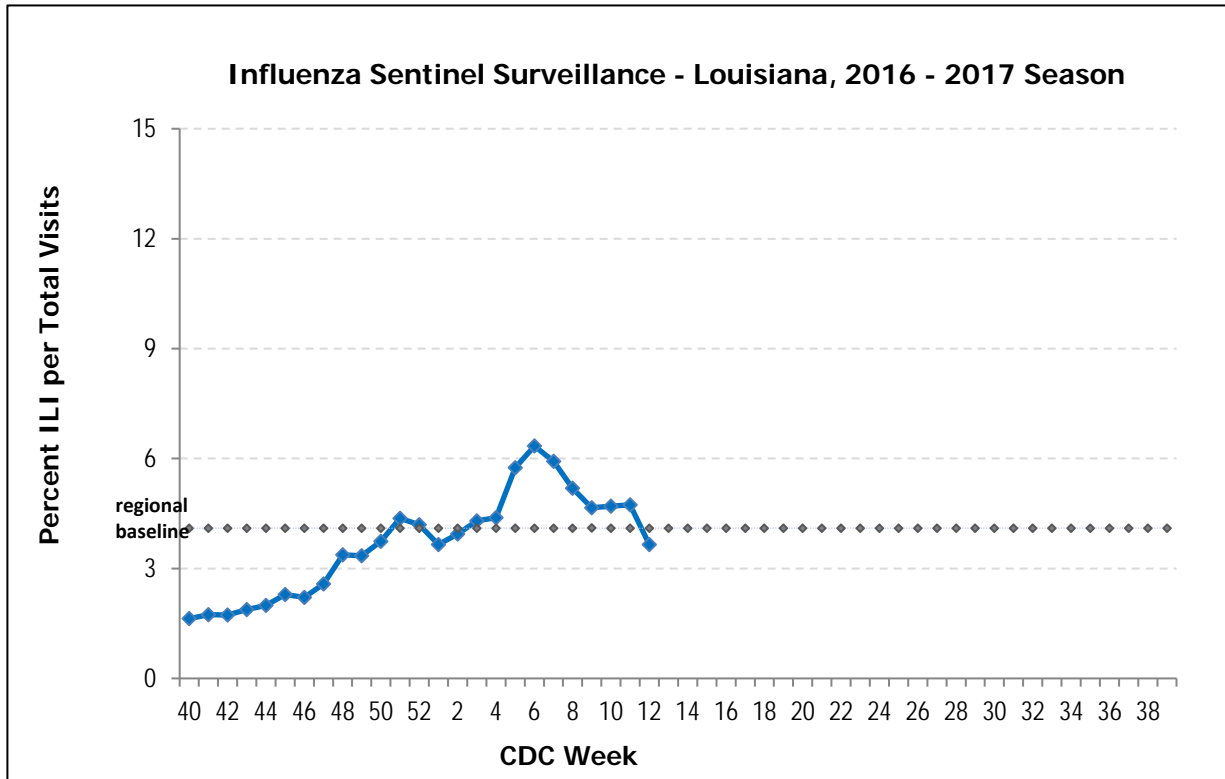


Laboratory testing: Not all sentinel sites have access to laboratory testing. However, many hospitals and physicians' offices do perform some influenza testing. Sites that test for influenza report the number of positive tests each week and the total number of tests performed each week. This information is included on page 3 of this report.

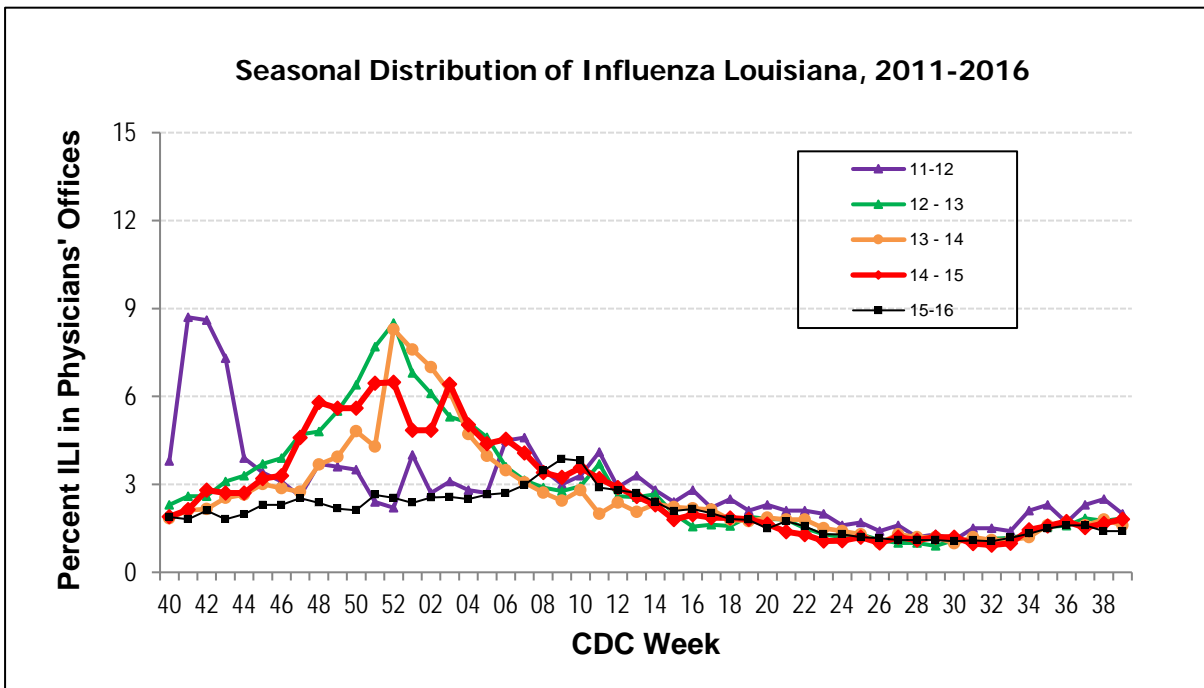
Page 2 : ILI Activity
Page 3: Virologic Surveillance
Page 4: Geographic Distribution
Page 5-6: Regional & National Data

2016-2017 Season

This graph shows the percentage of visits for ILI over the total number of visits for sentinel surveillance sites. This is the best approach to estimate the magnitude of influenza transmission. ILI counts do include some viral infections other than influenza, but experience over the last 50 years has shown that this approach is a reliable method to estimate influenza transmission. It does not show which strain of influenza virus is responsible. The page on lab surveillance does show the proportion of specimens attributable to each virus strain.

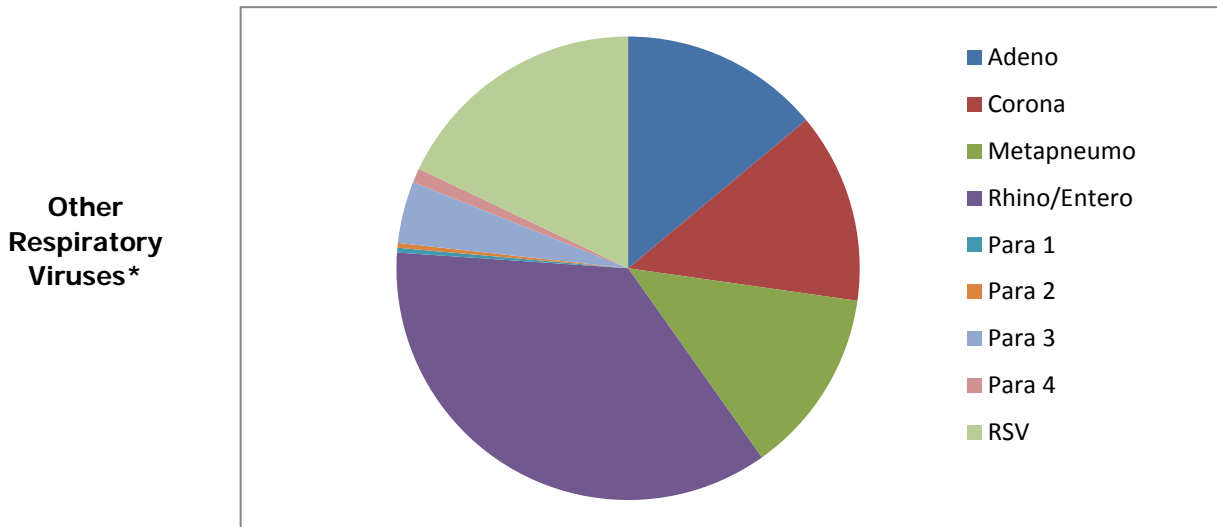
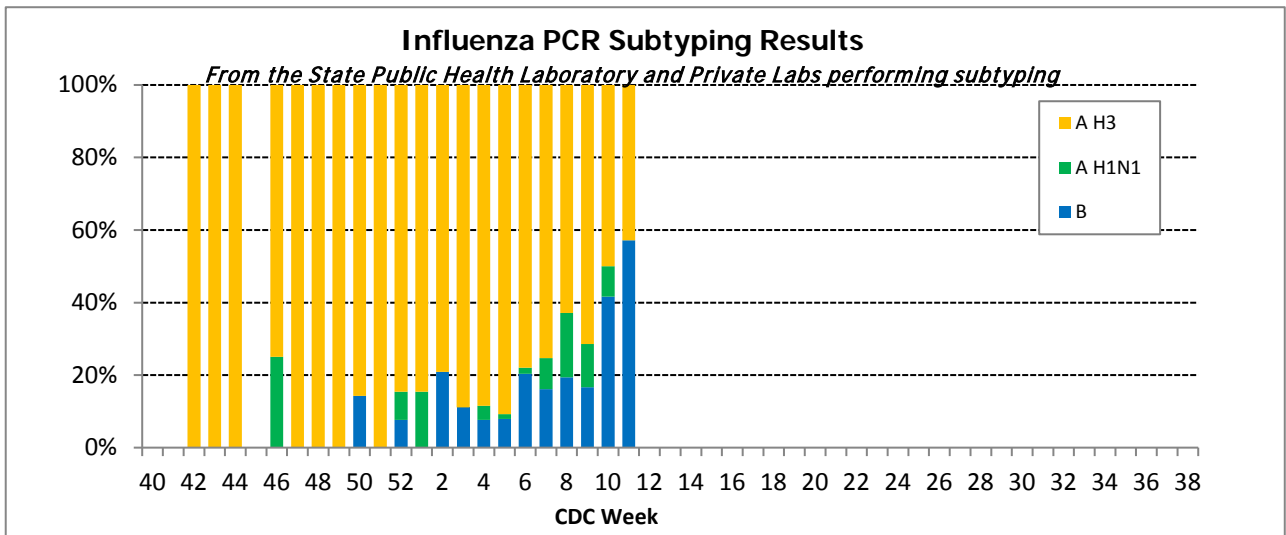
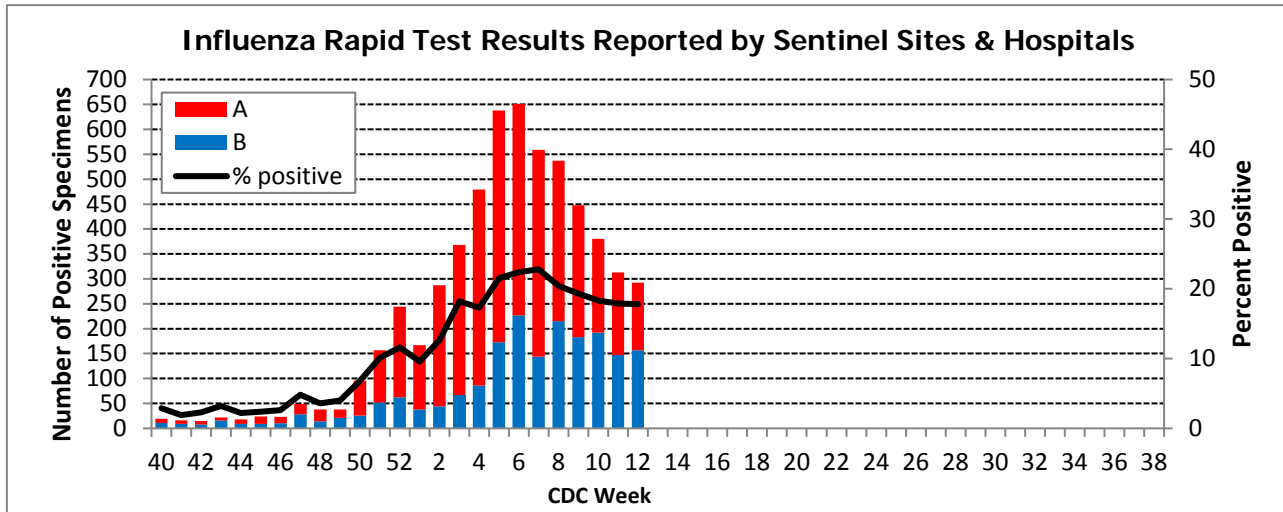


This graph shows the data on ILI surveillance among sentinel physicians' over the past 5 seasons to enable comparisons with previous years and better estimate the amplitude of this season's influenza transmission.



2016-2017 Season

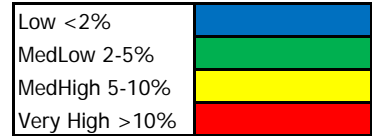
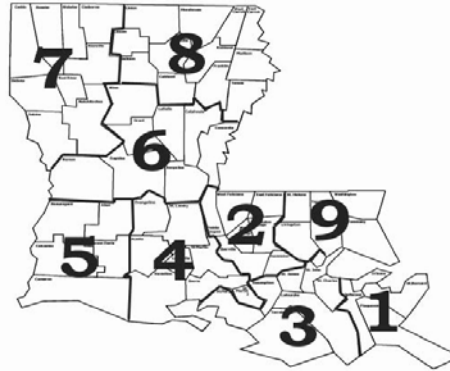
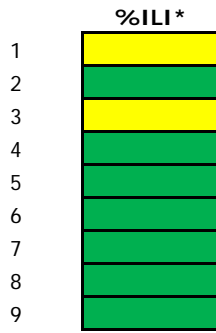
Virologic Surveillance



*Based on results from the State Public Health Laboratory Respiratory Virus Panel (RVP) Testing and other labs reporting RVP results over the last 4 weeks.

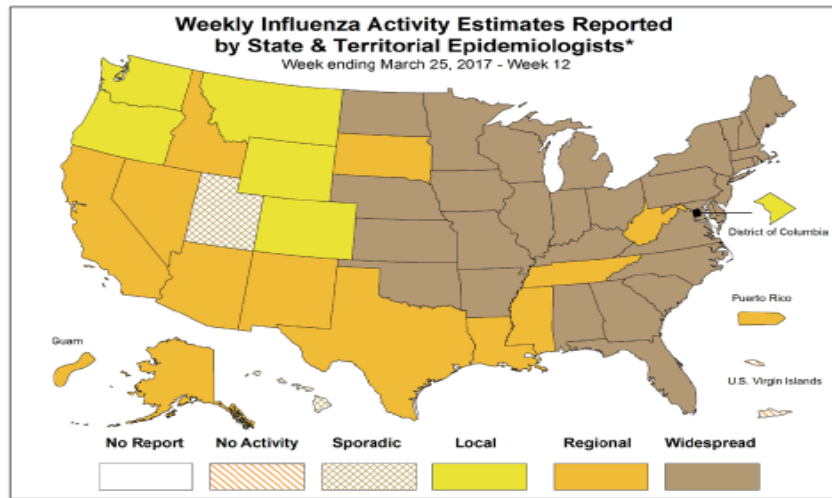
2016-2017 Season

Geographical Distribution of ILI



* %ILI over the last 4 weeks based on sentinel surveillance data

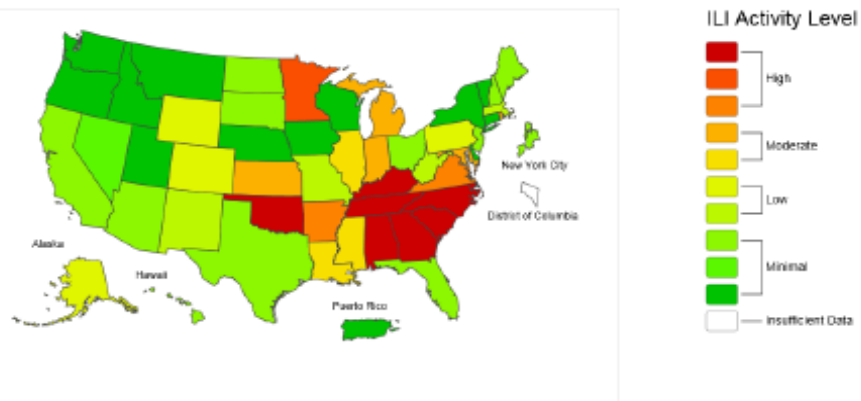
Geographic Spread of Influenza as Assessed by State and Territorial Epidemiologists



* This map indicates geographic spread & does not measure the severity of influenza activity

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet 2016-17 Influenza Season Week 12 ending Mar 25, 2017

ILINet Activity Indicator Map



2016-2017 Season

National Surveillance

During week 12, influenza activity remained elevated in the United States.

The proportion of deaths attributed to pneumonia and influenza (P&I) was above the system-specific threshold in the National Center for Health Statistic (NCHS) Mortality Surveillance System.

Six influenza-associated pediatric deaths were reported.

Proportion of outpatient visits for influenza-like illness (ILI) was 3.2%, which is above the national baseline of 2.2%.

Clinical Laboratory Data

| | Week 12 | Data Cumulative since October 2, 2016 (week 40) |
|-----------------------------------|---------------|---|
| No. of specimens tested | 23,668 | 878,155 |
| No. of positive specimens (%) | 4,788 (20.1%) | 98,476 (14.5%) |
| <i>Positive specimens by type</i> | | |
| Influenza A | 2,253 (47.3%) | 76,484 (77.7%) |
| Influenza B | 2,515 (52.7%) | 21,992 (22.3%) |

Public Health Laboratory Data

| | Week 12 | Data Cumulative since October 2, 2016 (week 40) |
|---|-------------|---|
| No. of specimens tested | 1,253 | 68,646 |
| No. of positive specimens* | 602 | 33,498 |
| <i>Positive specimens by type/subtype</i> | | |
| Influenza A | 320 (53.2%) | 28,647 (85.5%) |
| A(H1N1)pmd09 | 10 (3.1%) | 747 (2.6%) |
| H3 | 291 (90.9%) | 27,552 (96.2%) |
| Subtyping not performed | 19 (5.9%) | 348 (1.2%) |
| Influenza B | 282 (46.8%) | 4,851 (14.5%) |
| Yamagata lineage | 146 (51.8%) | 2,387 (49.2%) |
| Victoria lineage | 27 (9.6%) | 1,243 (25.6%) |
| Lineage not performed | 109 (38.7%) | 1,221 (25.2%) |

HHS Surveillance Region Data:

| <i>U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) 2016-2017 Influenza Season</i> | | | | | | | | | | | |
|--|-------------------|---------------|----------------|-----------------|-----------------|------------------------|-----------|----------------------|------------------|----------------|--|
| <i>HHS Region 6 (AR, LA, NM, OK, and TX) (Baseline: 4.1%) Data as of Friday, March 31, 2017</i> | | | | | | | | | | | |
| CDC Week | # Sites Reporting | ILI 0-4 years | ILI 5-24 years | ILI 25-49 years | ILI 50-64 years | ILI 65 years and older | Total ILI | Total Patient Visits | % Unweighted ILI | % Weighted ILI | |
| 201709 | 279 | 1156 | 2271 | 1391 | 593 | 384 | 5795 | 103836 | 5.6 | 6.9 | |
| 201710 | 284 | 1060 | 2070 | 1377 | 654 | 350 | 5511 | 104137 | 5.3 | 6.6 | |
| 201711 | 283 | 943 | 1649 | 1115 | 590 | 301 | 4598 | 96954 | 4.7 | 5.5 | |
| 201712 | 236 | 797 | 1362 | 884 | 418 | 245 | 3706 | 94498 | 3.9 | 4.5 | |

Region 6 (AR, LA, NM, OK, TX)

| CDC Week | Public Health Labs | Public Health Specimens Tested | AUNK | AH1N1 pdm09 | AH3N2 | AH3N2v | B | BVic | BYam | Clinical Labs | Clinical Specimens Tested | Clinical Flu Positive | % Positive | A | B |
|----------|--------------------|--------------------------------|------|-------------|-------|--------|----|------|------|---------------|---------------------------|-----------------------|------------|-----|-----|
| 201709 | 9 | 224 | 0 | 10 | 96 | 0 | 12 | 1 | 7 | 28 | 5722 | 1163 | 20.33 | 841 | 322 |
| 201710 | 7 | 229 | 0 | 7 | 77 | 0 | 28 | 0 | 7 | 27 | 5176 | 1096 | 21.17 | 760 | 336 |
| 201711 | 6 | 154 | 0 | 4 | 44 | 0 | 16 | 0 | 3 | 26 | 3677 | 623 | 16.94 | 381 | 242 |
| 201712 | 4 | 49 | 0 | 0 | 14 | 0 | 5 | 0 | 1 | 20 | 2494 | 439 | 17.60 | 223 | 216 |

2016-2017 Season

Antiviral Resistance:

Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2016

| | Oseltamivir | | Zanamivir | | Peramivir | |
|-------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|
| | Virus Samples tested (n) | Resistant Viruses, Number (%) | Virus Samples tested (n) | Resistant Viruses, Number (%) | Virus Samples tested (n) | Resistant Viruses, Number (%) |
| Influenza A (H1N1)pdm09 | 222 | 0 (0.0) | 216 | 0 (0.0) | 222 | 0 (0.0) |
| Influenza A (H3N2) | 1,455 | 0 (0.0) | 1,455 | 0 (0.0) | 993 | 0 (0.0) |
| Influenza B | 514 | 0 (0.0) | 514 | 0 (0.0) | 514 | 0 (0.0) |

Antigenic Characterization: CDC has antigenically characterized 1,104 influenza viruses [176 influenza A (H1N1)pdm09, 562 influenza A (H3N2), and 366 influenza B viruses] collected by U.S. laboratories since October 1, 2016.

Influenza A Virus [738]

A (H1N1)pdm09 [176]: All 176 (100%) influenza A (H1N1)pdm09 viruses were antigenically characterized using ferret post-infection antisera as A/California/7/2009-like, the influenza A (H1N1) component of the 2016-2017 Northern Hemisphere vaccine.

A (H3N2) [562]: 548 of 562 (97.5%) influenza A (H3N2) viruses were antigenically characterized as A/Hong Kong/4801/2014-like, a virus that belongs in genetic group 3C.2a and is the influenza A (H3N2) component of the 2016-2017 Northern Hemisphere vaccine, by HI testing or neutralization testing. Among the viruses which reacted poorly with ferret antisera raised against A/Hong Kong/4801/2014-like viruses, 11 out of 14 (78.6%) are more closely related to A/Switzerland/9715293/2013, a virus belonging to genetic group 3C.3a.

Influenza B Virus [366]

Victoria Lineage [187]: 172 of 187 (92%) B/Victoria-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Brisbane/60/2008-like, which is included as an influenza B component of the 2016-2017 Northern Hemisphere trivalent and quadrivalent influenza vaccines.

Yamagata Lineage [179]: All 179 (100%) B/Yamagata-lineage viruses were antigenically characterized using ferret post-infection antisera as B/Phuket/3073/2013-like, which is included as an influenza B component of the 2016-2017 Northern Hemisphere quadrivalent influenza vaccines.