



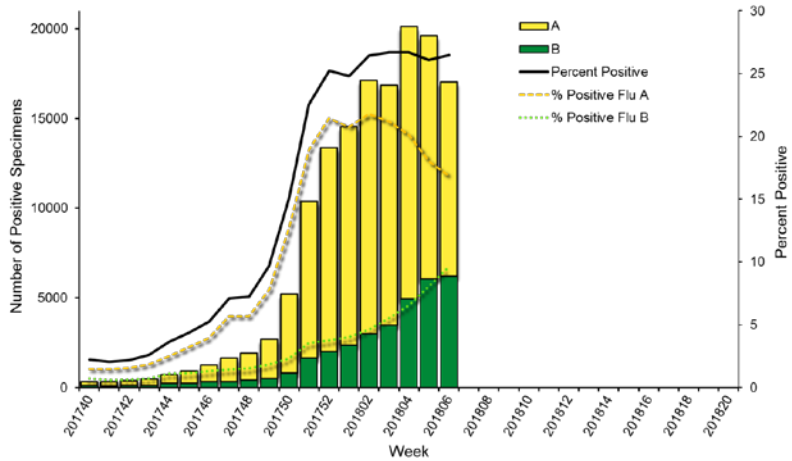
Influenza Surveillance Update

Lynnette Brammer, MPH

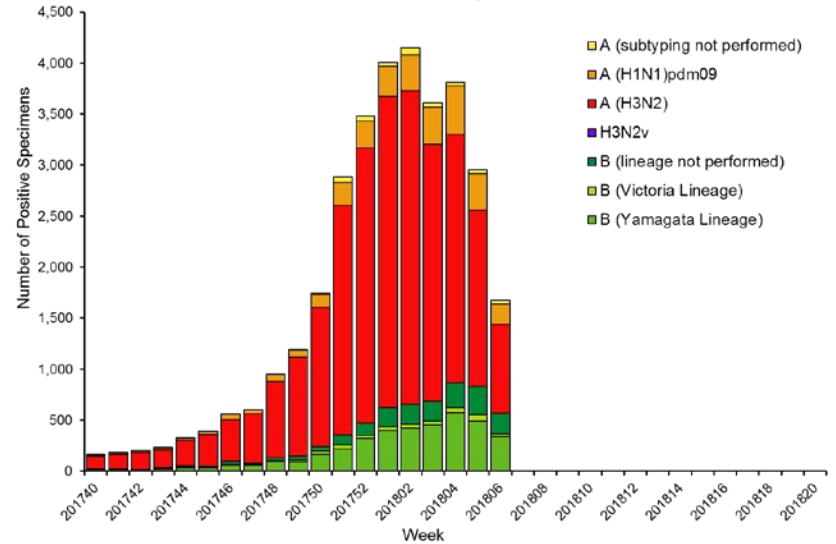
Advisory Committee on Immunization Practices
February 21, 2018

Influenza Virologic Surveillance, 2017-2018 Season

Influenza Positive Tests Reported to CDC by U.S. Clinical Laboratories, National Summary, 2017-2018 Season

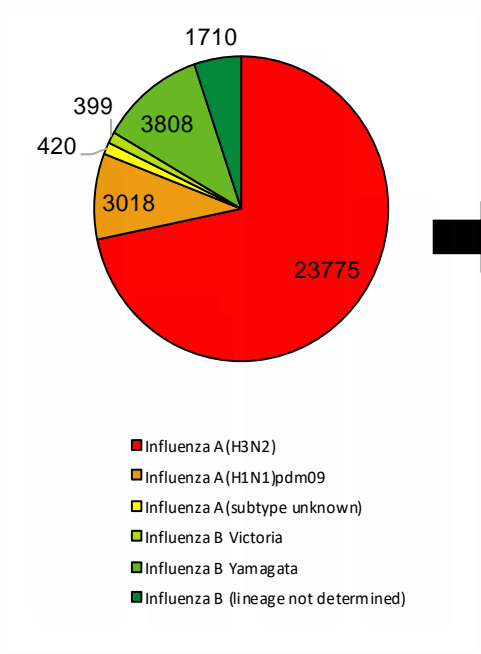


Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, 2017-2018 Season

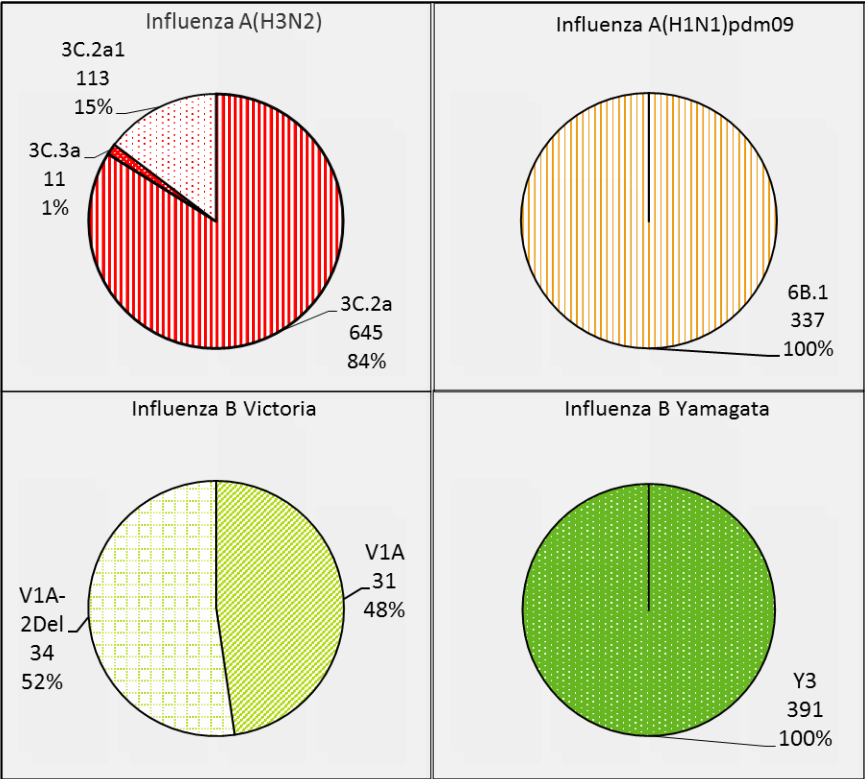


Sequence Results, by Genetic HA Clade/Subclade, of Specimens Submitted to CDC by U.S. Public Health Laboratories, Cumulative, 2017-2018 Season

Influenza Positive Specimens Reported by U.S. Public Health Laboratories, Cumulative, 2017-2018 season



- Influenza A (H3N2)
- Influenza A (H1N1)pdm09
- Influenza A (subtype unknown)
- Influenza B Victoria
- Influenza B Yamagata
- Influenza B (lineage not determined)



Antigenic Characterization of U.S. Influenza A Viruses Collected October 1, 2017 to Present

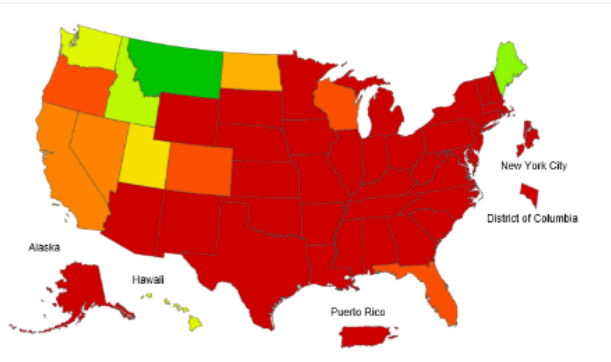
- A (H1N1)pdm09: all 205 viruses antigenically characterized using ferret post-infection antisera are A/Michigan/45/2015-like, the H1N1 component of the 2017-18 vaccine
- A(H3N2): 291 of 297 (98.0%) were well inhibited by ferret antisera raised against A/Michigan/15/2014, a cell propagated A/Hong Kong/4801/2014-like reference virus representing the H3N2 component of the 2017-18 vaccine
 - 64.4% of viruses tested were well-inhibited by ferret antiserum raised against the egg-propagated A/Hong Kong/4801/2014 reference virus

Antigenic Characterization of U.S. Influenza B Viruses Collected October 1, 2017 to Present

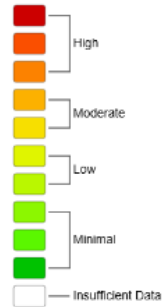
- B/Victoria lineage: 28 of 51 (45.1%) reacted poorly with ferret antisera raised against cell propagated B/Brisbane/60/2008 reference virus, representing a B component in both quadrivalent and trivalent influenza vaccines for the 2017-18 season and these viruses had the V1A-2Del HA
- B/Yamagata lineage: All 202 were antigenically similar to the cell propagated B/Phuket/3073/2013 reference virus, representing a B component in the quadrivalent influenza vaccines for the 2017-18 season

Geographic Spread of Influenza

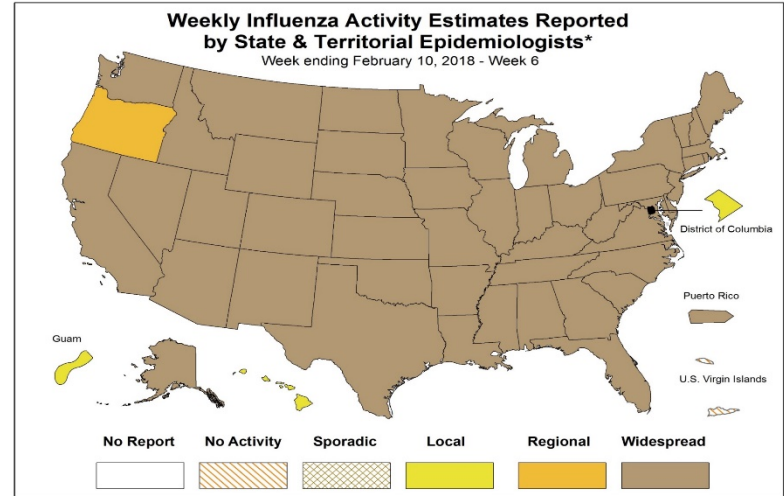
Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2017-18 Influenza Season Week 6 ending Feb 10, 2018



ILI Activity Level



Weekly Influenza Activity Estimates Reported
by State & Territorial Epidemiologists*
Week ending February 10, 2018 - Week 6



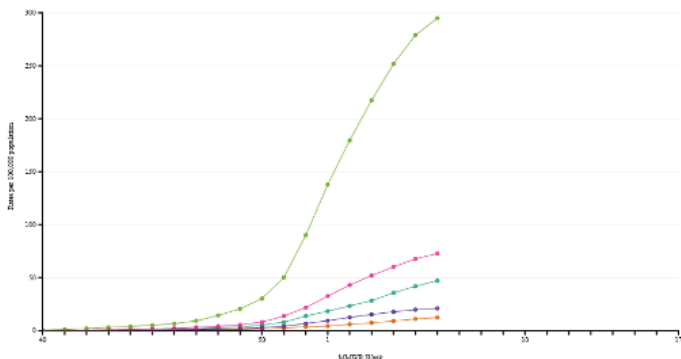
* This map indicates geographic spread & does not measure the severity of influenza activity

Laboratory Confirmed Influenza-Associated Hospitalizations, FluSurvNet, 2017-18

Laboratory-Confirmed Influenza Hospitalizations

Preliminary cumulative rates as of Feb 10, 2018

FluSurv-NET :: Entire Network :: 2017-18 Season :: Cumulative Rate



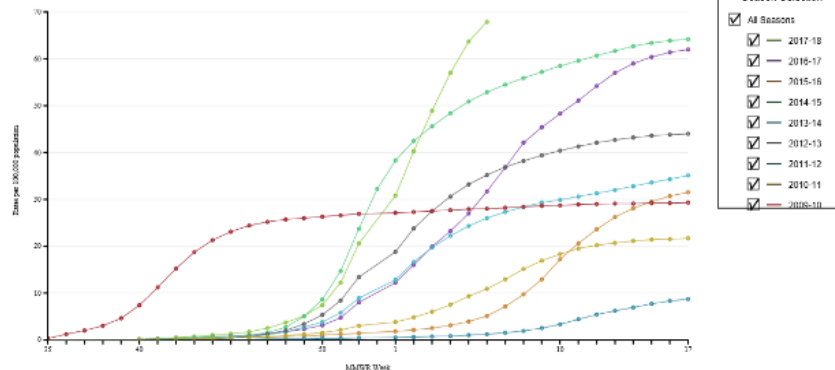
Overall: 67.9

≥65: 294.9 50-64: 72.8 18-49: 21.0 5-17: 12.3 0-4: 47.1

Laboratory-Confirmed Influenza Hospitalizations

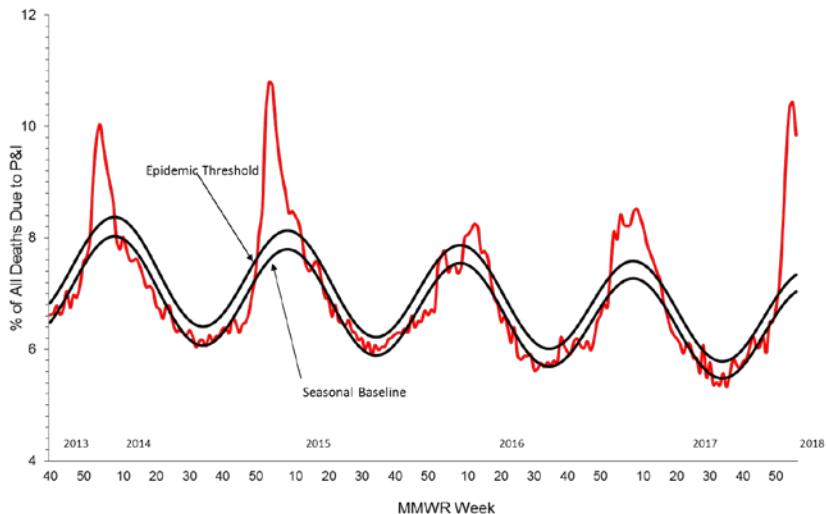
Preliminary cumulative rates as of Feb 10, 2018

FluSurv-NET :: Entire Network :: Overall Age Group :: Cumulative Rate

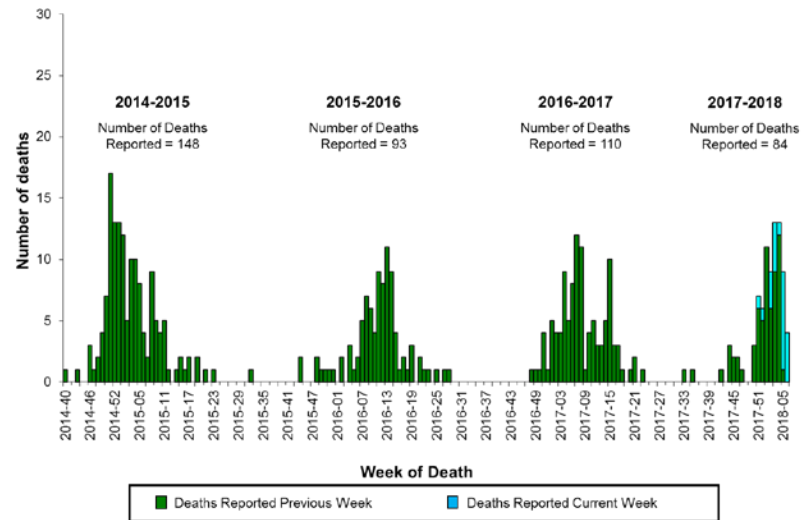


Influenza-Associated Mortality

Pneumonia and Influenza Mortality from
the National Center for Health Statistics Mortality Surveillance System
Data through the week ending January 27, 2018, as of February 15, 2018



Number of Influenza-Associated Pediatric Deaths
by Week of Death: 2014-2015 season to present



Vaccine Virus Selection for 2018-19

- WHO Consultation on the Composition of Influenza Virus Vaccines for Use in the 2018-2019 Northern Hemisphere Influenza Season - February 19 – 22
- March 1, 2018: Vaccines and Related Biological Products Committee Meeting

Summary

- Influenza A(H3N2) viruses have predominated during the 2017-18 season
 - Influenza B activity is increasing
- Influenza activity may not have peaked yet
- ILI activity is the highest we've seen since 2009
- Final severity can't be determined until the end of the season, but for adults, hospitalization rates and mortality could be similar to or exceed those seen during the 2014-15 season

Summary

- The majority of circulating stains are similar to those contained in the 2017-18 vaccine
 - B/Victoria lineage viruses are the only viruses clearly showing antigenic drift but represent <1% of circulating viruses
- Vaccine virus recommendations for the 2018-19 influenza season are being made this week and next week

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

