Influenza Surveillance Update

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Advisory Committee on Immunization Practices
October 25, 2017
Outline

- International influenza activity update
- Recent U.S. influenza activity
- Southern Hemisphere vaccine recommendations
International Influenza Activity, 2016-17 Season

Northern hemisphere

Number of specimens positive for influenza by subtype

Southern hemisphere

Number of specimens positive for influenza by subtype
Southern Hemisphere Influenza Activity, Select Countries: November 2016 – October 2017
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Influenza transmission zone: Southern Asia *

Includes: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam

Influenza transmission zone: South-East Asia **

Includes: Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Maldives, Nepal, Pakistan, Sri Lanka, Iran

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**Includes: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam
Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, October 2, 2016 – October 14, 2017
Sequence Results, by Genetic Group, of Specimens Submitted to CDC by U.S. Public Health Laboratories, Cumulative, May 21 - October 14, 2017

Influenza Positive Specimens Reported by U.S. Public Health Laboratories, Cumulative, May 21 - October 14, 2017

- **Influenza A(H3):** 155 (34%)
- **Influenza A(H1pdm09):** 365 (80%)
- **Influenza A(subtype unknown):** 139 (34%)

**Influenza B:**
- **Victoria:**
  - V1A: 3 (100%)
- **Yamagata:**
  - Y3: 75 (100%)

**Influenza A:**
- **(H3):**
  - 3C.2a: 145 (63%)
  - 3C.3a: 7 (3%)
- **(H1pdm09):**
  - 6B: 1 (2%)
  - 6B.1: 51 (98%)
Antigenic Characterization of U.S. Influenza Viruses Collected May 21 - October 14, 2017

- A (H1N1)pdm09: all 43 viruses antigenically characterized using ferret post-infection antisera are A/Michigan/45/2015-like
- A(H3N2): 113 of 117 (96.6%) influenza A(H3N2) viruses were antigenically characterized as A/Hong Kong/4801/2014-like by HI testing or neutralization testing
- B/Victoria lineage: 18 of 28 (64.3%) B/Victoria-lineage viruses were antigenically characterized as B/Brisbane/60/2008-like
- B/Yamagata lineage: All 40 were antigenically characterized as B/Phuket/3073/2013-like
Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), 2017-2018 and Selected Previous Seasons
Pneumonia and Influenza Mortality from the National Center for Health Statistics Mortality Surveillance System
Data through the week ending September 30, 2017, as of October 19, 2017

Epidemic Threshold
Seasonal Baseline

2013 2014 2015 2016 2017
Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*

Week ending October 14, 2017 - Week 41

* This map indicates geographic spread & does not measure the severity of influenza activity
Recommendation for 2018 Southern Hemisphere Influenza Vaccine

- It is recommended that the following viruses be used for trivalent influenza vaccines in the 2018 Southern Hemisphere influenza season:
  - A/Michigan/45/2015 (H1N1)pdm09-like virus
  - A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
  - B/Phuket/3073/2013-like virus

- For quadrivalent vaccines containing 2 B components:
  - Above 3, plus
  - B/Brisbane/60/2008-like virus
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Summary

- Influenza A(H3N2) viruses have predominated in the United States since July
  - Influenza H1 and B viruses also detected
- So far, influenza activity has been low
- The majority of circulating stains are similar to those contained in the 2017-18 vaccine
For more information, contact CDC
1-800-CDC-INFO (232-4636)

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.