



EHSSSENTIALS 2018

Environmental, Health & Safety Symposium for Healthcare

MAY 3, 2018
LOS ANGELES, CALIFORNIA
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Influenza Epidemic Insights

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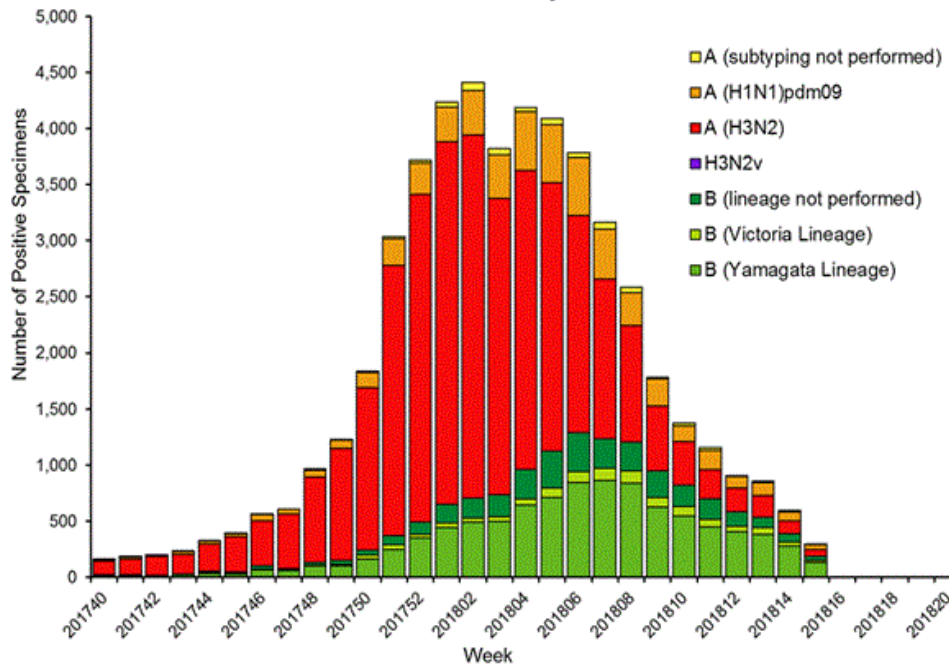
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Flu Pandemics

- 1918 Spanish Flu H1N1 killed 5% (100 million) of world
- H1N1 Swine Flu 2009/2010 - 284,500
- Hong Kong Flu 1968-69 - 1 million
- Asian Flu 1956-58 - 2 million
- Russian Flu 1989-90 - 1 million
- U.S. surveillance: Influenza-like Illness Surveillance Program - weekly reports and submission of samples
- CDCP assesses results - 56,000 deaths so far in U.S.
- U.S. electronic health records have privacy concerns and often under corporate control



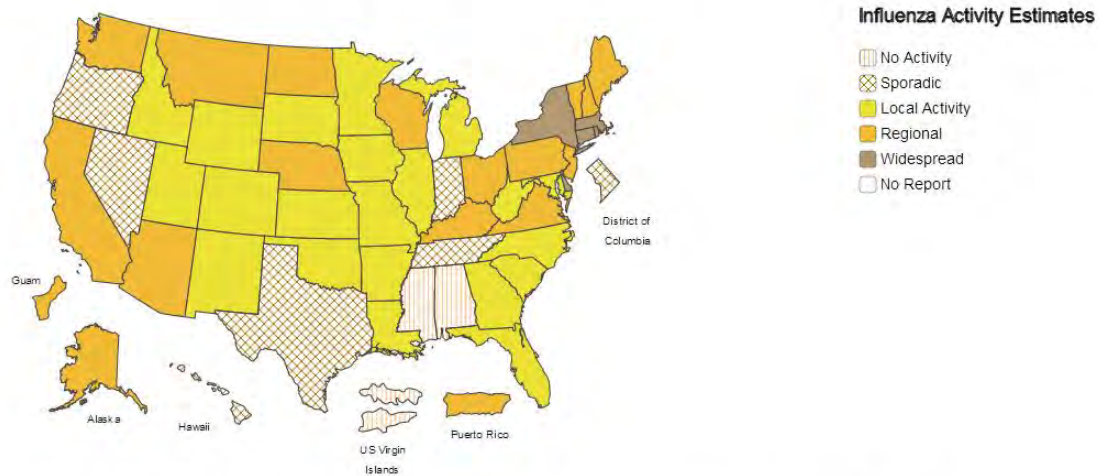
Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, 2017-2018 Season



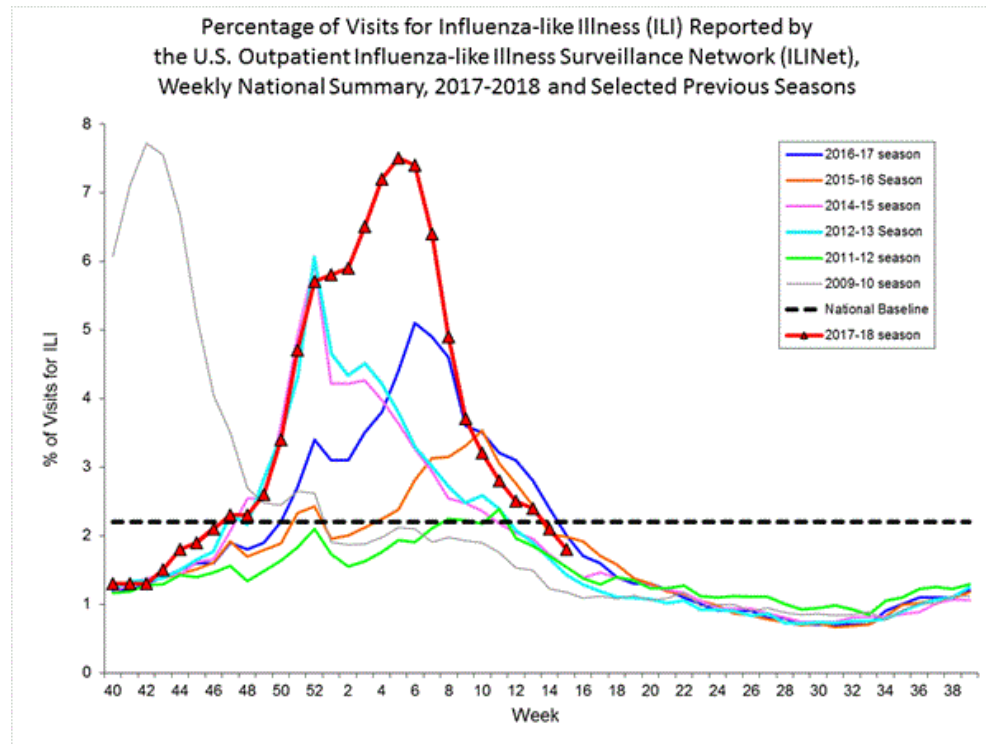
A Weekly Influenza Surveillance Report Prepared by the Influenza Division

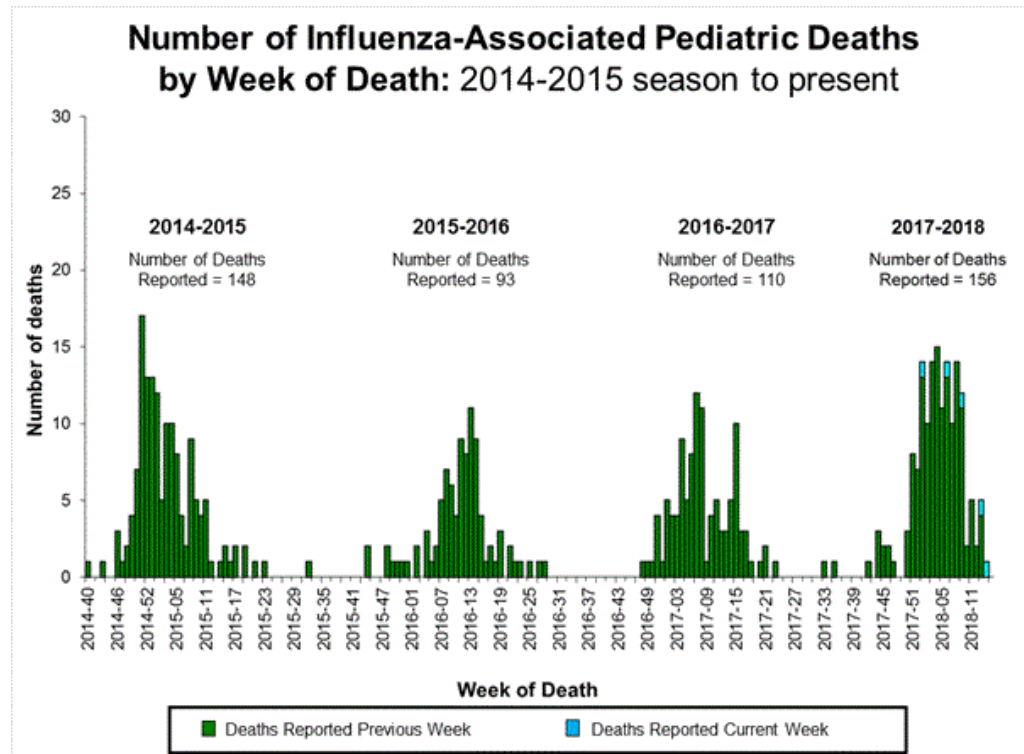
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

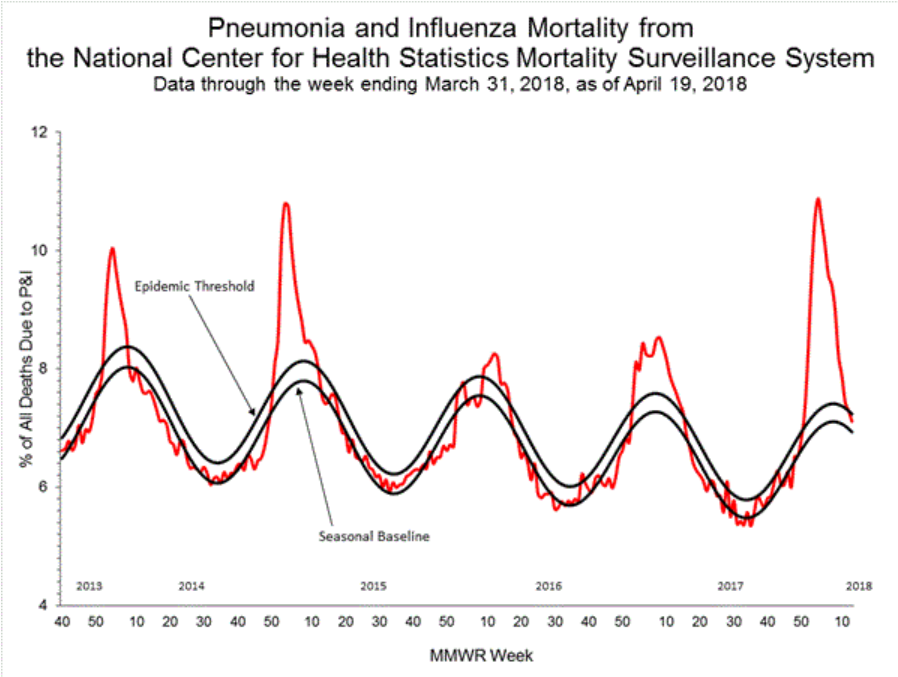
Week Ending Apr 14, 2018 - Week 15



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







Industrial Hygiene Paradigm

- Anticipation
- Recognition/Identification
- Evaluation
- Control
- Prevention

**PARADIGM
SHIFT**



Anticipation

JUST DO IT.

- Vaccination - population >6 mo, hospital/clinic staff; 36% effective
- Cleaning & disinfecting hospital ventilation/rooms before influenza season begins (October)
- Training of staff relative to location of ventilation inlets (stay upwind) & outlets, administrative measures, use of personal protective equipment (masks, gloves) & hygiene (washing exposed body parts)
- Staff training to train infected patient to minimize contact with others to limit spread

Recognition/Identification



- Classic symptoms - coughing, sneezing, fever, phloem production, sniffing, tearing, altered voice, sore throat
- Virus Culture identification tests
 - Type A H1N1pdm09; H3N2; H3N2v
 - Type B Victoria, Yamagata
- Retrovirus - RNA instead of DNA within protein capsule - needs reverse transcriptase to propagate but many errors leading to mutations
- Viral drug resistance

Evaluation



- Number of cases normalized to population
- Geographic spread
- Severity
- Mortality - children, general, elderly
- Epidemiology

Control

- Below seasonal epidemic level
- Decrease in morbidity and mortality
- Decrease in workplace absenteeism
- CDCP recommends stay at home at least 1 day after there is no fever without the use of anti-pyretics
- Many healthcare employers penalize workers who call in sick



Prevention



- Identify strain for next flu season and produce vaccine
- Cleaning and disinfecting of hospital/clinic ventilation ducts & rooms after flu season (April-May)
- Training of staff relative to location of ventilation inlets (stay upwind) & outlets, administrative measures, use of PPE (masks, gloves) and hygiene (washing exposed body parts)
- Staff training to train infected patient to minimize contact with others to limit spread

Questions?

