

Influenza Update

2012-2013

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Centers for Disease Control and Prevention

Indian Health Service Conference Call
September 4, 2012

Overview

- ❑ **Influenza surveillance**
 - Overview of 2011-2012
 - Current activity
 - Update on (H3N2)v

- ❑ **ACIP Influenza statement, 2012-2013**
 - Summary of recommendations

Influenza Surveillance

IHS Conference Call
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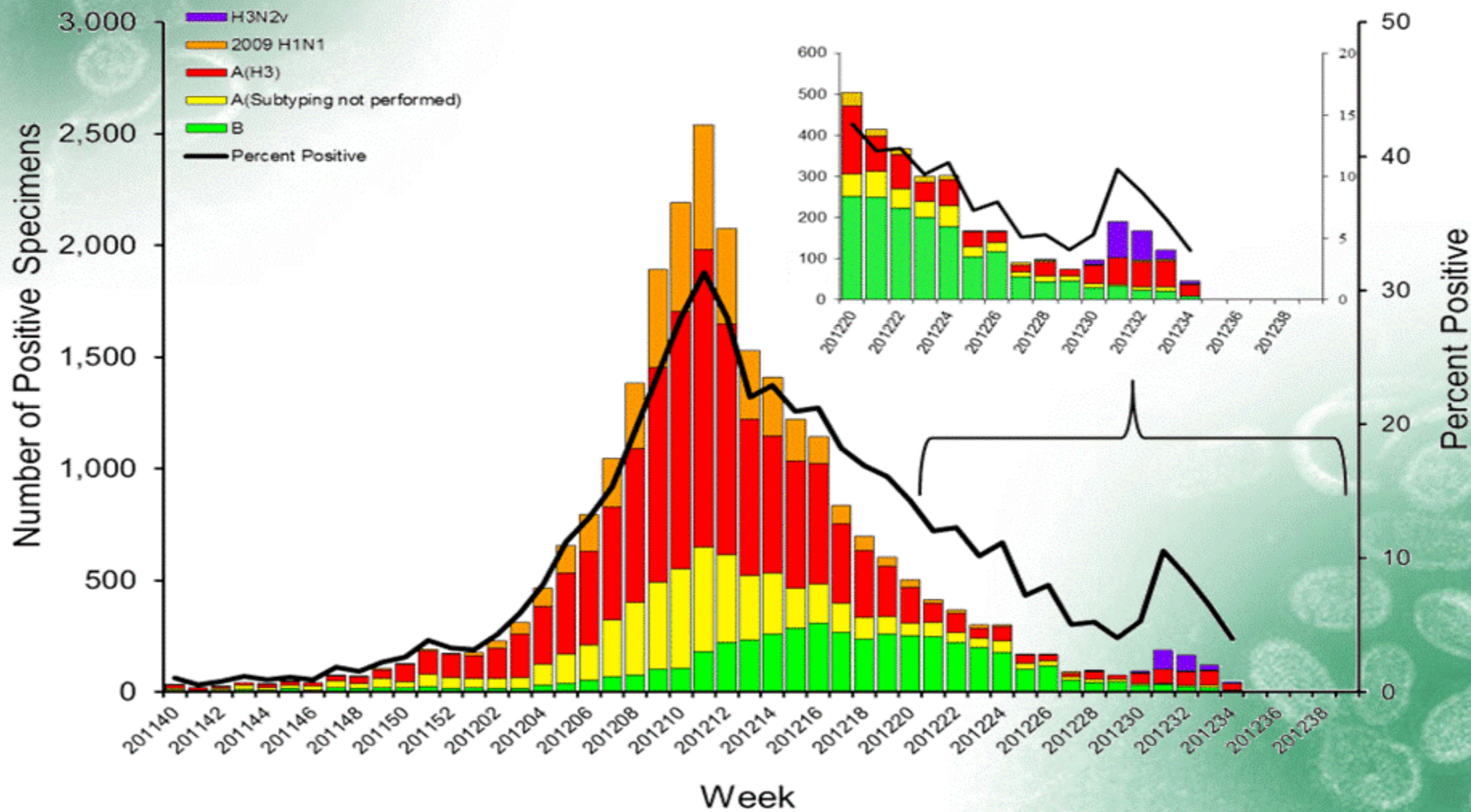


FLUVIEW



A Weekly Influenza Surveillance Report Prepared by the Influenza Division

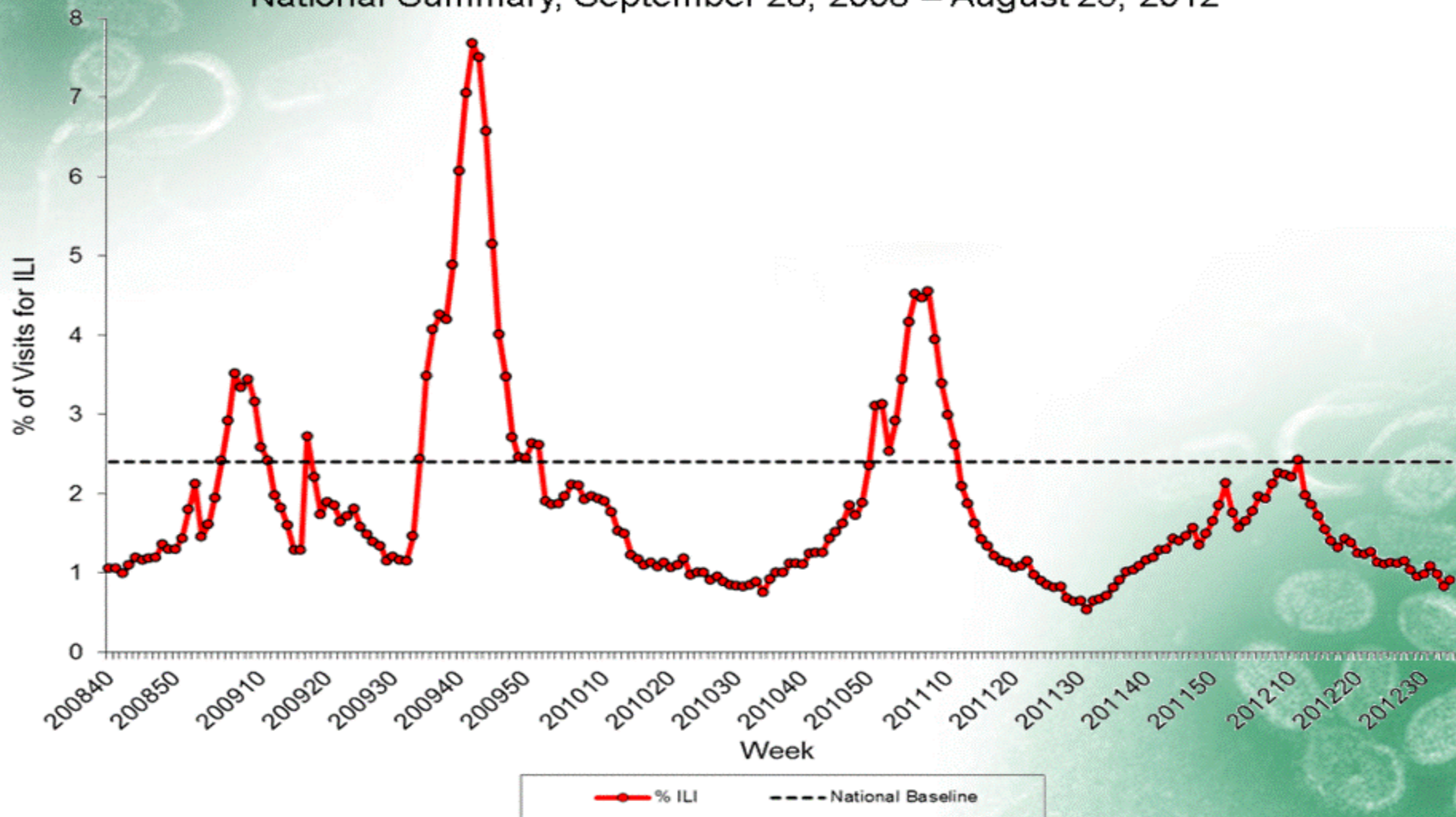
Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2011-12



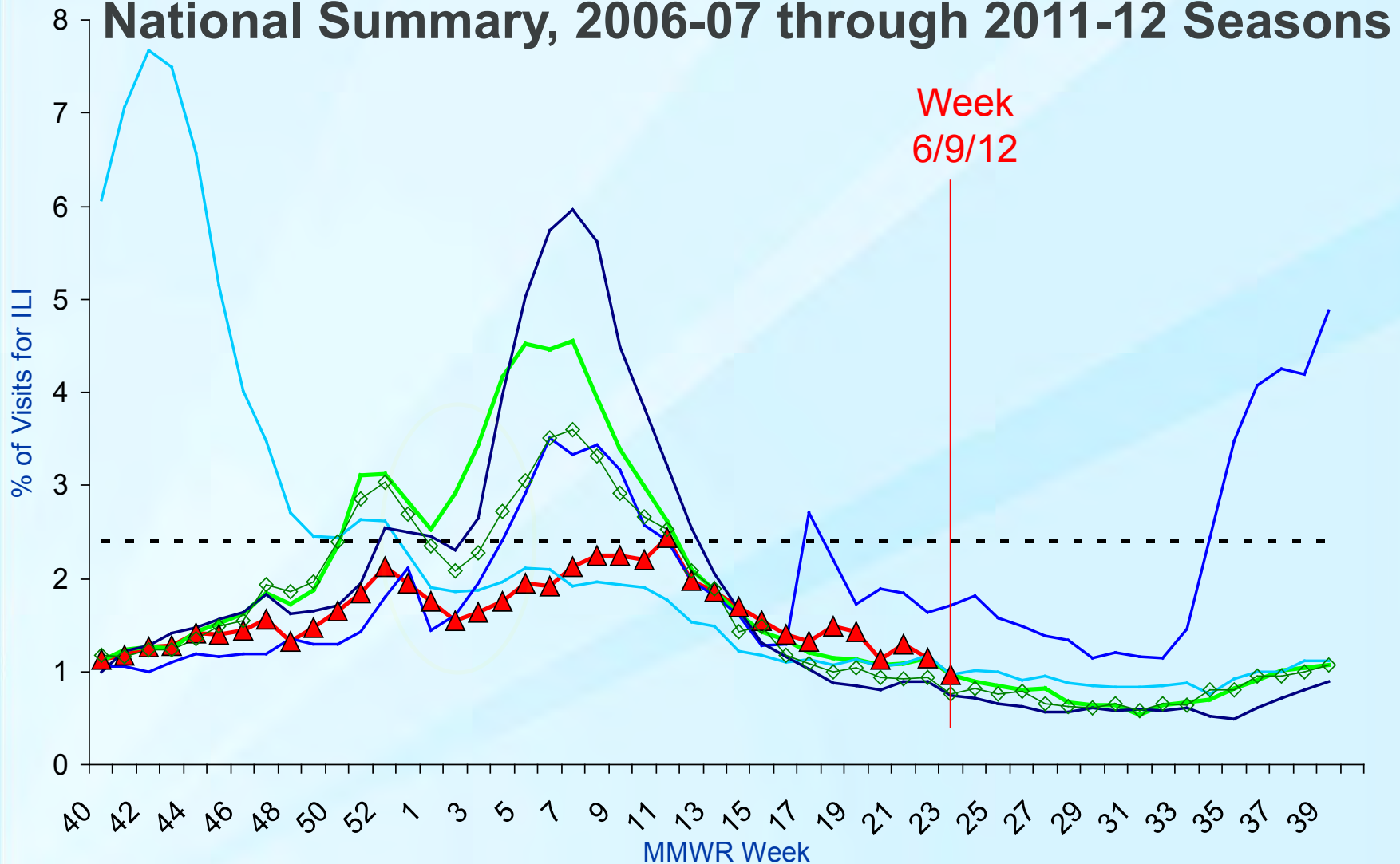
FLUVIEW

A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, September 28, 2008 – August 25, 2012



Percentage of Visits for Influenza-like Illness (ILI) Reported by the U.S. Outpatient ILI Network (ILINet), National Summary, 2006-07 through 2011-12 Seasons

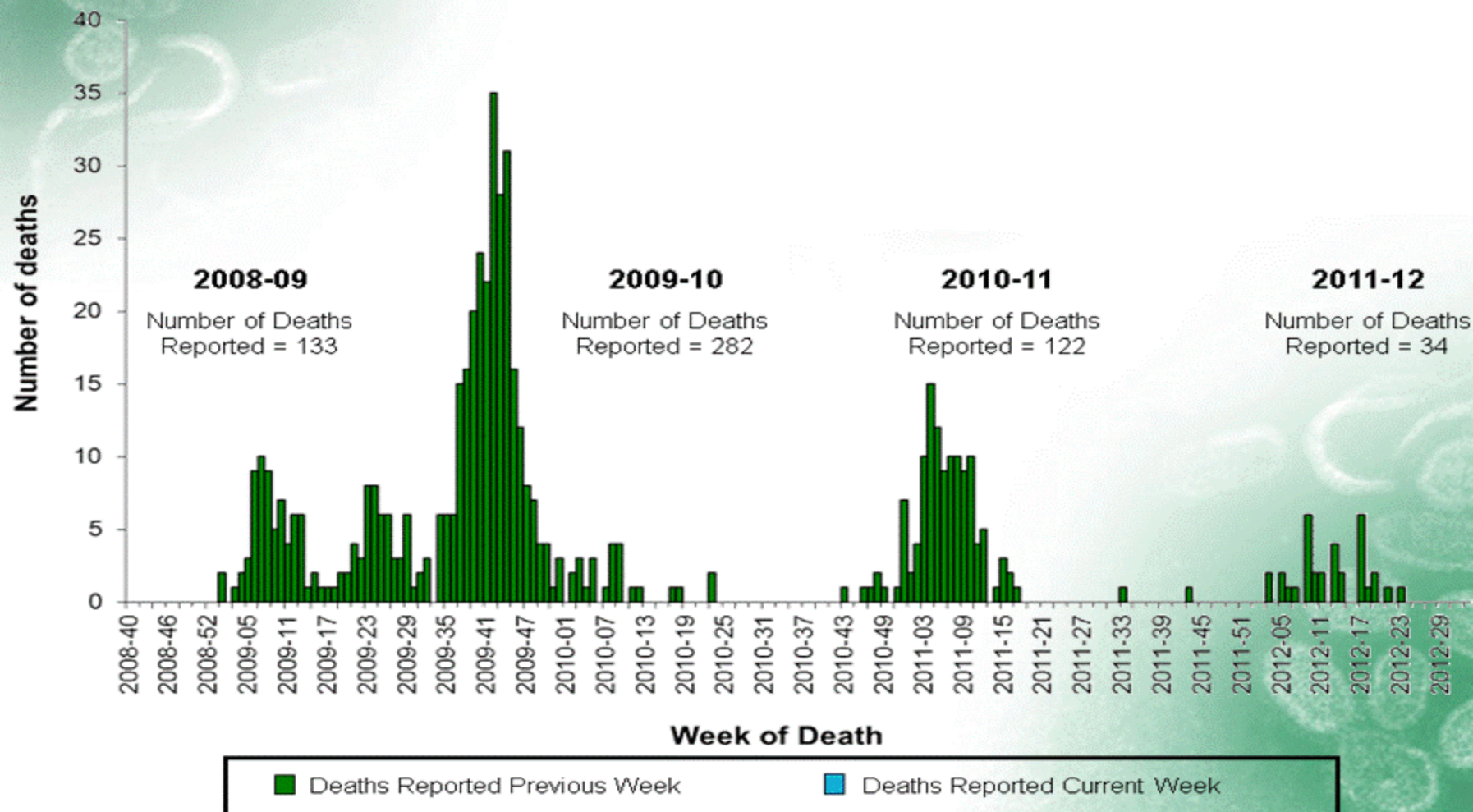


▲ 2011-12†
 ◆ 2010-11†
 — 2009-10†
 — 2008-09
 — 2007-08†
 ◆ 2006-07†
 - - - National Baseline

†There was no week 53 during these seasons, so the week 53 data point is an average of week 52 and week 1.

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Number of Influenza-Associated Pediatric Deaths by Week of Death: 2008-09 season to present



Summary of 2011-2012 Season

- ❑ Influenza activity in the US during the 2011–12 season occurred at low levels overall**
 - Activity increased in January and February and peaked in mid-March**
- ❑ Influenza A (H3N2) viruses predominated overall, but influenza A (H1N1)pdm09 (pH1N1) and influenza B viruses also circulated widely**
- ❑ This influenza season was mild compared with recent years, with a lower percentage of outpatient visits for influenza-like illness (ILI),† lower rates of hospitalizations, and fewer deaths attributed to pneumonia and influenza.**

Influenza A(H3N2)v Activity

- Swine origin H3N2 with matrix (M) gene from A(H1N1)pdm 2009
- 7/2011 - 4/2012: 13 cases in 5 states
 - IN (2), PA (3) ME (2), IA (3), WV (2) UT (1)
- Since August 2012: 288 cases in 10 states

State	Cases (n)
IN	138
OH	101
WI	15
MD	12
PA	7
MI	5
IL	4
WV	3
MN	2
HI	1

(H3N2)v Summary

- ❑ Since July 2012
 - ❑ 15 hospitalizations
 - ❑ 1 death (multiple underlying health conditions)
- ❑ Majority of cases in children
- ❑ Most linked to recent direct or indirect exposure to pigs; most in agricultural fairs; one instance occupational exposure
- ❑ Sporadic instances of person-to person spread, but no sustained transmission
- ❑ Persons with high risk conditions recommended to avoid exposure to pigs and pig exhibit areas
- ❑ Seasonal vaccine does not provide adequate protection
- ❑ Interim guidance for clinicians emphasizes importance of early antiviral treatment of suspected cases (www.cdc.gov/flu/swineflu/h3n2v-clinician.htm)

ACIP Recommendations

2012-2013

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ACIP Influenza Statement, 2012-2013

- ❑ **Published in MMWR August 17, 2012**
- ❑ **Brief format (MMWR Policy Note)**
- ❑ **Main items covered:**
 - Vaccine virus strain changes for 2012-2013
 - Vaccines available for 2012-2013
 - Vaccine schedule for children 6 mos through 8 yrs
 - Reiteration of recommendations for egg-allergic patients
 - Mention of quadrivalent vaccines
- ❑ **No major changes or expansion of recommendations**
 - Annual vaccination recommended for all 6 mos. and older

2012-2013 Vaccine Components

- **Changes in the A(H3N2) and B strains as compared with 2011-2012 vaccine:**
 - A/California/7/2009 (H1N1)-like
 - Present in 2009 monovalent pandemic vaccine, as well as the 2010-2011 and 2011-2012 seasonal vaccines
 - A/Victoria/361/2011 (H3N2)-like
 - Replaces A/Perth/16/2009 (H3N2)-like
 - B/Wisconsin/1/2010-like
 - Yamagata lineage; replaces previous Victoria lineage B/Brisbane/60/2008-like

Vaccines Available for 2012-2013

- ❑ No new vaccine products anticipated to be available this season
- ❑ Quadrivalent live attenuated influenza vaccine (LAIV; FluMist Quadrivalent, MedImmune) approved by FDA February 2012
 - Anticipated to be available for 2013-2014 US season
- ❑ Options similar to last season:
 - Trivalent inactivated vaccine (TIV)—6 mos and older (***BUT*** age indications differ by brand—consult PI)
 - High dose TIV—65 yrs and over
 - Intradermal TIV—18 through 64 yrs
 - LAIV—healthy, non-pregnant persons 2 through 49 yrs

Vaccines Available for 2012-2013

- ❑ **Within specified age indications, contraindications, and precautions, ACIP expresses no preference for any one vaccine over another**
 - E.g., no preference for
 - LAIV vs. TIV
 - Regular dose TIV vs. high-dose TIV
 - Intramuscular TIV vs. intradermal TIV
- ❑ **For healthy non-pregnant persons 2-49 years, TIV is recommended rather than LAIV in settings of**
 - Egg allergy (persons who experience only hives)
 - Caregivers of persons who are severely immunosuppressed (i.e., those that require a protective environment)
- ❑ **AFLURIA (CSL) *not* recommended for children <9yrs**

One Dose or Two?

Vaccine for Children 6 Months Through 8 Years

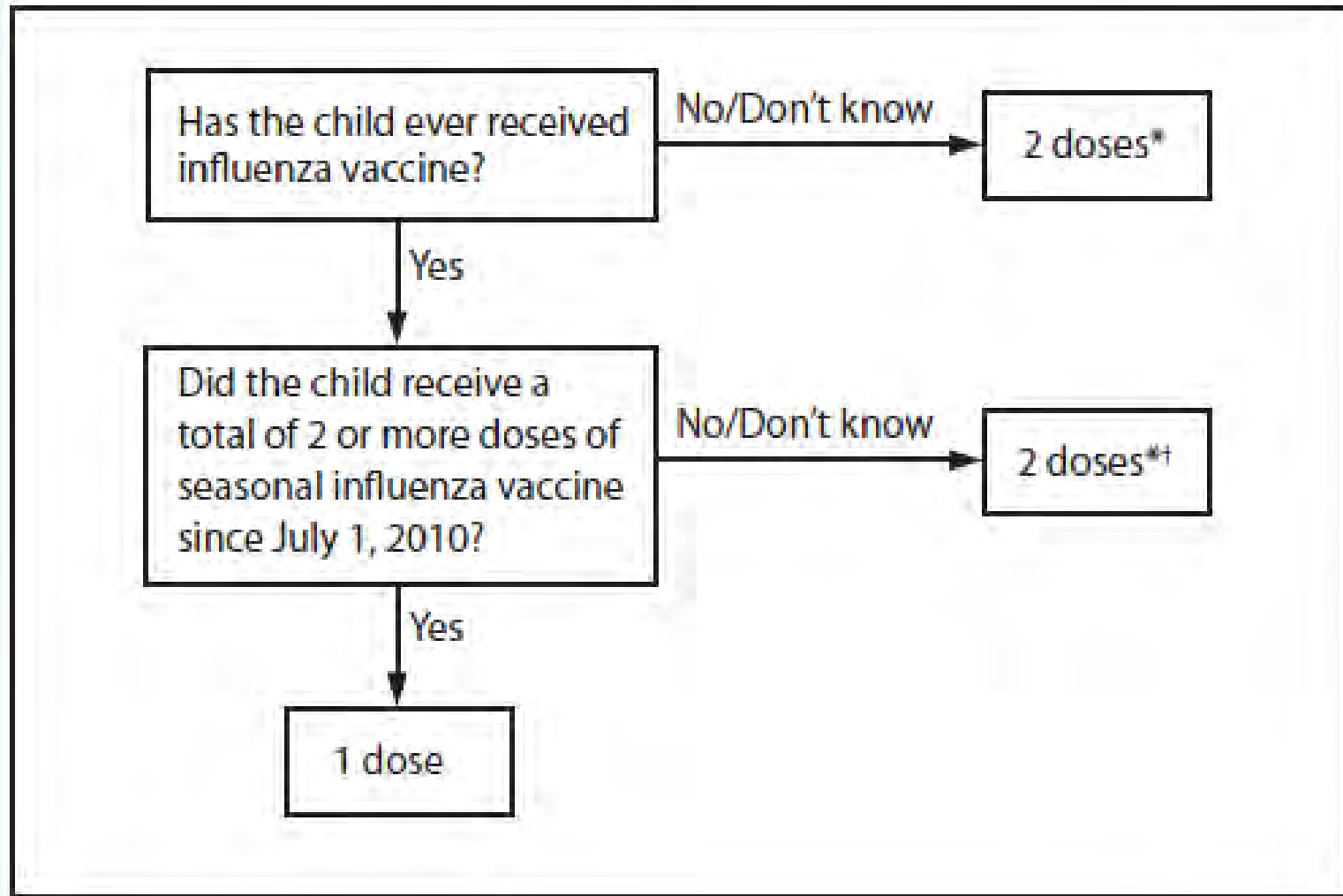
- ❑ **Children under 9 years of age require 2 doses of influenza vaccine in first season of vaccination.**

- ❑ **Antigenic novelty of pdm09 (2009 H1N1) necessitated consideration of this additional antigen**
 - Needed to document receipt of seasonal and H1N1 vaccine
 - For 2010-2011 season, 2 doses needed unless child had
 - Received ≥ 1 dose of monovalent 2009(H1N1) vaccine, AND
 - Had received seasonal vaccine previously, AND
 - Had received 2 doses of seasonal vaccine in first season vaccinated

Dose algorithm for 6mo through 8yr olds— 2012-2013 season

- This season, there are two acceptable approaches**
- These differ in whether or not vaccination history prior to the 2010-2011 season is considered**

Dose algorithm for 6mo through 8yr olds, 2012-2013 season—First approach



* Doses should be administered a minimum of 4 weeks apart.

Dose algorithm for 6mo through 8yr olds, 2012-2013 season—Alternative approach

- ❑ If vaccination history before 2010–11 is available**
- ❑ If a child received ≥ 2 seasonal influenza vaccines during any previous season, AND ≥ 1 dose of a 2009(H1N1)-containing vaccine, the child needs only 1 dose for 2012–13.**
- ❑ Need only 1 dose of vaccine in 2012–13 if they have received any of the following:**
 - 2 or more doses of seasonal influenza vaccine since July 1, 2010; or
 - 2 or more doses of seasonal influenza vaccine before July 1, 2010, and 1 or more doses of monovalent 2009(H1N1) vaccine; or
 - 1 or more doses of seasonal influenza vaccine before July 1, 2010, and 1 or more doses of seasonal influenza vaccine since July 1, 2010.

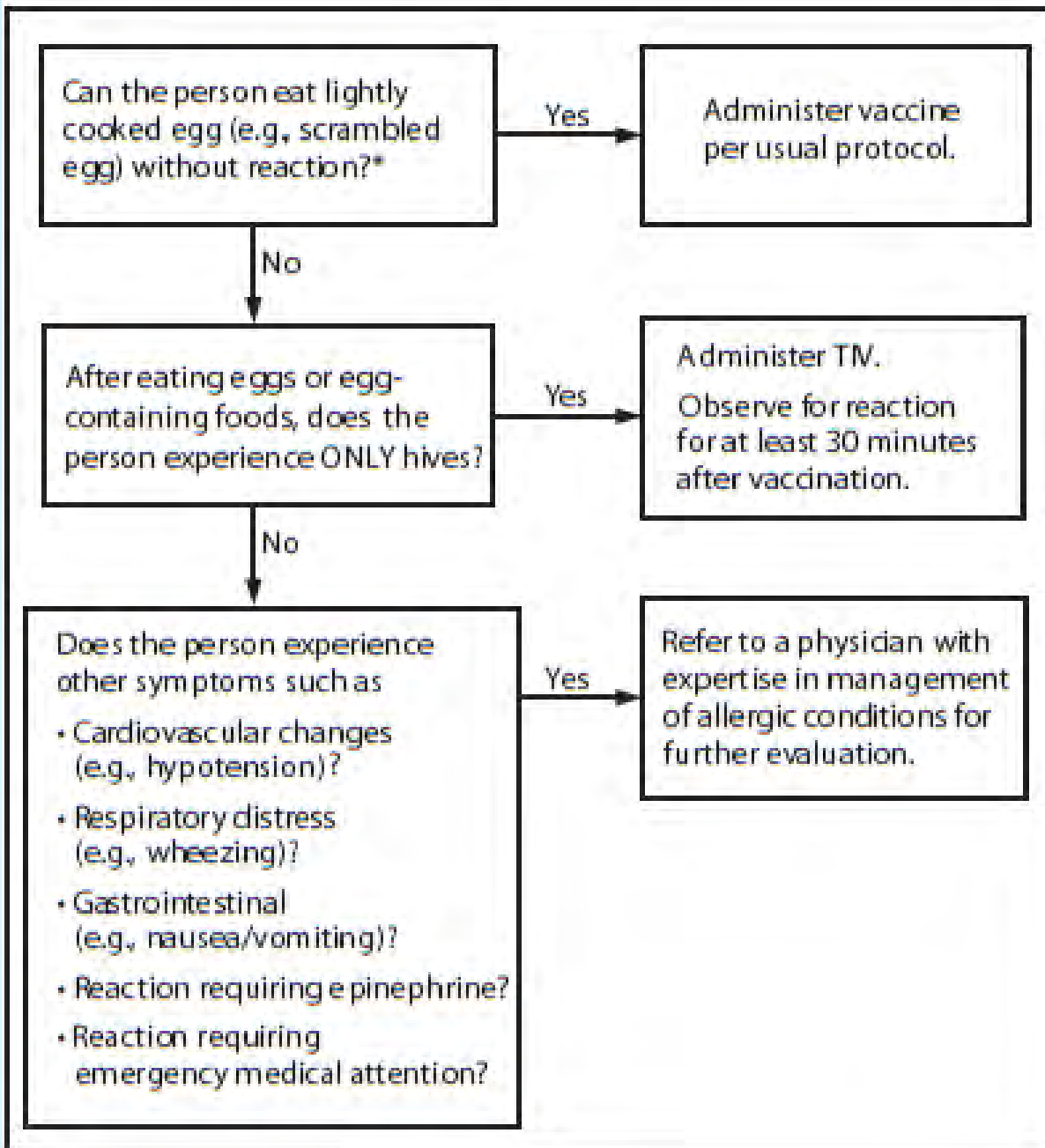
Influenza Vaccination for Persons with Egg Allergy

- ❑ **No change in recommendations from last season**
- ❑ **Persons who report a history of egg allergy and who have experienced ONLY hives as a reaction to egg should receive TIV**
 - Should be administered by a provider familiar with potential manifestations of egg allergy
 - TIV rather than LAIV should be used
 - Recipient should be observed for at least 30 minutes following each dose
 - Skin testing with vaccine and splitting the vaccine dose not necessary
- ❑ **Those with other symptoms upon egg exposure should be referred to an allergy expert prior to vaccination**

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Influenza Vaccination for Persons with Egg Allergy



Quadrivalent Influenza Vaccines

- ❑ **Would contain 4 vaccine virus antigens**
 - A(H1N1), A(H3N2), and **two** B strains (one Victoria lineage, one Yamagata lineage)
- ❑ **Potentially advantageous—**
 - Cross-protection conferred against B virus in one lineage by vaccination against a B virus in the other lineage is limited
 - Circulating B strains difficult to predict
 - Recent analysis suggests possible modest reduction in influenza-associated outcomes, depending upon supply, coverage, effectiveness, and incidence of influenza associated with the two B lineages
- ❑ **First quadrivalent influenza vaccine approved by FDA in February, 2012**
 - FluMist Quadrivalent (MedImmune)--LAIV

Reed C, et al. *Vaccine* (2012), doi:10.1016/j.vaccine.2011.12.098

MMWR 2012; 61(32):613-618.

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Why Has the 2011-12 Influenza Season Been Mild?

- ❑ 3rd consecutive season of H1N1 A/California/7/2009-like virus circulation
- ❑ 2nd consecutive season of H3N2 A/Perth/16/2009-like virus circulation
- ❑ 2nd consecutive season of B/Brisbane/60/2008-like virus circulation
- ❑ Good vaccine/virus match over all years
- ❑ Estimated vaccine coverage 27% 2009-10 (2009 H1N1 monovalent) , 43% in 2010-11 and 46%* in 2011-12 with higher coverage in children
- ❑ Vaccination coverage combined with immunity from natural infection have resulted in high levels of immunity in the population

❑ * Preliminary estimate

Groups at Higher Risk for Influenza Complications

- Persons <2 or ≥ 65 years of age;
- Persons with the following conditions:
 - chronic pulmonary (including asthma),
 - cardiovascular (except hypertension),
 - renal, hepatic, hematological (including sickle cell) disease,
 - neurological, neuromuscular, or metabolic disorders (including diabetes mellitus);
- Immunosuppression, including that caused by medications or by HIV infection;
- Women who are pregnant or post-partum (2 weeks)
- Persons younger than 19 years of age who are receiving long-term aspirin therapy;
- American Indians and Alaskan Natives;
- Persons who are morbidly obese (body-mass index ≥ 40);
- Residents of nursing homes and other chronic-care facilities.