COCA Call Information

- **For the best quality audio, we encourage you to use your computer's audio: https://zoom.us/j/712924341**

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  - 1 -669- 900- 6833 or
  - 1 -646 -558- 8656
  - Webinar ID: 712 924 341
- **All questions for the Q&A portion must be submitted through the webinar system.**

- **Please select the Q&A button at the bottom of the webinar and enter questions there.**

What's New for the 2017-2018 Flu Season: Recommendations for Children

Clinician Outreach and Communication Activity (COCA) Webinar

November 7, 2017

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Those who participated in today's COCA Call and who wish to receive continuing education should complete the online evaluation by December 7, 2017 with the course code WC2286.

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Accreditation Statements continued…

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  - Click the **Q&A** button in the webinar
  - Type your question in the **Q&A** box
  - Submit your question
- **For media questions, please contact CDC Media Relations at 404-639-3286 or send an email to media@cdc.gov.**
- **If you are a patient, please refer your questions to your healthcare provider.**

At the conclusion of the session, participants will be able to accomplish the following:

- Describe what strains of flu virus are predicted to circulate in the 2017–2018 season.
- Identify key recommendations in the AAP influenza policy statement, "Recommendations for Prevention and Control of Influenza in Children, 2017–2018."
- List recommendations regarding antiviral use in children.
- Discuss vaccine effectiveness and clarify recommendations for the 2017–2018 season, including those related to the live attenuated influenza vaccine.

Today's First Presenter

Angela Campbell, MD, MPH

Medical Officer
Epidemiology and Prevention Branch
Influenza Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

Today's Second Presenter

Flor M. Munoz, MD

Associate Professor of Pediatrics, Section of Infectious Diseases
Molecular Virology and Microbiology
Baylor College of Medicine
Transplant Infectious Diseases
Texas Children's Hospital

What's New for the 2017–2018 Flu Season: Recommendations for Children

2017-2018 Influenza Update

Angela Campbell, MD, MPH, FAAP, FPIDS, FIDSA

Influenza Division, CDC

Clinician Outreach and Communication Activity (COCA) Call

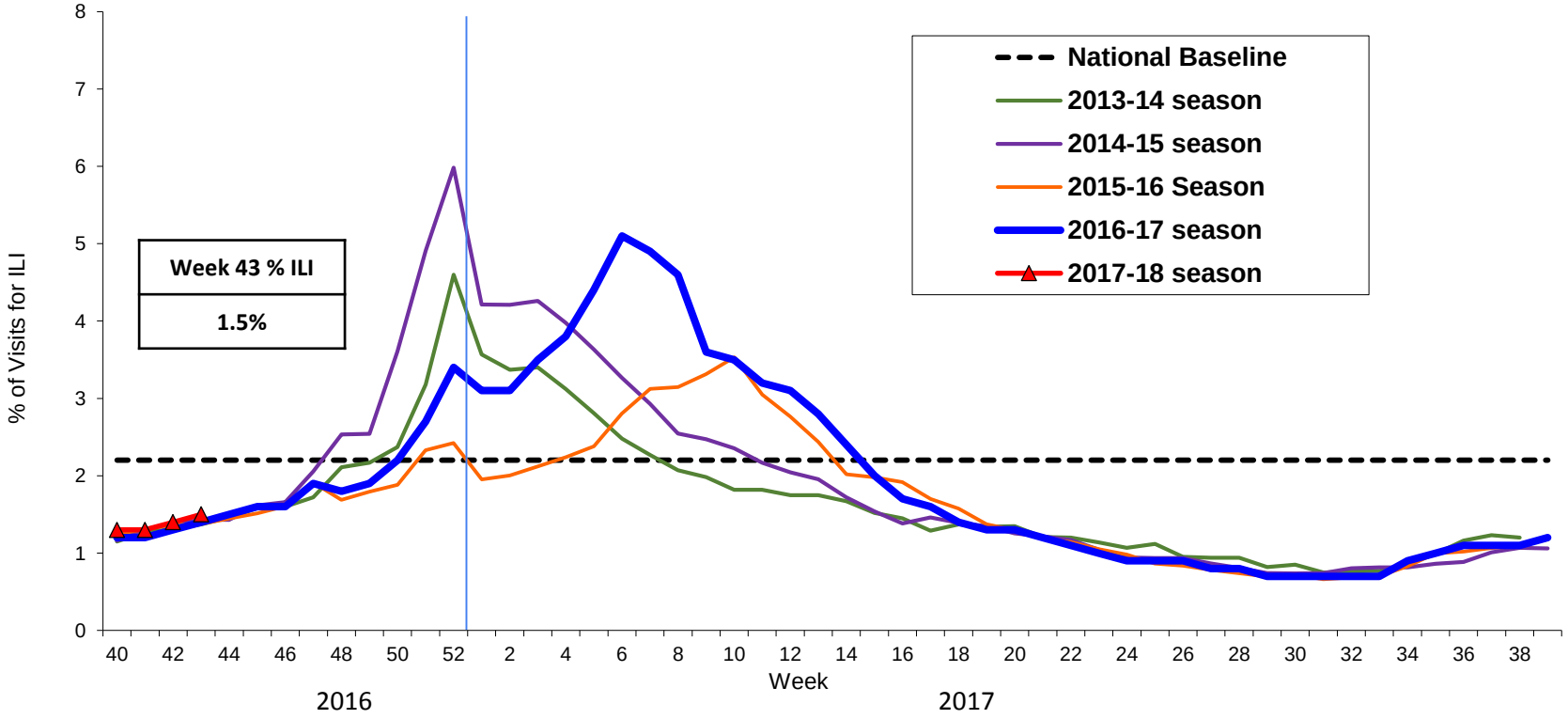
November 7, 2017

A Review of Last Season and a Look Ahead…

- Peak activity occurred nationally in mid-February
- Influenza A(H3N2) viruses predominated overall
  - Influenza B viruses were reported more frequently from late March until early July
- The majority of circulating viruses were similar to those contained in the 2016-17 vaccine
- Activity was moderate with severity indicators within range of what has been observed during previous influenza A(H3N2)-predominant seasons

Percentage of Visits for Influenza-like Illness (ILI)

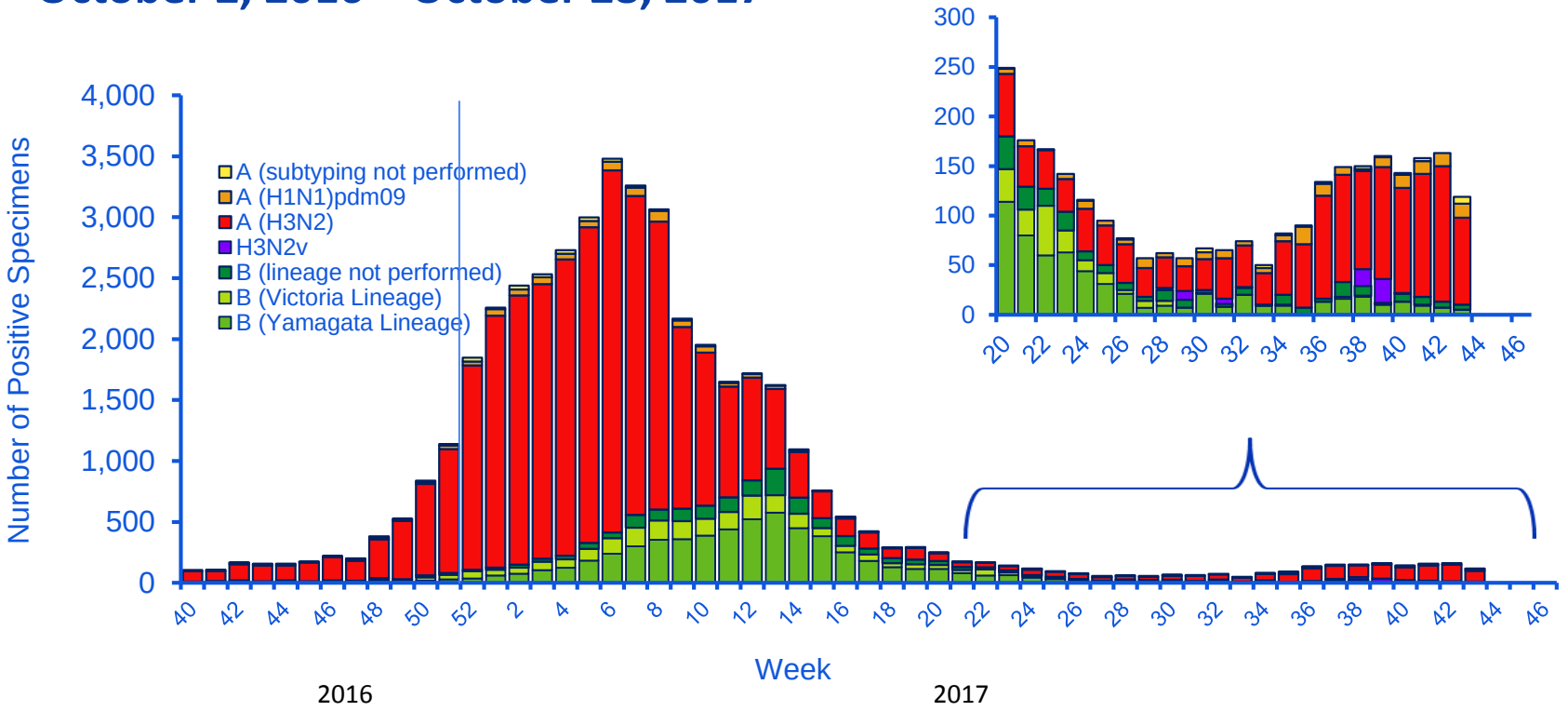
Weekly National Summary, 2017–2018 & Recent Seasons



ILINet; data as of week 43 ending October 28, 2017

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories

October 2, 2016 – October 28, 2017



Data through week 43 ending October 28, 2017

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories

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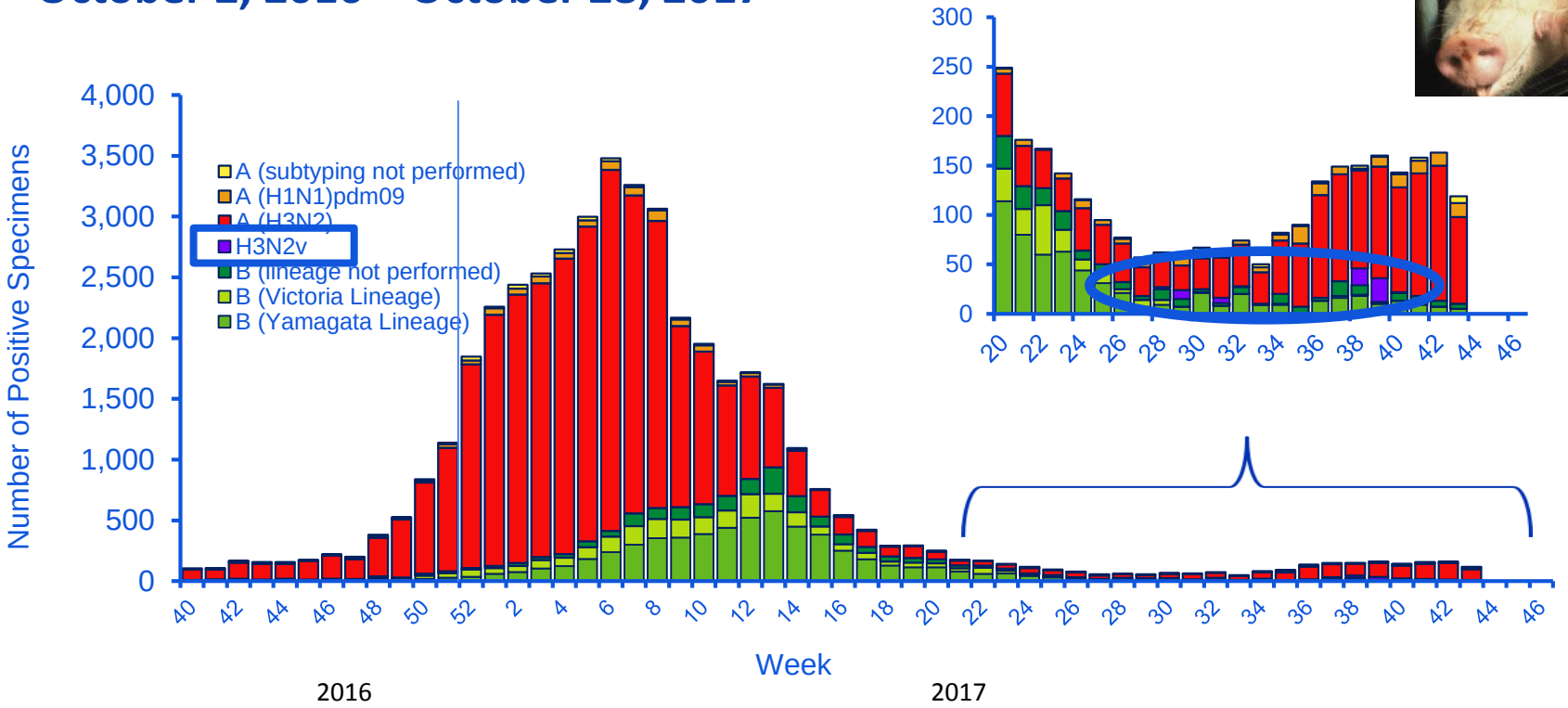
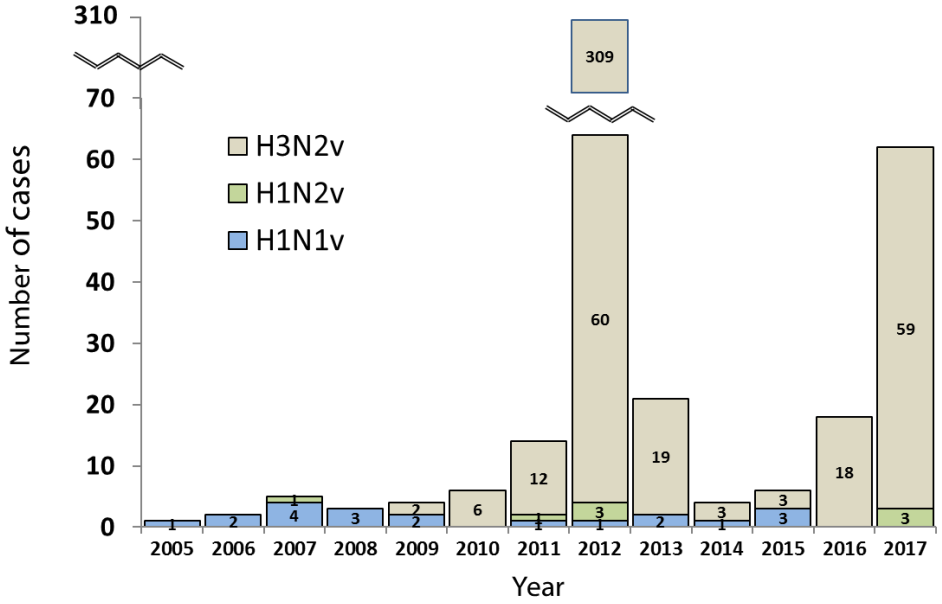


Data through week 43 ending October 28, 2017

H3N2 Variant Virus Infections in the United States

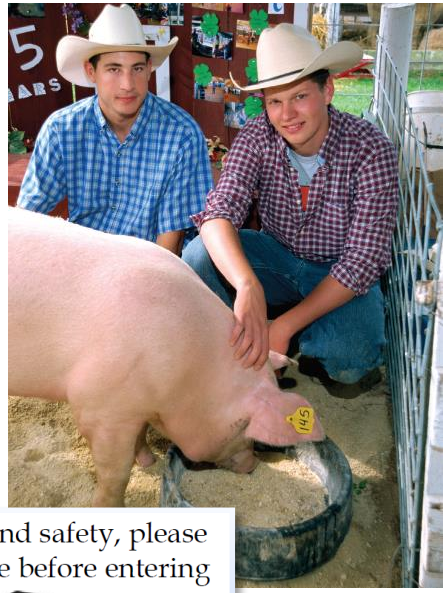
- Human infections with influenza viruses that normally circulate in pigs = variant
- Variant viruses are designated with the letter “v”
- Predominantly children <18 years old
- Illness mostly mild, but serious illness resulting in hospitalization and death can occur
  - Most with increased risk for complications (age <5 or ≥65, chronic health conditions)
- Associated with direct or indirect swine exposure at agricultural fairs



Data through week 42 ending October 21, 2017

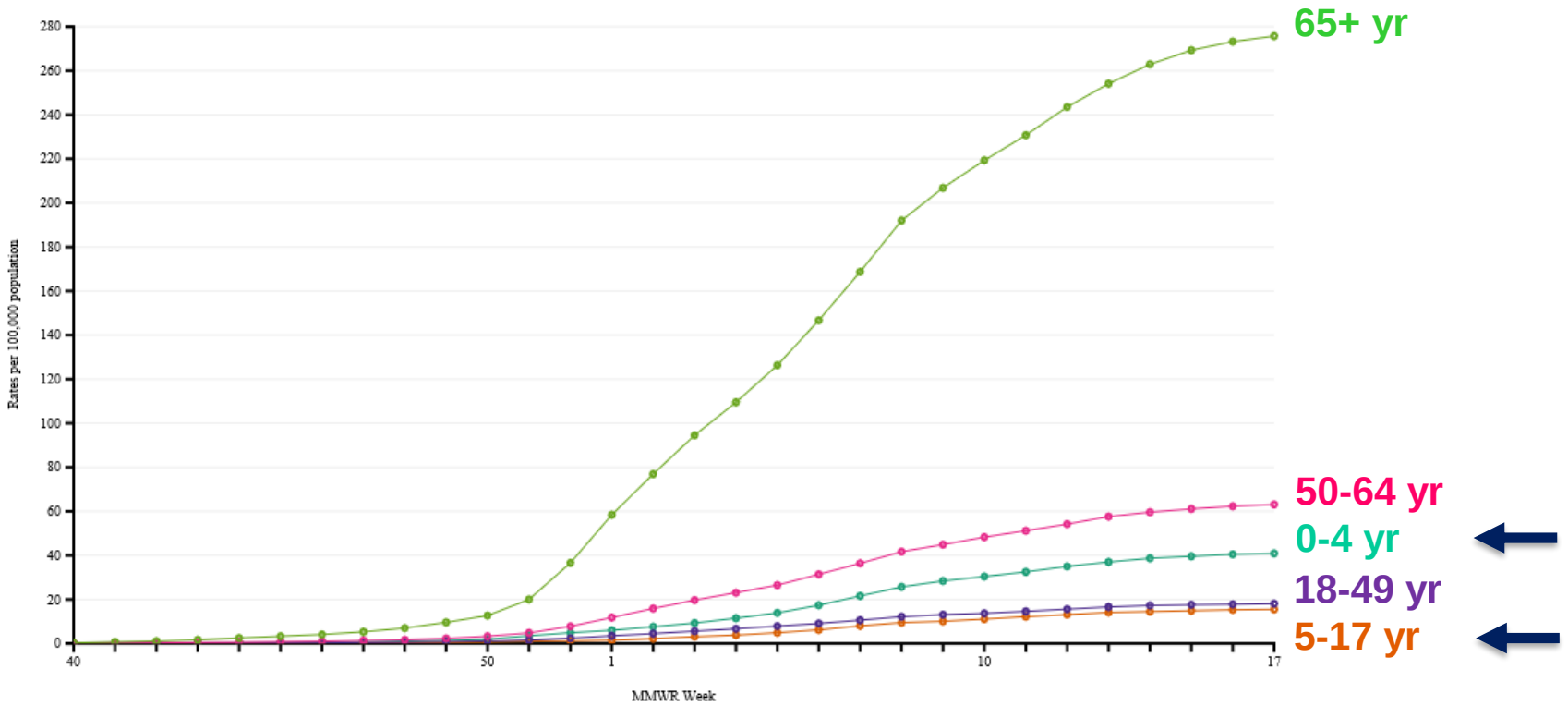
Prevention of Influenza Spread between Pigs and People

- Anyone at high risk: avoid pigs and swine barns at fairs
- For everyone else:
  - Minimize unnecessary contact with pigs
  - Avoid contact with sick pigs
  - Avoid eating and drinking in pig areas
  - Don’t take toys, pacifiers, bottles, cups, strollers into pig areas
  - Wash hands often before and after pig exposure (alcohol-based hand gel if soap and running water not available)
  - Avoid contact with pigs if you have flu symptoms



Laboratory-Confirmed Influenza-Associated Hospitalizations

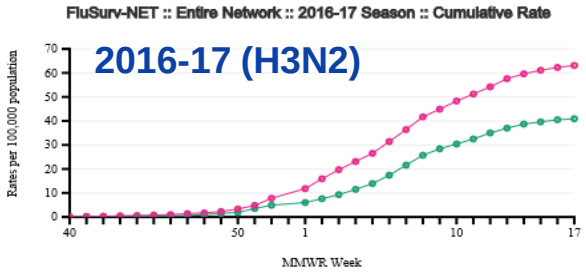
Cumulative, 2016–2017 Season, All Ages

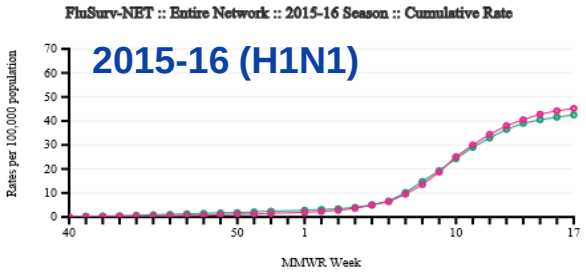


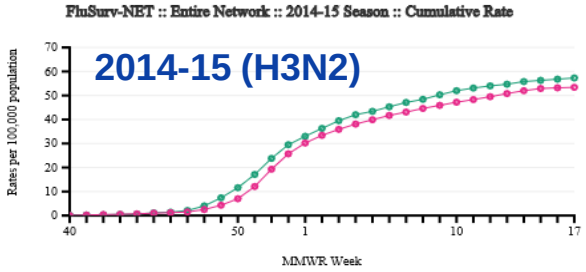
FluSurv-NET; cumulative rates through April 2017 (data as of October 21, 2017)

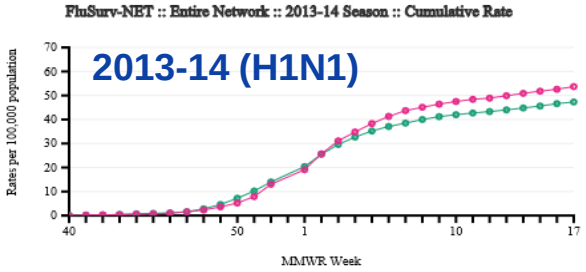
Laboratory-Confirmed Influenza-Associated Hospitalizations

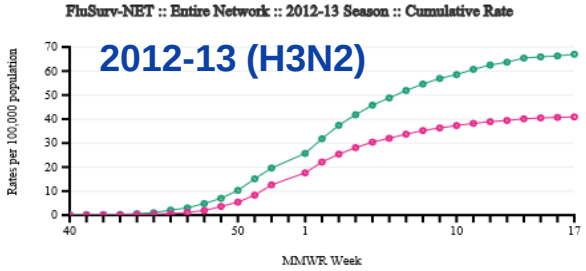
Cumulative, 2016–2017 Season and Previous Five Seasons

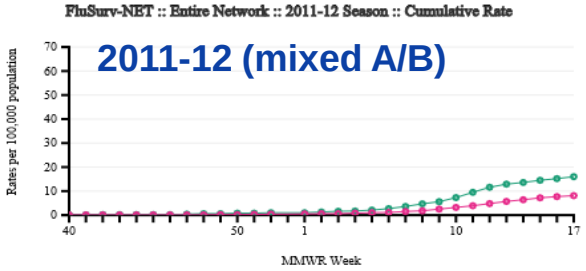










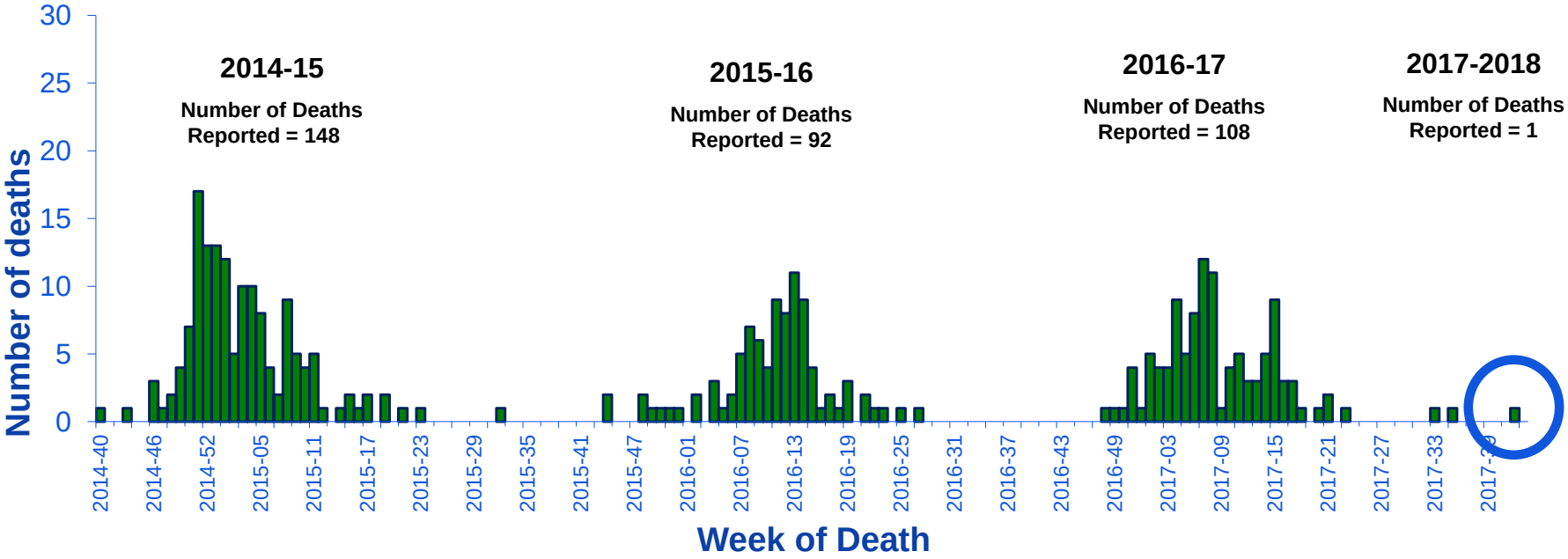


50-64 yr
0-4 yr

FluSurv-NET; cumulative rates through April 2017 (data as of October 21, 2017)

Influenza-Associated Pediatric Deaths by Week of Death

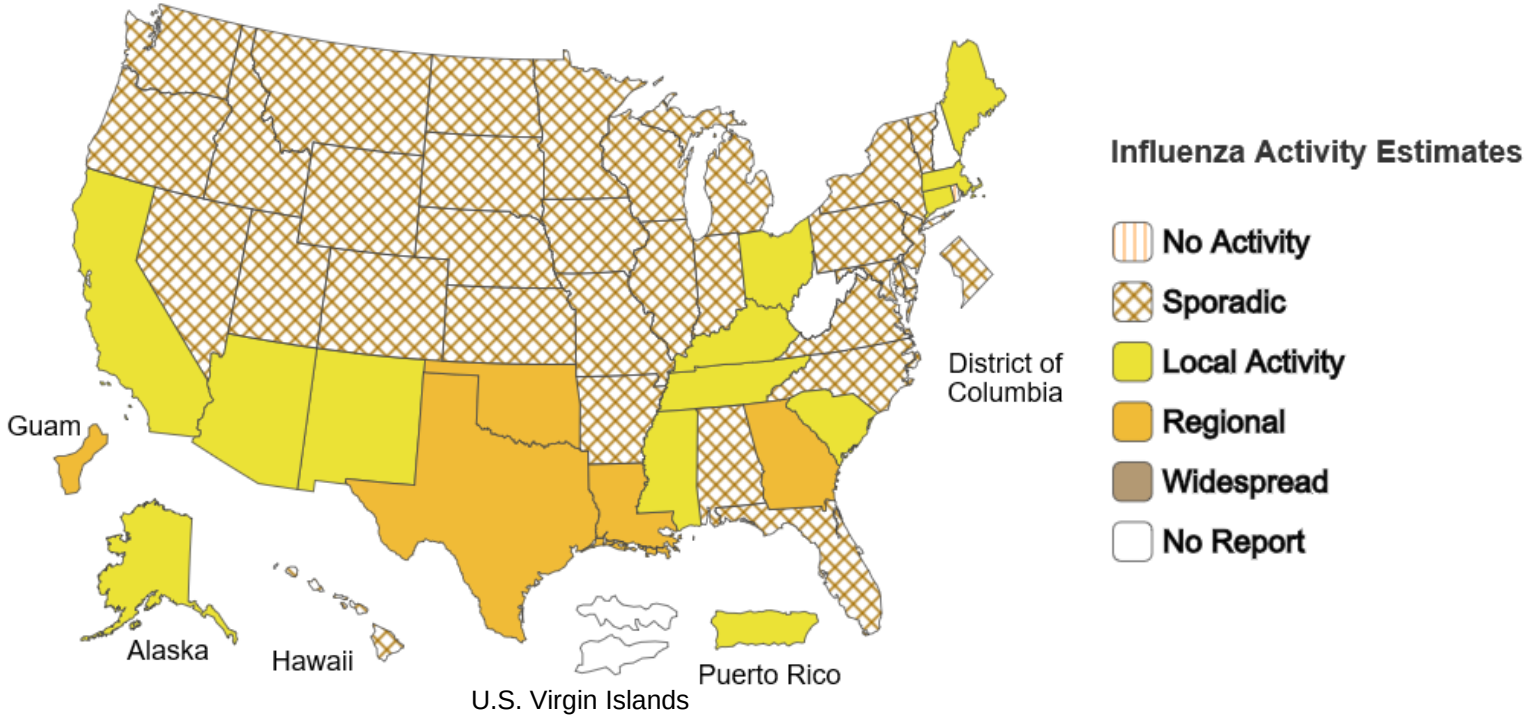
2014–2015 Season to Present



Data through week 43 ending October 28, 2017

Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists

Week 43 ending October 28, 2017

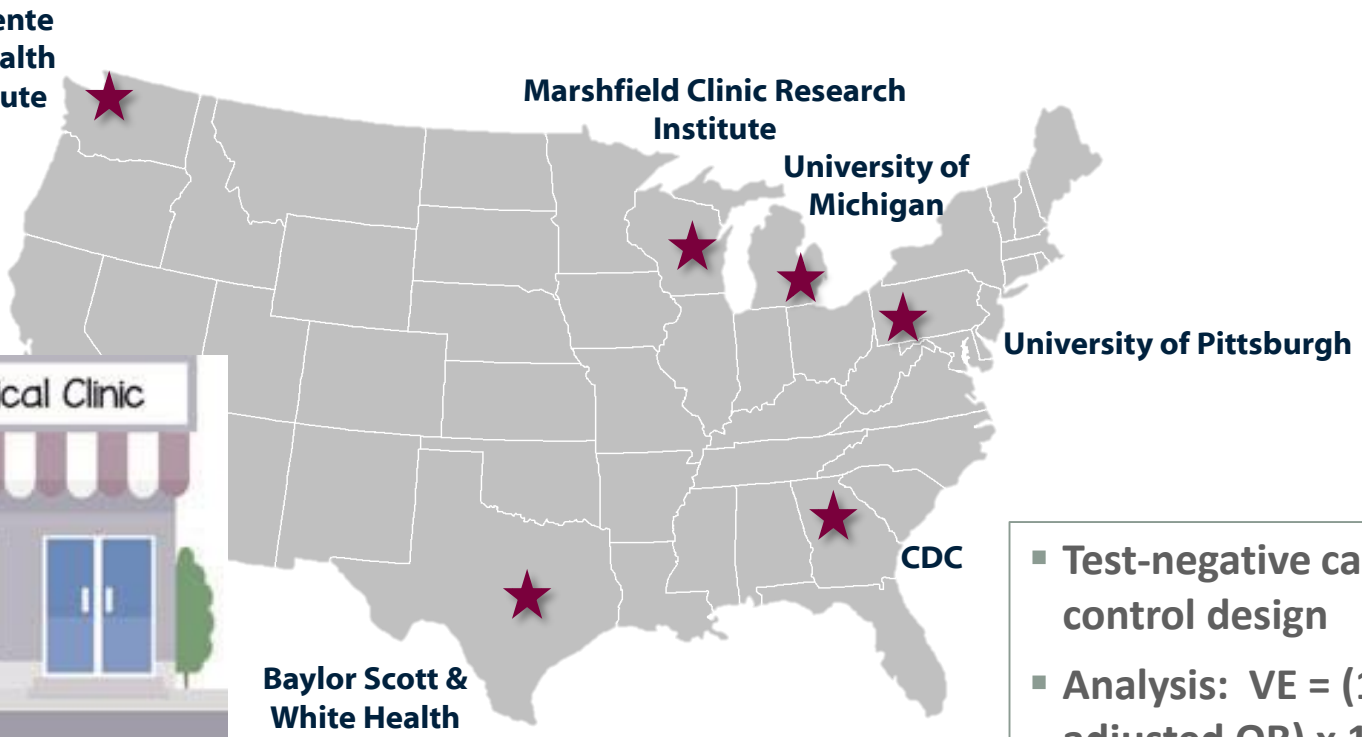


This map indicates geographic spread and does not measure severity of influenza activity

Influenza Vaccine Updates

U.S. Flu Vaccine Effectiveness (VE) Network

Enrolls Outpatients ≥6 months old with Acute Respiratory Illness with Cough



- Test-negative case-control design
- Analysis: VE = (1 – adjusted OR) x 100%

U.S. Flu VE Network (Outpatient), 2016–2017 Season

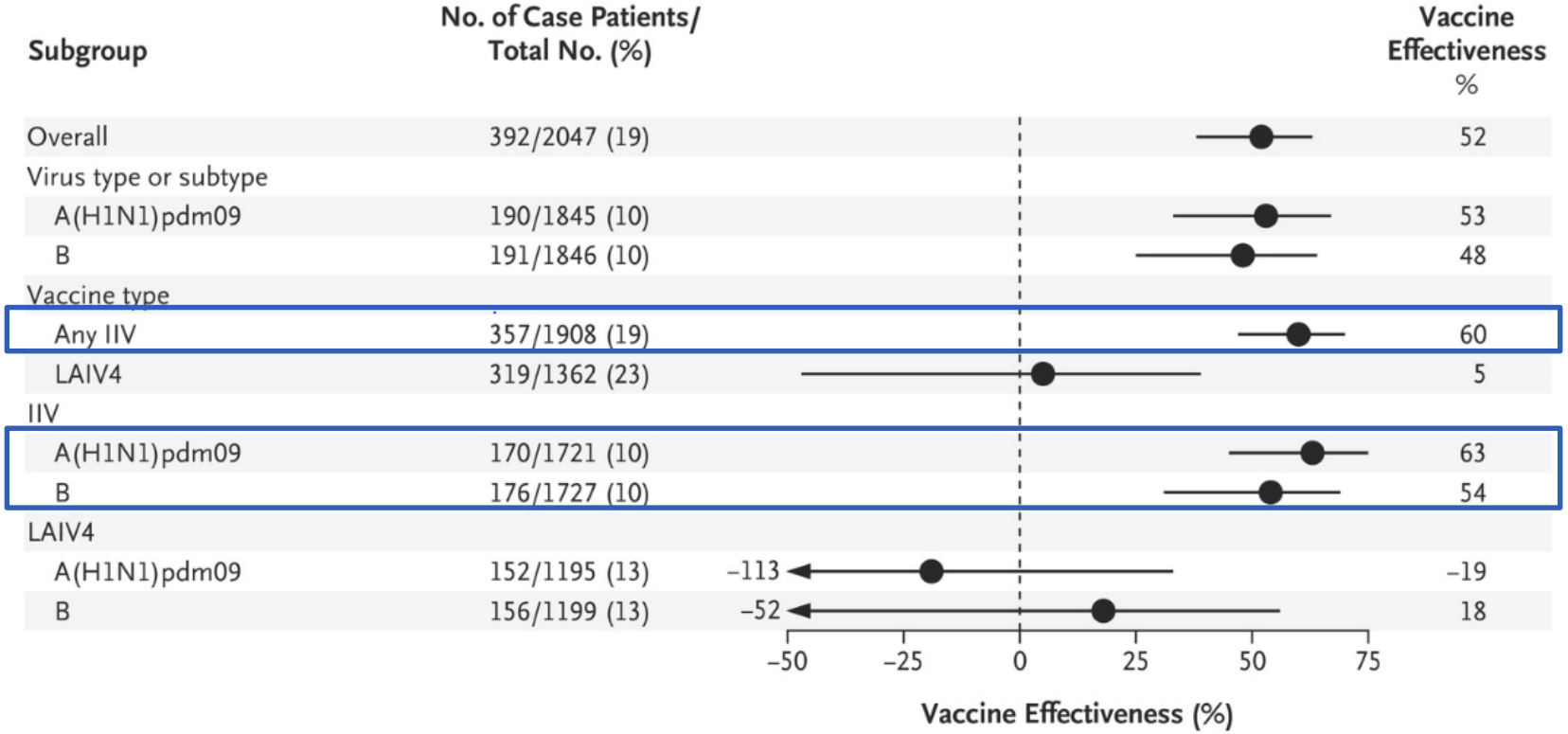
Interim VE against Influenza A/B, Overall and by Age Group

	Influenza positive		Influenza negative		Vaccine Effectiveness			
					Unadjusted		Adjusted*	
Any influenza A or B virus	**N vaccinated/Total**	**(%)**	**N vaccinated/Total**	**(%)**	**VE %**	**95% CI**	**VE %**	**95% CI**
All ages	883/2052	(43)	2761/5153	(54)	35	(27 to 41)	**42**	**(35 to 48)**
Age group (yr)								
6 mo–8 yr	106/353	(30)	709/1318	(54)	63	(53 to 71)	**61**	**(49 to 70)**
9–17	123/402	(31)	245/606	(40)	35	(15 to 50)	**35**	**(13 to 61)**
18–49	203/529	(38)	716/1629	(44)	21	(3 to 35)	**19**	**(-1 to 34)**
50–64	203/442	(46)	537/909	(59)	41	(26 to 53)	**42**	**(26 to 55)**
≥65	248/326	(76)	554/691	(80)	21	(-8 to 43)	**25**	**(-5 to 46)**

* Multivariate logistic regression models adjusted for site, age, sex, race/ethnicity, self-rated general health status, days from illness onset to enrollment, and calendar time of illness onset

U.S. Flu VE Network (Outpatient), 2015–2016 Season

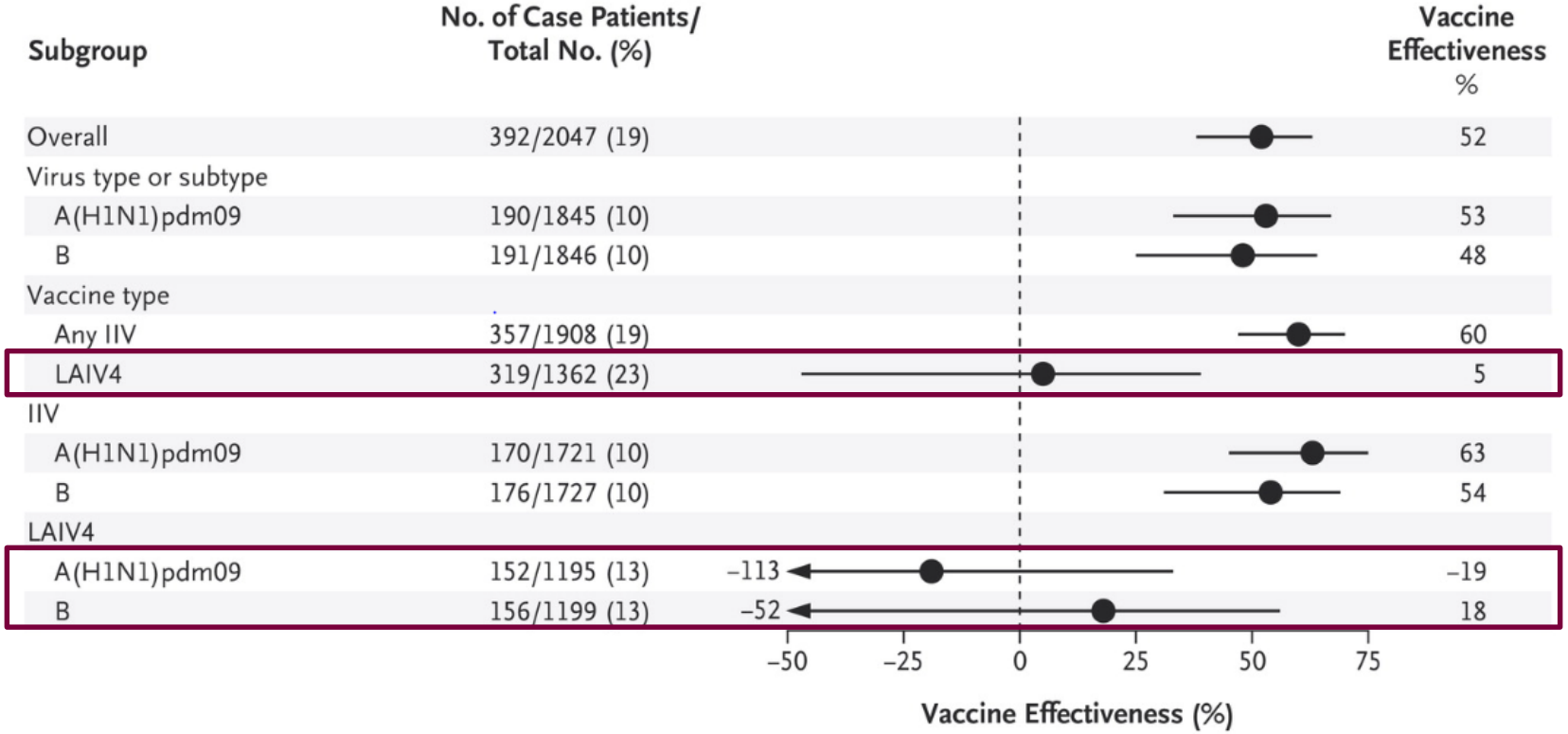
Adjusted VE Estimates among Children 2–17 Years



Jackson, et al. N Engl J Med 2017;377:534-43

U.S. Flu VE Network (Outpatient), 2015–2016 Season

Adjusted VE Estimates among Children 2–17 Years



Jackson, et al. N Engl J Med 2017;377:534-43

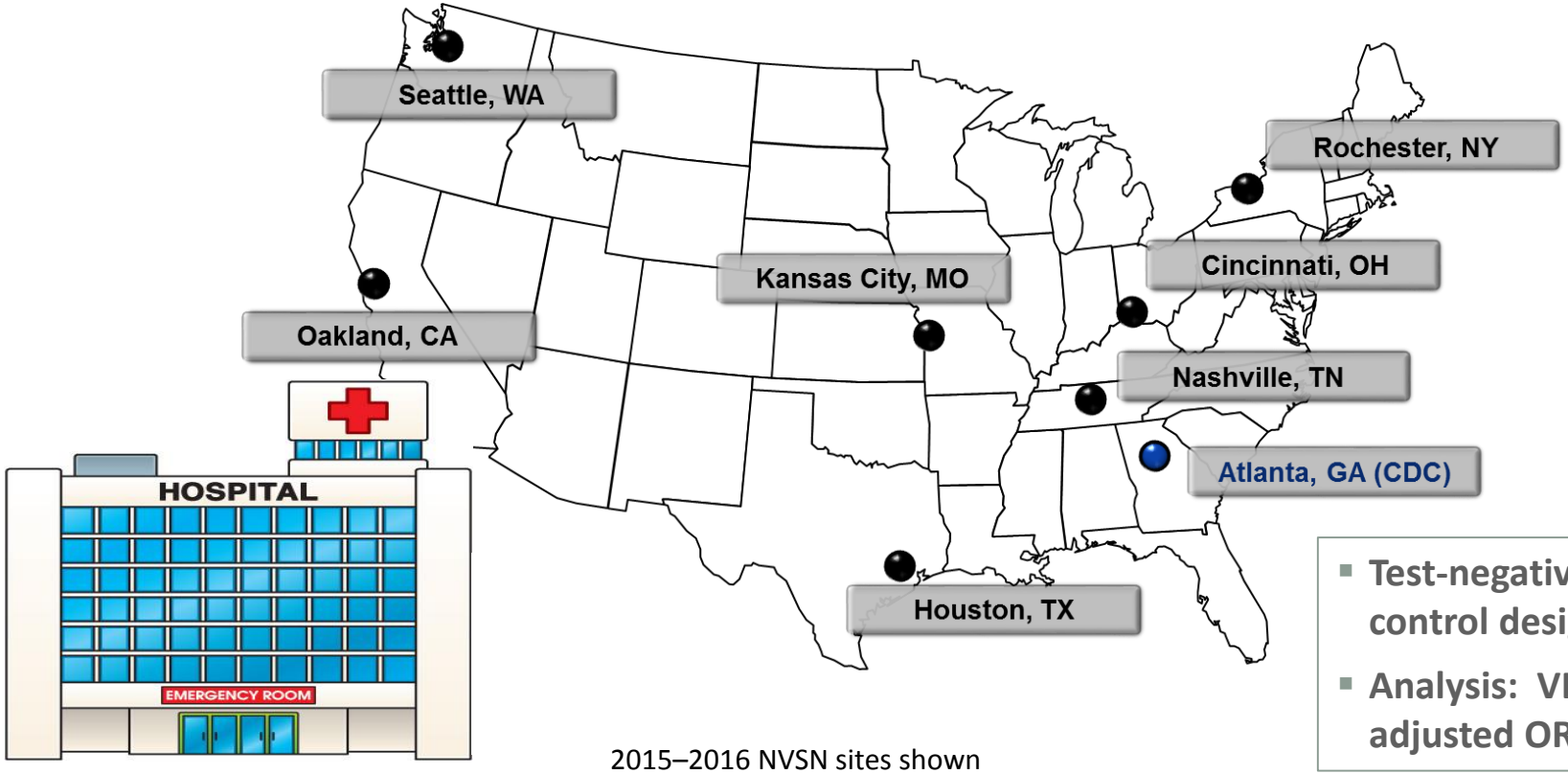
Influenza LAIV Recommendations, 2016–2017:

- On June 22, 2016, CDC's Advisory Committee on Immunization Practices voted to revise the influenza vaccine recommendations for the 2016-17 season:

  "In light of concerns regarding low effectiveness against influenza A(H1N1)pdm09 in the United States during the 2013–14 and 2015–16 seasons, for the 2016–17 season, ACIP makes the interim recommendation that live attenuated influenza vaccine (LAIV4) should not be used."

New Vaccine Surveillance Network

Inpatients ≥6 months–17 years old with Acute Respiratory Illness Diagnosis



2015–2016 NVSN sites shown

- Test-negative case-control design
- Analysis: VE = (1 – adjusted OR) x 100%

New Vaccine Surveillance Network, 2015–2016 Season

Preliminary VE Estimates against Pediatric Influenza Hospitalizations

					Vaccine Effectiveness			
	Influenza positive		Influenza negative		Unadjusted		Adjusted*	
Any influenza A or B virus	N vaccinated/ Total	(%)	N vaccinated/ Total	(%)	VE %	95% CI	VE %	95% CI
Any vaccine, Fully vaccinated children								
	30/104	(29)	548/1158	(47)	54	(29 to 71)	**52**	**(23 to 70)**
IIV only, Fully vaccinated children								
	26/100	(26)	474/1084	(44)	54	(28 to 71)	**53**	**(23 to 71)**

* Final logistic regression models adjusted for study site, race/ethnicity, age category (6-23 mo, 2-8 yr, 9-17 yr), underlying condition (0, 1, ≥2), insurance status, days from onset to enrollment, and calendar time (month of enrollment)

Pediatric Academic Societies Meeting, Abstract 1165.1; May 6, 2017

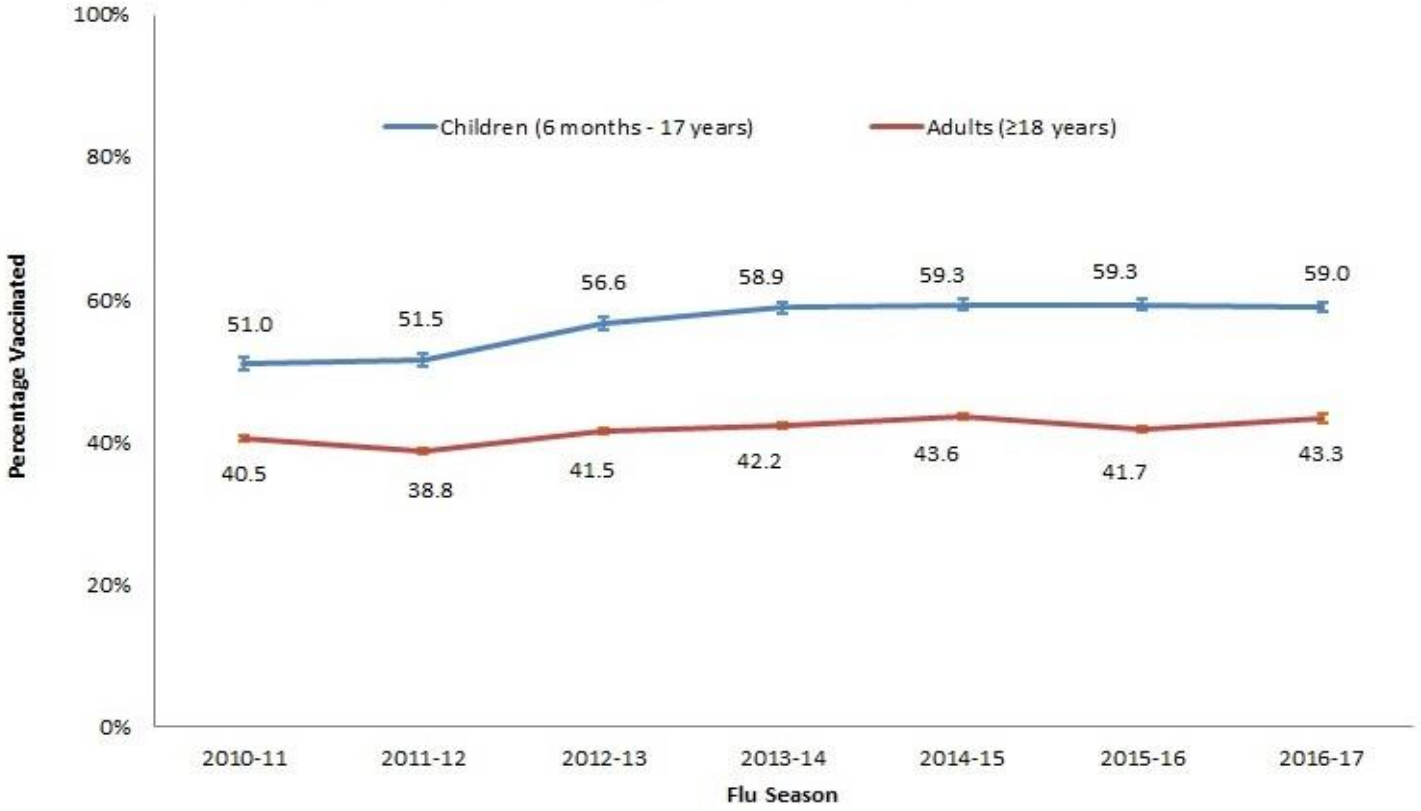
Influenza VE Against Pediatric Deaths, 2010–2014

- 358 influenza-associated deaths among children 6 months–17 years
- 26% received vaccine before illness onset (vaccination coverage in comparative survey cohorts ~48%)
- Overall VE against death 65% (95% CI, 54% to 74%)
- Underlying high-risk medical conditions (N=153)
  - 31% vaccinated
  - Among children with high-risk conditions, VE 51% (31% to 67%); without high-risk conditions 65% (47% to 78%)

Flannery, et al. Pediatrics 2017;139:e20164244

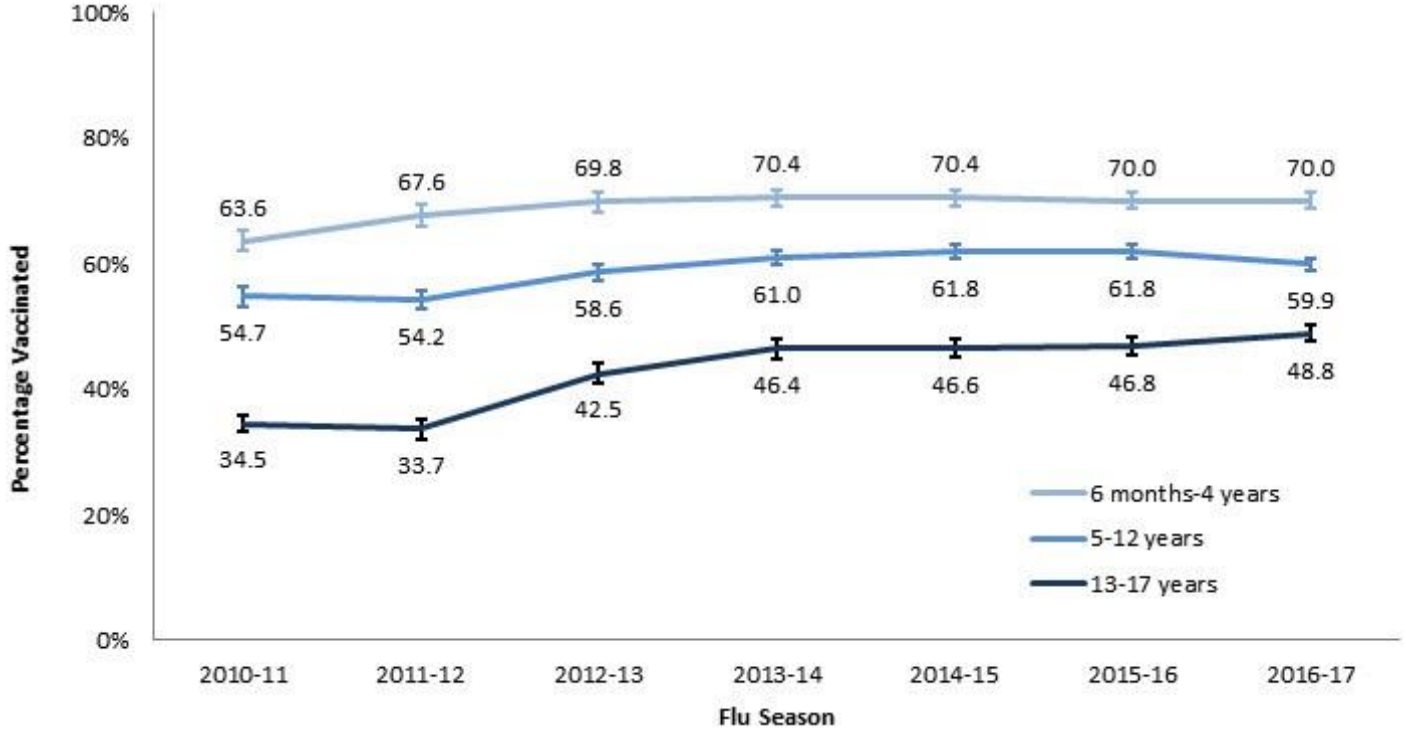
Seasonal Influenza Vaccination Coverage

By Age Group and Season, United States, 2010–2017



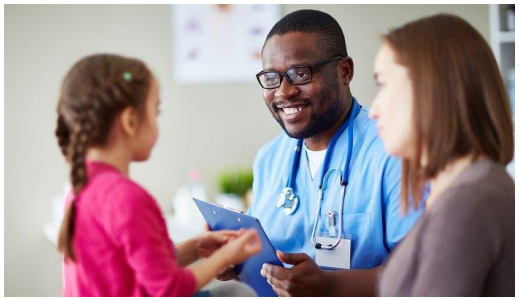
Seasonal Influenza Vaccination Coverage Among Children

By Age Group and Season, United States, 2010–2017



2017–2018 ACIP Influenza Statement Overview

- Core recommendation remains the same: annual influenza vaccination recommended for all persons aged ≥6 months who do not have contraindications
- Principal changes and updates relevant to children
  - Extension of the recommendation from 2016-17 that LAIV not be used
  - Influenza vaccine composition for 2017-18
  - New licensures/labelling change



MMWR 2017;66(No. RR-2):1-20

2017–2018 Influenza Vaccine Composition

- Trivalent vaccines:
  - A/Michigan/45/2015 (H1N1)pdm09-like virus **(updated)**
  - A/Hong Kong/4801/2014 (H3N2)-like virus
  - B/Brisbane/60/2008-like virus (Victoria lineage)
- Quadrivalent vaccines:
  - The above three viruses +
  - B/Phuket/3073/2013-like virus (Yamagata lineage)

MMWR 2017;66(No. RR-2):1-20

New Licensures and Labelling Changes Relevant to Children for 2017–2018 Season

- Afluria Quadrivalent (Seqirus)
  - Initially licensed August 2016 for age ≥18 years, now for **≥5 years**
  - Intramuscular (or jet injector for age 18-64 yrs)
- Afluria (Seqirus)
  - Trivalent form also available, licensed, and recommended for ≥5 years
    - Previously (since 2010-11) recommended only for ≥9 years because of increased risk of febrile seizures in Australia during the 2010 season
    - Feb 2017, ACIP reviewed data: putative root cause was residual lipid and viral RNA complexes following splitting of the influenza vaccine viruses; reactogenicity was diminished in a modified formulation
- FluLaval Quadrivalent (GSK)
  - Previously licensed for age ≥3 years, now for **≥6 months**
  - **One of 2 vaccine products approved for children 6–35 months of age**

MMWR 2017;66(No. RR-2):1-20

Considerations for FluLaval Quadrivalent

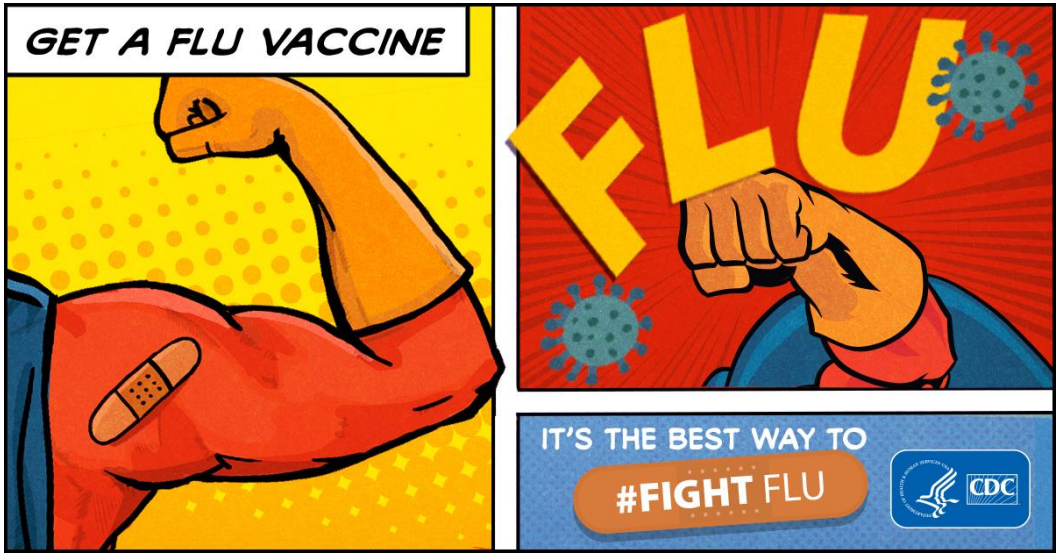
- Dose volume is **0.5 mL**, same as for all ages
  - Previously 6–35 mo. age group recommended to receive smaller dose of 0.25 mL
  - Recommendation based on increased reactogenicity of whole-virus vaccines
  - Split virus vaccines less reactogenic in this age group
  - FluLaval Quadrivalent 0.5mL safety comparable to 0.25mL Fluzone Quadrivalent
- Fluzone Quadrivalent (0.25 mL) is the other product licensed for this age group
  - Care must be taken to give appropriate product at recommended dose
- ***Dose volume*** is distinct from ***number of doses*** needed
  - A child 6 months through 8 years who needs 2 doses (for example, a first-time vaccinee) — and who gets 0.5mL FluLaval Quadrivalent for a first dose — *still* needs a second dose of influenza vaccine ≥4 weeks later

MMWR 2017;66(No. RR-2):1-20

CDC Resources

- CDC Influenza homepage: https://www.cdc.gov/flu/
- Influenza surveillance: https://www.cdc.gov/flu/weekly/fluactivitysurv.htm
- Influenza vaccination coverage: https://www.cdc.gov/flu/fluvaxview/index.htm
- For professionals: https://www.cdc.gov/flu/professionals/index.htm
  - Vaccination homepage: https://www.cdc.gov/flu/professionals/vaccination/index.htm
  - 2017-18 ACIP Influenza Recommendations:
  - https://www.cdc.gov/mmwr/volumes/66/rr/rr6602a1.htm
  - Antiviral homepage: https://www.cdc.gov/flu/professionals/antivirals/index.htm
- For Children (created by CDC and endorsed by the AAP): activity book
  - https://www.cdc.gov/phpr/readywrigley/documents/ready_wrigley_flu.pdf

Thank You



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.

2017-2018 Influenza Update

Clinician Outreach and Communication Activity (COCA) Call 07 Nov 2017

Flor M. Munoz, MD, MSc, FAAP

Acknowledgement: Hank Bernstein, MD

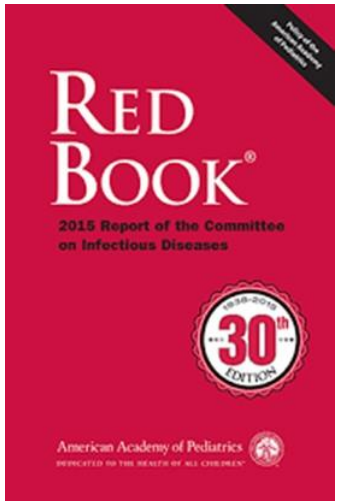
Baylor College of Medicine

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

The Committee on Infectious Diseases of the AAP

- Reviews influenza epidemiology, vaccines, antivirals
- Provides recommendations for influenza prevention in children
- Provides recommendations for management of influenza in children

RECOMMENDATIONS OF THE COID



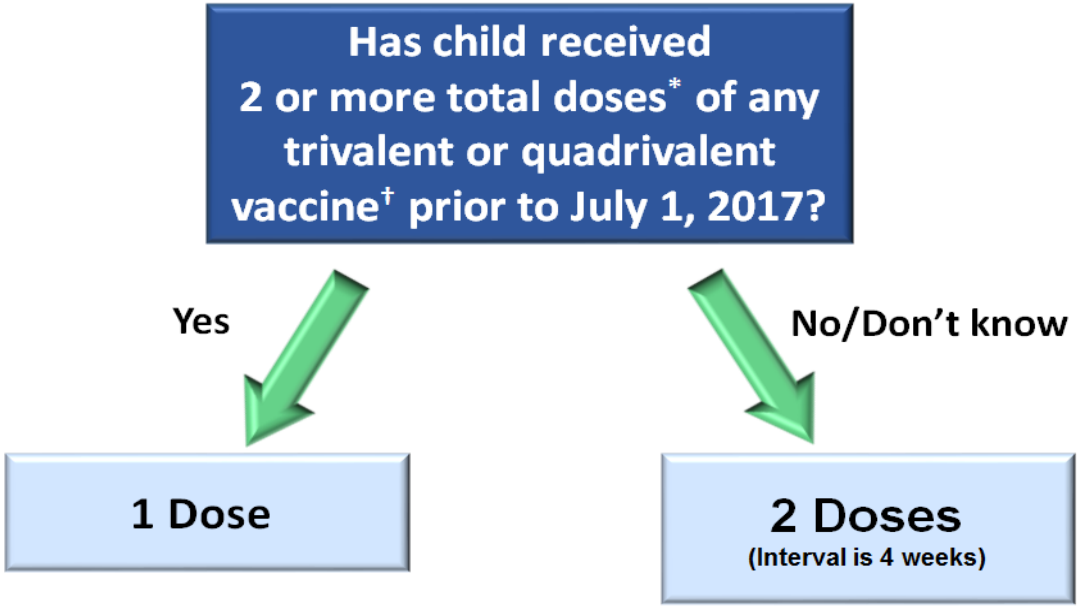
2017-2018 AAP Influenza Prevention Recommendations

- In line with ACIP recommendations
- Concur with not using LAIV this season
- Concur with recommendations for vaccines
- Affirm assessment of egg-allergy risk
- Updated recommendations for management of influenza with antivirals for children

2017-2018 AAP Influenza Prevention Recommendations

<u>Everyone</u> starting at 6 months of age

Number of Seasonal Influenza Doses for Children 6 Months – 8 Years



*** 2 doses need not have been received during the same season or consecutive seasons**

† Receipt of LAIV4 in the past is still expected to have primed a child's immune system, despite recent evidence for poor effectiveness. There currently are no data that suggest otherwise.

Special Populations at Risk for Complications with Influenza

Children

Persons > 65 years

Health Care Personnel

Pregnant Women

Underlying Medical Conditions

- *Asthma and other chronic lung diseases*
- *Cardiovascular disease*
- *Immune suppression*
- *Diabetes and other metabolic disorders*
- *Hemoglobinopathies*
- *Chronic renal disease*
- *Neuromuscular dysfunction or aspiration risk*
- *Aspirin use*

Household Contacts and caregivers of High Risk Persons and Children

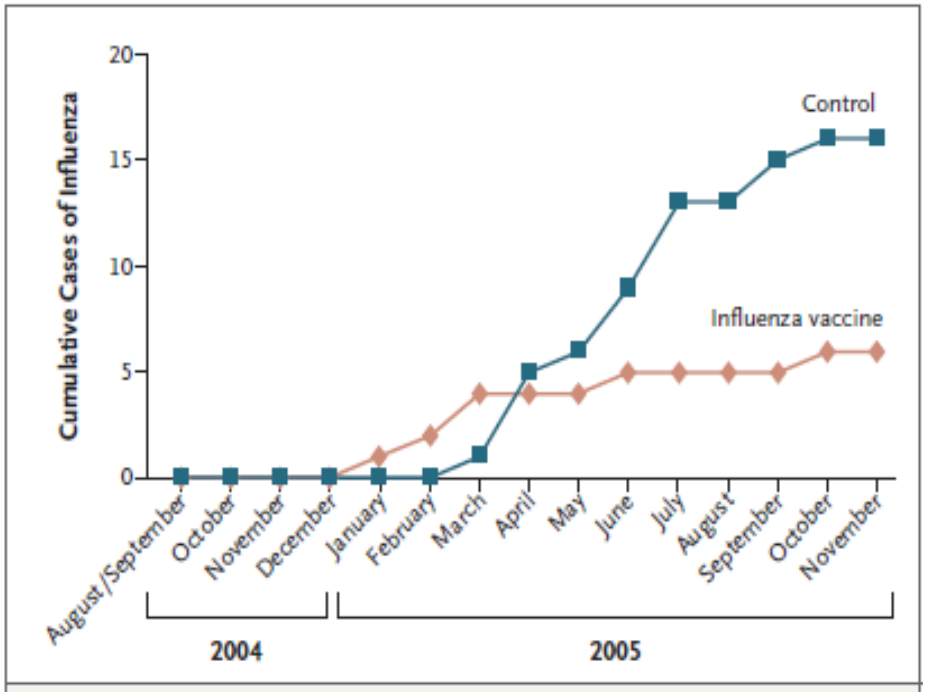
EFFICACY OF MATERNAL IIV3 VACCINATION IN PREVENTING INFLUENZA ILLNESS IN THE MOTHER UNTIL 6 MONTHS POST-PARTUM

Study	Period, country	Control group	Population	Outcomes	Vaccine efficacy
Zaman K, *et al. N Engl J Med* 2008	2004-2005 Bangladesh	23-valent pneumococcal vaccine	IIV3 172 Control 168	Respiratory illness with fever	**35.8% (95%CI: 3.7%, 57.2%)**
Madhi SA, *et al. N Engl J Med* 2014	2011-2012 South Africa	Saline placebo	IIV3 1062 Control 1054	PCR-confirmed influenza	**50.4% (95%CI: 14.5%, 71.2%)**
Tapia MD, *et al. Lancet ID* 2016	2011-2013 Mali	Meningococcal vaccine	IIV3 2108 Control 2085	PCR-confirmed influenza	**70.3% (95%: 42.2%, 85.8%)**
Steinhoff MC, *et al Lancet ID* 2017	2011-2013 Nepal	Saline placebo	IIV3 1847 Control 1846	Influenza like Illness	**19.0 % (95% CI 1%, 34%)**

IIV3, inactivated influenza vaccine.

The NEW ENGLAND JOURNAL of MEDICINE

Effectiveness of Maternal Influenza Immunization in Mothers and Infants



Efficacy of maternal IIV3 vaccination in preventing influenza illness in the infants until 6 months of age

Study	Period, country	Control group	Population	Outcomes	Vaccine efficacy
Zaman K, *et al. N Engl J Med* 2008; 359:1555 –64	2004-2005 Bangladesh	23-valent pneumococcal vaccine	IIV3 161 Control 166	Rapid test-confirmed influenza	**62.8%** **(95%CI: 5.0%, 85.4%)**
Madhi SA, *et al. N Engl J Med* 2014; 371:918–31	2011-2012 South Africa	Saline placebo	IIV3 1026 Control 1023	PCR-confirmed influenza	**48.8%** **(95%CI: 11.6%, 70.4%)**
Tapia MD, *et al. Lancet ID* 2016	2011-2013 Mali	Meningococcal vaccine	IIV3 2064 Control 2041	PCR-confirmed influenza	**33.1%** **(95%: 3.7%, 53.9%)**
Steinhoff MC, *et al Lancet ID* 2017	2011-2013 Nepal	Saline placebo	IIV3 1,831 Control 1,835	PCR-confirmed influenza	**30%** **(95% CI: 5%, 48%)**

IIV3, inactivated influenza vaccine.

Vaccination of pregnant women in preventing Influenza-related hospitalization in their infants

Study	Year, country	Design	Population	Outcomes	VE
Black SB, et al. 2004	1997-2002 USA	Retrospective cohort	3652 infants of immunized moms 44987 infants of non-immunized moms	Hospitalization for pneumonia and influenza	**4% (95%CI: -3, 11)**
France EK, et al. 2006	1995-2001 USA	Retrospective matched cohort	3160 infants of immunized moms 37969 infants of non-immunized moms	Medically attended ARI	**4% (95%CI: -1, 1)**
Benowitz I, et al. 2010	2000-2009 USA	Matched case-control	<12 months old (113 cases; 192 matched controls)	Lab-confirmed influenza hospitalization	**92% (95%CI: 62, 98) in <6 months**
Eick AA, et al. 2011	2002-2005 USA	Prospective cohort	1169 infant mother pairs	Lab-confirmed influenza; ILI hospitalization	**41% (95%CI: 7, 63)** **39% (95%CI: 16, 55)**
Poehling KA, et al. 2011	2002-2009 USA	Active population-based case-control	<6 months old (151 cases; 1359 controls)	Lab-confirmed influenza hospitalization	**48% (95%CI: 9, 70)**
Dabrera G, et al. 2014	2013-2014 England	Retrospective study using the screening method	<6 months old (43 cases)	Lab-confirmed influenza; Lab-confirmed influenza hospitalization	**71% (95%CI: 24, 89)** **64% (95%CI: 6, 86)**
Regan AK, et al. 2016	2012-2013 Australia	Retrospective population-based cohort	3169 infants of immunized moms 27859 infants of non-immunized moms	Hospitalization for respiratory illness during influenza season	**aHR: 0.75 (95%CI: 0.56, 0.99)**

Black SB, *et al. Am J Perinatol* 2004;21:333–9; France EK, *et al. Arch Pediatr Adolesc Med* 2006;160:1277–8; Benowitz I, *et al. Clin Infect Dis* 2010;51:1355–61; Eick AA, *et al. Arch Pediatr Adolesc Med* 2011;165:104–11; Poehling KA, *et al. Am J Obstet Gynecol* 2011;204:S141–8; Dabrera G, *et al. Euro Surveill* 2014;19:20959; Regan AK, *et al. Pediatr Infect Dis J* 2016,35:1097-1103

Egg Allergy and Flu Vaccines

- Egg allergy **does not increase risk** of anaphylactic reaction to vaccination with inactivated influenza vaccines*
- Children with egg allergies can receive any licensed, recommended vaccine that is age appropriate, with **no special precautions than those recommended for routine vaccines**.
- Children with a history of *severe* allergic reaction to egg (anaphylaxis)
  - "Vaccine administration should be supervised by a health care provider who is able to recognize and manage severe allergic conditions."

*Based on 28 studies evaluating 4,315 egg-allergic subjects (656 with severe allergies)

Diagnosis of Influenza

- Most reliable through laboratory confirmation with molecular detection assays (PCR)
- Rapid influenza molecular assays now available, some CLIA certified – point of care
- Consider influenza activity in the community and consistent clinical presentation

Clinical Presentation of Influenza in Children

Sign/Symptom	Children	Adults	Elderly
Cough (nonproductive)	++	++++	+++
Fever	+++	+++	+
Myalgia	+	+	+
Headache	++	++	+
Malaise	+	+	+++
Sore throat	+	++	+
Rhinitis/nasal congestion	++	++	+
Abdominal pain/diarrhea	+	–	+
Nausea/vomiting	++	–	+

++++ Most frequent sign/symptom; + Least frequent; – Not found

Cox NJ. *Lancet*. 1999;354:1277-1282.

Comparison of Types of Influenza Diagnostic Tests

Ordered by Typical Processing Time

Influenza Diagnostic Test	Method	Availability	Typical Processing Time	Sensitivity	Distinguishing Subtype Strains of Influenza A	Cost
Rapid influenza diagnostic tests[1]	Antigen detection	Wide	<15 minutes	10-70%	No	$
Rapid influenza molecular assays[2]	RNA detection	Wide	<20 minutes	86-100%	No	$$$
Nucleic Acid Amplification Tests (including RT-PCR)	RNA detection	Limited	1-8 hours	86-100%	Yes	$$$
Direct and indirect Immunofluorescence assays	Antigen detection	Wide	1-4 hours	70-100%	No	$
Rapid cell culture (shell vials and cell mixtures)	Virus isolation	Limited	1-3 days	100%	Yes	$$
Viral cell culture	Virus isolation	Limited	3-10 days	100%	Yes	$$

1- Some rapid influenza molecular assays are CLIA-waived, depending on the specimen
2- Commercial rapid immunoassay diagnostic tests are CLIA-waived
Adapted from the Centers for Disease Control and Prevention (CDC) Guidance for clinicians on the use of rapid influenza diagnostic tests. http://www.cdc.gov/flu/professionals/diagnosis/clinician_guidance_ridt.htm.

Treatment of Influenza in Children

- Does not require laboratory confirmation
- Offer treatment ASAP to children:
  - Hospitalized for presumed influenza
  - With severe, complicated, or progressive illness attributable to influenza
  - At high risk for complications
- Consider treatment
  - In any child with presumed influenza
  - If high risk persons at home

Antivirals for Influenza

Drug (Trade Name)	Virus	Administra-tion	Treatment Indications	Chemoprophylaxis Indications	Adverse Effects
Oseltamivir (Tamiflu)	A and B	Oral	Birth or older[a]	3 mo of age or older	Nausea, vomiting
Zanamivir (Relenza)	A and B	Inhalation	7 y of age or older	5 y of age or older	Bronchospasm
Peramivir (Rapivab)	A and B[b]	Intravenous	2 y of age and older	N/A	Diarrhea; some reports of skin reactions, neuropsychiatric events
Amantadine (Symmetrel)[c]	A	Oral	1 y of age or older	1 y of age or older	Central nervous system, anxiety, gastrointestinal
Rimantadine (Flumadine)[c]	A	Oral	13 y of age or older	1 y of age or older	Central nervous system, anxiety, gastrointestinal

a. FDA approved for children 2 wk of age and older
b. Not approved for severe influenza
c. Do not use as current circulating viruses are resistant

Oseltamivir Treatment Evidence

<48 hrs after onset

Prospective, controlled study in **outpatient** setting[a]

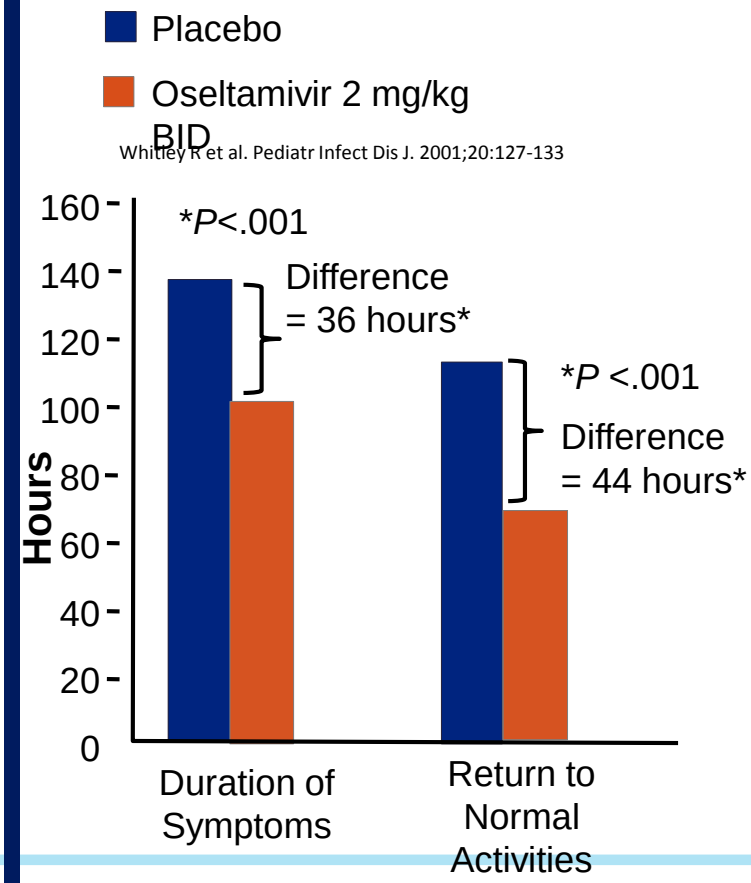
>48 hrs after onset

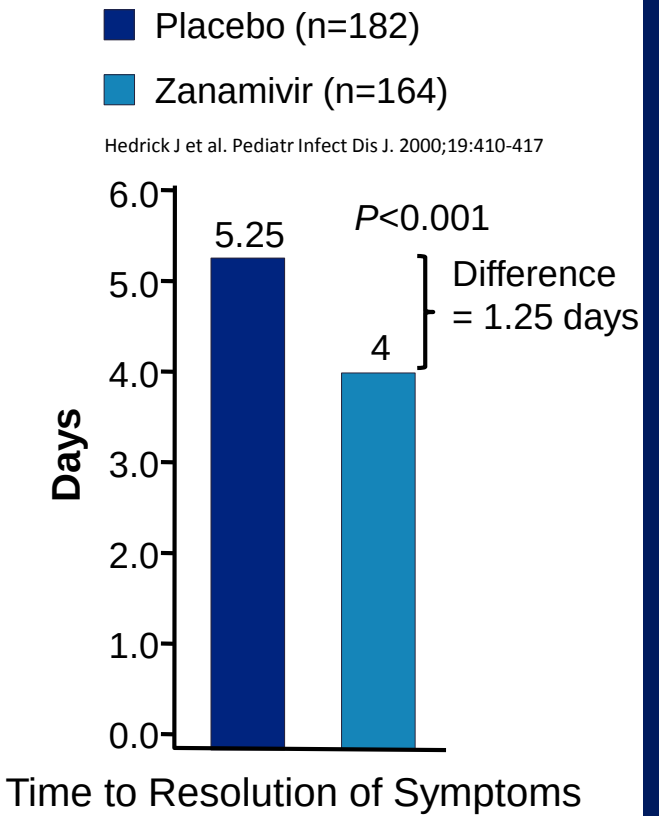
Retrospective, uncontrolled studies of **hospitalized** patients[b,c,d,e,f]

Reduced morbidity and mortality

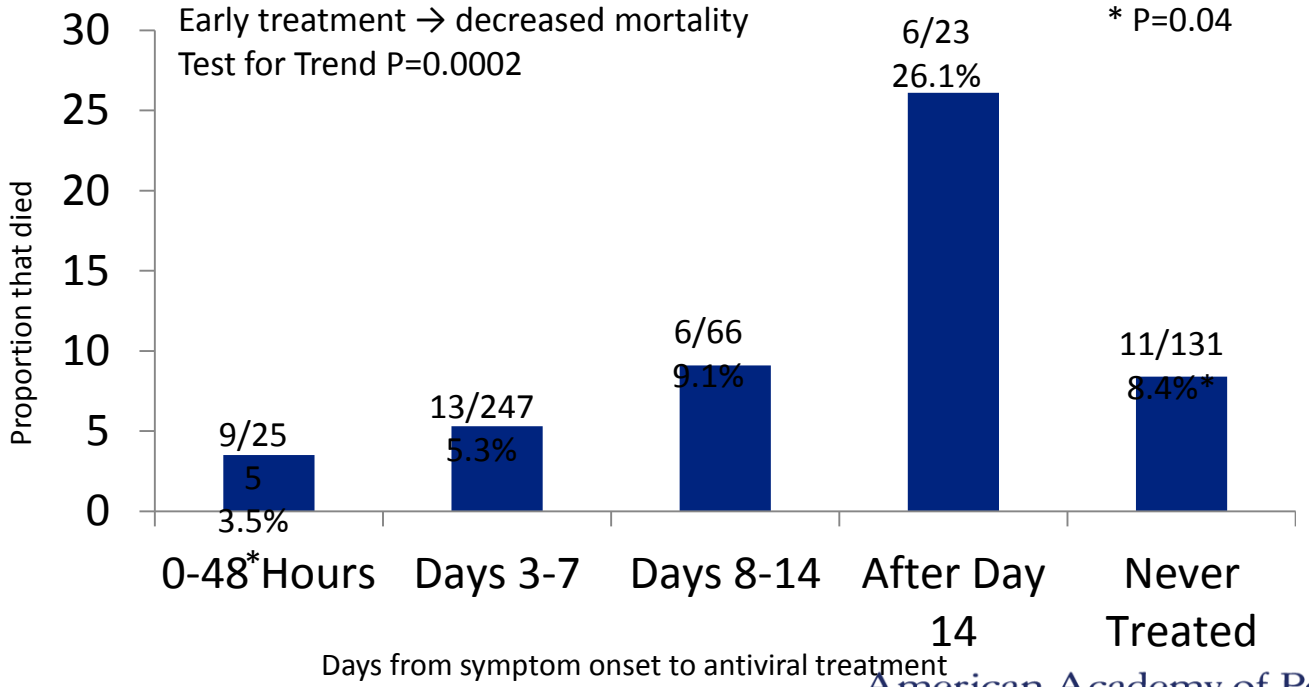
[a] FDA. Oseltamivir Package Insert. Available at http://www.fda.gov/downloads/Drugs/DrugSafety/InformationbyDrugClass/UCM147992.pdf.
[b] Muthuri SG, Venkatesan S, Myles PR, et al. Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a meta-analysis of individual participant data. Lancet Respir Med 2014; published online March 19. DOI:10.1016/S2213-2600(14)70041-4.
[c] Hsu J, Santesso N, Mustafa R, et al. Antivirals for treatment of influenza: a systematic review and meta-analysis of observational studies. Ann Intern Med 2012; 156: 512–24.
[d] Louie JK, Yang S, Acosta M, et al. Treatment with neuraminidase inhibitors for critically ill patients with influenza A (H1N1)pdm09. Clin Infect Dis 2012; 55: 1198–204.
[e] Yu H, Feng Z, Uyeki TM, et al. Risk factors for severe illness with 2009 pandemic influenza A (H1N1) virus infection in China. Clin Infect Dis 2011; 52: 457–65.
[f] Adisasmito W, Chan PK, Lee N, et al. Effectiveness of antiviral treatment in human influenza A(H5N1) infections: analysis of a global patient registry. J Infect Dis 2010; 202: 1154–60.

Antiviral Treatment Clinical Efficacy





NAIs and Mortality in Children
California Surveillance Data (n=784)



Louie et al., Pediatrics 2013;132(6):e1539-e1545

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Protecting/Replacing Your Vaccine Supply in a Disaster

- Create an emergency plan for vaccine storage
  - Develop and post a written plan; update it annually
  - Designate a storage location if your facility is (or might be) damaged in a disaster
  - Have a contingency plan for a power outage
  - Consider how to transport vaccines to maintain temperature control

Protecting/Replacing Your Vaccine Supply in a Disaster

- Vaccines can be replaced or reimbursed
  - Don’t throw away damaged or expired vaccines
  - Document times when vaccines were lost
  - Check insurance coverage
  - See manufacturer’s policy and procedures; contact customer service
  - Contact your state VFC coordinator

Conclusions

- COID and ACIP influenza prevention recommendations are aligned
- More/new influenza vaccines available for children, including 6 month to 18 years old
- A standard dose (0.5 ml) vaccine available for children 6-35 month olds
- Single dose and multidose vial presentations

Conclusions

- Influenza vaccine is recommended for everyone starting at 6 months of age
- Two doses recommended for first time or previously incomplete immunization in children 6 months to 8 years of age
- Groups at risk for complications of influenza need to be immunized
- Complete vaccination by end of October

Conclusions

- Trivalent and quadrivalent inactivated influenza vaccines can be administered, no preference
- No LAIV this season
- No special precautions for egg allergy
- Previous allergic reaction to *any* component of the vaccine is only contraindication

Conclusions

- Neuraminidase inhibitors are available in different formulations (PO, Inhaled, IV) and recommended for treatment of influenza in:
  - Hospitalized
  - High risk persons
  - Severe and progressive influenza
  - Contacts of high risk persons

To Ask a Question

- **Using the Webinar System**
  - Click the Q&A button in the webinar
  - Type your question in the Q&A box
  - Submit your question
  - CDC Media: media@cdc.gov or 404-639-3286
  - Patients, please refer your questions to your healthcare provider

Today's webinar will be archived

When: A few days after the live call

What: All call recordings (audio, webinar, and transcript)

Where: On the COCA Call webpage

https://emergency.cdc.gov/coca/calls/2017/callinfo_102617.asp

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All continuing education (CME, CNE, CEU, CECH, ACPE, CPH, and AAVSB/RACE) for COCA Calls are issued online through the CDC Training & Continuing Education Online system (http://www.cdc.gov/TCEOnline/).

Those who participated in today's COCA Call and who wish to receive continuing education should complete the online evaluation by December 11, 2017 with the course code WC2286.

Those who will participate in the on demand activity and wish to receive continuing education should complete the online evaluation between November 7, 2017 and November 7, 2019 will use course code WD2286.

Continuing education certificates can be printed immediately upon completion of your online evaluation. A cumulative transcript of all CDC/ATSDR CE's obtained through the CDC Training & Continuing Education Online System will be maintained for each user.

Upcoming COCA Call

The Changing Distributions of Ticks and Tick-borne Infections

Thursday, December 7, 2017

2:00-3:00 ET

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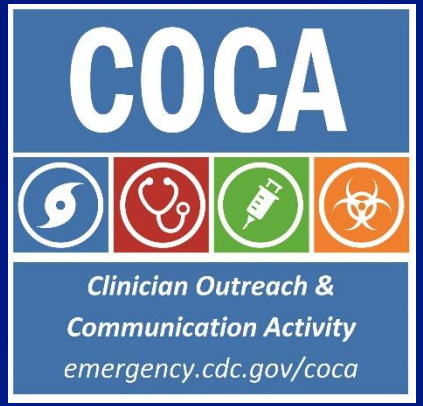
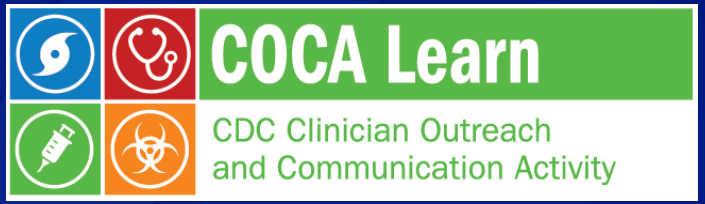


http://emergency.cdc.gov/coca

COCA Products & Services

Promotes COCA Calls and contains all information subscribers need to participate in COCA Calls. COCA Calls are done as needed.

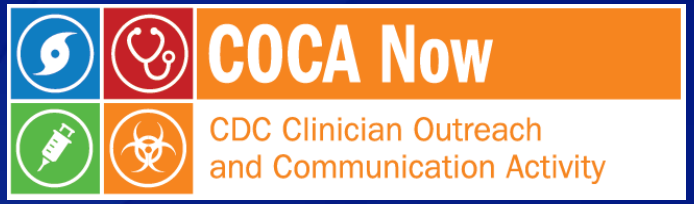


Monthly email that provides information on CDC training opportunities, conference and training resources located on the COCA website, the COCA Partner Spotlight, and the Clinician Corner.

Provides comprehensive CDC guidance so clinicians can easily follow recommendations.

COCA Products & Services

Monthly email that provides new CDC & COCA resources for clinicians from the past month and additional information important during public health emergencies and disasters.



Informs clinicians of new CDC resources and guidance related to emergency preparedness and response. This email is sent as soon as possible after CDC publishes new content.

CDC's primary method of sharing cleared information about urgent public health incidents with public information officers; federal, state, territorial, and local public health practitioners; clinicians; and public health laboratories.

CDC Clinician Outreach and Communication Activity - COCA

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CDC Clinician Outreach and Communication Activity - COCA shared their event.

October 31 at 1:18pm

Clinicians, you can earn FREE CE with this COCA Calll Join us for this COCA Call November 7, 2017 at 2:00PM.

Thank you for joining!

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